Student Learning Outcome Assessment Report Instructional Programs: 2021-2022



Office of Strategic Insights

NOVA | Northern Virginia Community College

STUDENT LEARNING OUTCOME ASSESSMENT REPORT
Instructional Programs: 2021-2022

Office of Strategic Insights
Northern Virginia Community College

May 2023

NORTHERN VIRGINIA COMMUNITY COLLEGE

OFFICE OF STRATEGIC INSIGHTS

The purpose of the Office of Strategic Insights is to conduct analytical studies and provide information in support of institutional planning, policy formulation, and decision making. In addition, the office provides leadership and support in research related activities to members of the NOVA community engaged in planning and evaluating the institution's success in accomplishing its mission.

4001 Wakefield Chapel Road
Annandale, VA 22003-3796
(703) 323-3129
www.nvcc.edu/osi

Student Learning Outcome Assessment Report: 2021-2022
Instructional Programs

Introduction

All instructional programs, administrative units, and campus units at Northern Virginia Community College (NOVA) conduct annual planning and evaluation aligned with NOVA's Mission and Strategic Plan Goals. The *Student Learning Outcomes Report for Instructional Programs* presented in this document is one of two reports completed annually as part of the College's planning and evaluation process; the other report includes the *Administrative Unit Planning and Evaluation Report*.

This report presents assessment results for the 2021-2022 academic year for degree-awarding programs and select certificates at NOVA. Each instructional program is presented separately, and the programs are listed in alphabetical order. Note that five programs did not submit reports in 2021-22, so only 48 of the required 53 reports are included. The Emergency Medical Services program completed a self-study for accreditation requirements but was not able to complete the 2021-22 Student Learning Outcomes Assessment Report because of staff turnover. The educational programs that are professionally accredited and whose annual reports provide evidence of their assessment of student learning outcomes practices, did not have to submit the Student Learning Outcomes Assessment report this year. Their accreditation annual report with the student learning outcome assessment data will be added to their files when the information is available. Most of the medical programs have professional accreditation except Phlebotomy CSC and Radiography AAS. Three non-medical education programs, Air Conditioning and Refrigeration AAS, Early Childhood Development AAS, and Paralegal Studies AAS have professional accreditation, making the total number of programs with professional accreditation 14. The *Student Learning Outcomes Assessment Report for Instructional Programs* has been published since the 2002-2003 academic year, but it was called the Annual Planning and Evaluation Report prior to 2020-2021. Reports for instructional programs from the previous five years can be found on the website for the Office of Strategic Insights, a unit within the Strategy, Research, and Workforce Innovation division: https://www.nvcc.edu/osi/assessment/slo-assessment/apers.html.

Assessment of student learning is critical to ensure that students are gaining the knowledge and skills that they need to be successful. Each year, instructional programs conduct assessments on three student learning outcomes (SLOs), one college-wide core learning outcome (CLO), and program goals, which include graduation and program-placement results. At the beginning of the planning and evaluation cycle, each instructional program determines the student learning outcomes, core learning outcome, and program goals to be assessed for the year and proposes the methods to assess student achievement of these outcomes. At the end of the planning and evaluation cycle, each instructional program reports on the results from their assessment activities, and the reports are compiled for 2021-2022. Programs document four areas in the reports that follow: (1) the outcome being assessed; (2) the method utilized to assess each outcome; (3) the results of the assessment; and (4) how the program will use the results to continuously improve student learning. This annual process demonstrates NOVA's commitment to regular assessment of student learning, program effectiveness, and continuous program improvement.

The assessment process for instructional programs is faculty driven. Faculty members are directly involved in the development of student learning outcomes; the creation and implementation of assessment activities; the analysis of assessment results; and the

determination of actions to take to improve student learning. The reports have been prepared and submitted by a designated faculty member from each degree-awarding program and select certificate at the College. Table 1 details the Assessment Lead Faculty and Pathway Deans for 2021-2022. As Table 1 demonstrates, the planning and evaluation process for instructional programs engages many teaching faculty and academic deans. The assessment activities and resulting reports are facilitated by the Pathway Deans who are responsible for a cluster of programs as displayed in Table 1. Such widespread faculty participation is not only in compliance with *SACSCOC Principles of Accreditation 8.2.a and 8.2.b* but is also integral to supporting an ongoing culture of assessment and data-driven decision-making at the College.

Student Learning Outcome Assessment Report
Instructional Programs: 2021-2022

Table 1. Pathway Deans and Assessment Lead Faculty: 2021-2022

Pathway Council	Program/Certificate	Assessment Lead Faculty
Advanced Manufacturing &Skilled Trades (Lead: Dean Abe Eftekhari)	Air Conditioning and Refrigeration, A.A.S.	John Meeker, WO
	Architecture Technology, A.A.S.	Armen Simonian, AN
	Automotive Technology, A.A.S.	Myles Embrey,
	Construction Management Technology, A.A.S.	Mike Ghorbanian, AL
	Engineering Technology, A.A.S.	John Sound, MA
	Welding: Basic Techniques, C.S.C.	
Arts, Communication, and Humanities (Lead: Interim Dean Ana Alonso)	American Sign Language to English Interpretation, A.A.S.	Paula Reece, AN
	Cinema, A.F.A.	Bryan Brown, WO
	Graphic Design, A.A.S.	Angela Terry, AL, and Greg Eckler, AL
	Interior Design, A.A.S.	Kristine Winner, LO
	Liberal Arts, A.A.	
	Music Recording Technology, Certificate	Sanjay Mishra, LO
	Music, A.A., A.A.A.	Lisa Eckstein, AL
	Photography and Media, A.A.S.	Aya Takashima, AL
	Professional Writing, Certificate	Jennifer Nardacci, AN
	Theatre, C.S.C.	David Tyson, WO
	Visual Art, A.F.A.	Fred Markham, AL
Business and Public Services (Lead: Interim Dean Cathleen Cogdill)	Accounting, A.A.S.	Pamela Parker, AL
	Administration of Justice, A.A.S.	Stephen Wofsey, AN
	Business Administration, A.S.	Cameisha Chin, WO
	Business Management, A.A.S.	Cameisha Chin, WO
	Contract Management, A.A.S.	Cameisha Chin, WO
	Criminology and Criminal Justice, A.S.	Stephen Wofsey, AN
	Paralegal Studies, A.A.S.	Joyce McMillan, AL
	Substance Abuse Rehabilitation Counselor, Certificate	Chandell Miller, AL
Computer Science and Information Technology (Lead: Dean Paula Ford)	Computer Science, A.S.	Emilia Butu, AL
	Cybersecurity, A.A.S.	Kwabena Konadu, WO
	Information Systems Technology, A.A.S.	Judi Bartlett, WO
	Information Technology, A.S.	Judi Bartlett, WO
Education and Social Sciences	Driver Education Instructor, C.S.C.	Nicole Mancini, MA

(Lead: Dean Jimmie McClellan)	Early Childhood Development, A.A.S.	Susan Johnson, LO
	Psychology, A.S.	Ramezan Dowlati, LO Karen Livesey
	Public History and Historic Preservation, C.S.C.	Marc Dluger, LO
	Social Sciences, A.S.	Jimmie McClellan
	Social Sciences: Teacher Education Specialization, A.S.	Ashley Wilkins, MA
General Studies and General Education (Casey Maliszewski Lukszo, AN)	General Studies, A.S.	Casey Maliszewski Lukszo, AN
Healthcare (Leads: Dean Megan Cook and Dean Gary Sargent)	Dental Assisting, Certificate	Sumera Rashid, ME
	Dental Hygiene, A.A.S.	Marina McGraw, ME
	Diagnostic Medical Sonography, A.A.S.	Judi Green, ME
	Emergency Medical Services, A.A.S.	Gary Sargent, ME
	General Studies, Health Sciences Specialization, A.S.	Megan Cook, ME
	Health Information Management, A.A.S.	Dana Pratt, ME
	Medical Laboratory Technology, A.A.S.	Maria Torres-Pillot, ME
	Nursing, A.A.S.	Charemon Brooks, ME
	Occupational Therapy Assistant, A.A.S.	Kathi Skibek, ME (cc Megan Cook)
	Personal Training, C.S.C.	Rick Steele, AL
	Phlebotomy, C.S.C.	Maria Torres-Pillot, ME
	Physical Therapist Assistant, A.A.S.	Jackie Maier (New program Director from Jan. 3rd), ME
	Radiography, A.A.S.	Jarice Risper, ME
	Respiratory Therapy, A.A.S.	Sherleen Bose, ME
	Veterinary Technology, A.A.S.	Kiana Adkisson-Selby, LO
Life and Physical Sciences (Lead: Maggie Interim Emblom-Callahan)	Biology, A.S.	Karla Henthorn, AN
	Biotechnology, A.A.S.	Xin Zhou, MA
	Horticulture Technology, A.A.S.	Anders Vidstrand, LO
	Science, A.S.	Piraba Swaminathan Mitra Jahangeri, LO Anita Mohan, LO
	Social Sciences: Geospatial Specialization, A.S.	
Mathematics and Engineering (Lead: Dean Alison Thimblin)	Engineering, A.S.	Rudy Napisa, AN
	Science: Mathematics Specialization, A.S.	John Scalea, LO

Student Learning Outcome Assessment Report
Instructional Programs: 2021-2022

Table of Contents

Student Learning Outcome Assessment Report: 2021-2022
Accounting, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The accounting curriculum is designed for persons who seek employment in the accounting field or for those presently in accounting who desire to increase their knowledge and update their skills. The occupational objectives include accounting trainee, accounting technician, junior accountant, and accountant.

Student Learning Outcome 1: SLO: 4. Be able to describe and make distinctions between the various business entities (i.e., individuals, corporations, and partnerships)

Assessment Methods

Course Name/Number: ACC 211

Direct Measure Used: The assessment instrument was an 8-item multiple choice quiz based on material covered in Chapter 1, "Accounting in Business" and Chapter 11, "Corporate Reporting and Analysis."

SLO/Rubric Criteria or Question Concepts: Students were assessed on business entity characteristics (question concepts) classified as:

1. General
2. Partnership
3. Corporation

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2		
AN	2	1	19
MA	1	1	8
ME			
LO	4		
WO	1		
NOVA Online	9	2	33
Off-Site Dual Enrollment	N/A	N/A	
Total	19	3	60

Assessment Results

Semester/year data collected: Summer 2022

Target: Students will earn an average of 70% for individual question concepts and an average of 70% for the SLO assessment as a whole. The average score for the SLO assessment as a whole is 64.0% this year.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Summer 2022	Previous Results Semester Year
All students assessed (weighted average)	64.0%	N/A
On-campus average		
Synchronous hybrid (remote) average	61.0%	
NOVA Online average	67.6%	
Dual Enrollment average		

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Summer 2022	Previous Results Semester Year
1. General	45.0%	N/A
2. Partnership	61.8%	
3. Corporation	78.9%	

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is a new assessment instrument. Consequently, comparisons to previous uses are not included.

Use of Results

1. Changes put in place since previous assessment to improve student learning: N/A

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Students did not seem to be familiar with non-corporate entities. In addition, corporations get almost all the attention in accounting courses because they are the dominant business entity in our economy. However, proprietorships and partnerships are important alternatives. Particular attention should be paid to making comparisons among alternative business entities when creating new businesses.

4. Based on current results, new actions to improve student learning: A renewed emphasis on the coverage of business entities may be helpful, especially if it's presented in the context of choosing one for a business. This could be accomplished by spending more time on the characteristics of proprietorships, partnerships, and corporations in Chapter 1, as well as including coverage in assignments and exams.

5. Next assessment of this SLO: AY 2023-2024

Accounting, A.A.S.

Areas where students met the target: Students appear to have done well, or at least better when asked about characteristics of specific types of business entities (partnerships and corporations).

Areas where students did NOT meet the target: Questions that required the students to compare types of business entities or grasp the implications of differences were more difficult for the students.

Student Learning Outcome 2: SLO: 7. Know how to access the various technical and professional publications to use as reference sources

Assessment Methods

Course Name/Number: ACC 211

Direct Measure Used: The assessment instrument was a 4-item multiple choice quiz based partly on material covered in Chapter 1, "Accounting in Business." The questions required students to use reference material in the text and web searches to identify professional and governmental organizations related to accounting.

SLO/Rubric Criteria or Question Concepts: The organizations covered by this short quiz regulate capital markets or the accounting profession or develop accounting and auditing standards. The list of organizations covered by this assessment instrument were: (1) International Accounting Standards Board (IASB), (2) Financial Accounting Standards Board (FASB), (3) Securities and Exchange Commission (SEC), and (4) Public Company Accounting Oversight Board (PCAOB).

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2		
AN	2	1	19
MA	1	1	8
ME			
LO	4		
WO	1		
NOVA Online	9	2	33
Off-Site Dual Enrollment			
Total	19	3	60

Assessment Results

Semester/year data collected: Summer 2022

Target: Students will earn an average of 70% for individual question concepts and an average of 70% for the SLO assessment as a whole. The average score for the SLO assessment as a whole is 68.33% this year.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Summer 2022	Previous Results Semester Year
All students assessed (weighted average)	72.1%	N/A
On-campus average		
Synchronous hybrid (remote) average	76.9%	
NOVA Online average	68.2%	
Dual Enrollment average		

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Summer 2022	Previous Results Semester Year
1. IASB	60.0%	N/A
2. FASB	76.7%	
3. SEC	80.0%	
4. PCAOB	71.7%	

Target Met: [ ] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is a new assessment instrument.

Use of Results

1. Changes put in place since previous assessment to improve student learning: N/A

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Students need more familiarity with the importance of international accounting standards and the organization responsible for creating them.

4. Based on current results, new actions to improve student learning: More emphasis on accounting standard setting and the responsible organizations may be helpful. As part of the coverage of the reporting environment, we could include text material and recent media coverage of important accounting and standards related events to highlight the importance of standards and regulatory frameworks to shareholders, creditors, and the reporting entities themselves. Because this is an introductory accounting course, the material presented will need to be an overview. Nevertheless, the importance of accounting information in the functioning of capital markets and corporate governance will be beneficial to all business students.

5. Next assessment of this SLO: AY 2023-2024

Consequently, comparisons to previous uses are not included.

Areas where students met the target: Students met performance goals for questions about the FASB, SEC, and PCAOB.

Areas where students did NOT meet the target: Students were less familiar with the nature and purpose of the International Financial Standards Board (IASB).

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: SLO 8. Be able to write and speak in English well enough to communicate accounting procedures and concepts in a professional environment

Assessment Methods

Course Name/Number: ACC 212

Direct Measure Used: Students were required to assume the role of a CPA writing a letter to a client. Their letter was to explain the importance of budgeting, the costs and benefits of budgeting, and other issues related to preparing budgets. The textbook for the course covered these points in a single chapter.

CLO/Rubric Criteria or Question Concepts:

- Organization: structure, ordering of ideas, and linking of one idea to another (30 percent)
- Development: supporting evidence and information to clarify explanations (30 percent)
- Grammar, Punctuation and Word Usage, Capitalization and Spelling (20 percent)
- Relevance: whether discussion is on point and effectively responds to the question (20 percent)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1		
AN	1		
MA	2	1	29
ME			
LO	3		
WO	1	1	5
NOVA Online	5	1	3

Assessment Results

Semester/year data collected: Summer 2022

Target: Students will earn an average of 70% for individual CLO/rubric criteria and an average of 70% for the SLO assessment as a whole. The average score for the SLO assessment as a whole is 81.2% this year.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results	Results 2018-2019*
All students assessed (weighted average)	81.2%	
On-campus average		94.0
Synchronous hybrid (remote) average**	81.6%	
NOVA Online average	80.3%	95.0
Dual Enrollment average		

* Based on a different assessment instrument used in a different course (ACC 211)

** Includes virtual classes held on scheduled days at scheduled times over Zoom

Results by CLO Criteria:

[X] Average/Mean Score per criteria or

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Summer 2022	Previous Results Spring 2019
1. Organization	81.8%	Not Reported
2. Development	77.7%	
3. Grammar, Punctuation and Word Usage	83.1%	
4. Relevance	80.8%	

Target Met: [X] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning: Instructors in principles of accounting courses emphasize the importance of clear communication when presenting coworkers, superiors, and clients with technical advice. However, no uniform specific technical guidance for writing has been introduced.

2. Impact of changes on current results: Although students did well on this assessment, the emphasis on clear communication appears to be insufficient. More technical guidance on developing a narrative featuring facts and linkages to recommendations would be helpful.

3. According to current results, areas needing improvement: Narrative development and maintaining a focus on the overall purpose of the letter needs more emphasis.

4. Based on current results, new actions to improve student learning: Although writing skills are not a part of the accounting subject matter, more reference material and a supporting, in-class introduction to the assessment may be helpful.

5. Next assessment of this CLO: This CLO will be assessed again in AY 2024-2025.

Accounting, A.A.S.

Off-Site Dual Enrollment			
Total	13	3	37

The overall average score and the average score per rubric criterion exceeded the expected minimum.

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Although the assessment targets were met, the results showed a decline compared to Spring 2019.

Narrative comparison of current results to previous results: The results are based on different assessment instruments and courses which makes comparisons difficult. That said, it appears that students need additional exposure to writing approaches in professional settings.

Areas where students met the target: Students met performance goals for all rubric criteria.

Areas where students did NOT meet the target: N/A

Program Goal on Graduation: To maintain program graduation totals

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain program graduation totals

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	35	6.1
2020-21	33	43.5
2019-20	23	-4.2
2018-19	24	-14.3
2017-18	28	--

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Accounting, A.A.S.	28	24	23	33	35	6.1
Bookkeeping, Certificate	34	26	37	33	30	-9.1

Use of Results

1. Changes put in place since previous assessment to improve graduation results: We have continued our outreach to professional organizations and employers in our region. We have expressed our interest in supporting their recruitment efforts for internship placements and full-time positions. Our annual career conference continues to receive strong positive feedback from students and professionals. Our accounting curriculum committee encourages participation in the development of our programs and courses.

2. Impact of changes on current results: Graduation totals increased by 6.1%. The changes described above continue to produce increases in program graduates.

3. According to current results, areas needing improvement: Promotion of the degree to employers and employees in the region remains a priority.

4. Based on the results, new actions to improve graduation results: Emphasize the value of degree completion (credentials) to students. Employment prospects are enhanced when a job applicant has a recognized degree. Also, point out that our program

Accounting, C.S.C.	40	38	37	25	25	0.0
Accounting Information Security With Data Analytics, C.S.C.	-	-	-	0	5	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The Accounting, A.A.S. increased graduates, though less than last year. The newest program, Accounting Information Security with Data Analytics, C.S.C., appears to be gaining some attention as well. These data points are encouraging.

The decline in the Bookkeeping, Certificate program is troubling and may indicate that students in this program are taking longer to complete their certificate requirements.

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Yes. **Please explain:** The Accounting, A.A.S. program produced 35 graduates, well above the 12 graduates specified by the VCCS productivity standard.

enables students to sit for and pass the Certified Public Accountant (CPA) exam.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To maintain number of program-placed students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24

Assessment Results

Target: Maintain program-placed students

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	312	-4.6
2020-21	327	-7.9
2019-20	355	-7.8
2018-19	385	-8.8
2017-18	422	--

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Use of Results

1. Changes put in place since previous assessment to improve program placement results: Faculty continue to invest time in and out of class meetings to promote accounting and related careers.

2. Impact of changes on current results: The enrollment and FTES of the A.A.S. program continue to decline, though that decline has slowed.

3. According to current results, areas needing improvement: The accounting faculty recognizes the need to identify potential students for our programs. Although the target demographics for our certificate and C.S.C programs appear to be more traditional and

Accounting, A.A.S.

A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Program	2016-17	2017-18	2018-19	2019-20	2020-21	% Change
Accounting, A.A.S.	422	385	355	327	312	-4.6
Bookkeeping, Certificate	53	43	39	37	45	21.6
Accounting, C.S.C.	164	143	114	115	118	2.6
Accounting Information Security With Data Analytics, C.S.C.	-	-	-	4	13	225

Target Met for Headcount: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The increasing enrollment in all programs, except for Accounting, A.A.S., is a positive development. It will be important to understand why the A.A.S. enrollment declined and generate more interest in the A.A.S. program going forward.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	166.9	-3.0
2020-21	172.1	-7.0
2019-20	185.1	-6.9
2018-19	198.9	-0.8
2017-18	200.5	----

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: Yes, the 166.9 value for FTES for AY 2021-22 easily exceeds the VCCS productivity standard of 18. Nevertheless, the continuing decline is a cause of concern.

therefore more easily targeted, it has been particularly difficult to promote the A.A.S. program.

4. Based on the results, new actions to improve program placement/productivity: We are consulting with accounting and business professionals about the potential for outreach within their respective organizations as well as other

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Administrative of Justice, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to provide a broad foundation that will prepare students to enter any of the varied fields in criminal justice or to prepare for professional advancement.

Student Learning Outcome 1: Articulate and explain the rights of citizens contained in the 4th, 5th, and 6th Amendments related to any one specific case within the criminal justice system.

Assessment Methods

Course Name/Number: Criminal Law, Evidence, and Procedures II - ADJ 212

Direct Measure Used: 15 Multiple-Choice Question SLO Quiz

SLO/Rubric Criteria or Question Concepts: The questions/concepts were directly related to the rights associated with the 4th, 5th, and 6th Amendments within the criminal justice system.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA	1	1	9
NOVA Online	1	1	10
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**19**

Assessment Results

Semester/year data collected: Fall 2021

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results
Synchronous hybrid (remote) average	86%	N/A
NOVA Online average	81%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. 4th Amendment	75%
2. 4th Amendment	93%
3. 4th Amendment	87%
4. 4th Amendment	93%
5. 4th Amendment	84%
6. 4th Amendment	100%
7. 4th Amendment	93%
8. 4th Amendment	84%
9. 5th Amendment	84%
10. 5th Amendment	78%
11. 6th Amendment	84%
12. 6th Amendment	50%
13. 6th Amendment	78%
14. 5th & 6th Amendment	84%
15. 6th Amendment	87%
Total	**83.6%**

Target Met: [ ] Yes [ ] No [X] Partially

Areas where students met the target: Students scored above 70% on all questions with the exception of question 12. As mentioned, the discipline will address elements of this question at the next discipline meeting.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not assessed since 2017-18. The Administration of Justice (ADJ) discipline recently updated the curriculum map. In previous years, one map was used contained only 9 SLOs. The discipline chair has made suggestions on how to delineate SLO data based on majors, for instance A.A.S. and A.S. majors along with General Studies. Furthermore, another SLO was recently added unrelated to ADJ 212.

2. Impact of changes on current results: This is the first time that we are using this course and the specific assessment method for this SLO. It is the hopes of the discipline that the current benchmark data can be used as a baseline for information going forward in years to come.

3. According to current results, areas needing improvement: Students scored the lowest on question 12 on the multiple-choice examination. The discipline will address suggestions on how to emphasize this area of concern in the future. For instance, spending more time evaluating issues involving ineffective counsel and including additional exam questions based on an ineffective defense or an assignment based on ineffective defense in order to improve knowledge and understanding on the issue.

4. Based on current results, new actions to improve student learning: Overall, the results were successful. One item to address is possibly increasing the number of questions related to the 5th Amendment. The discipline hopes to implement this change by Fall 2023. Clearly, based on the results of question 12, additional focus should be placed on claims involving ineffective counsel. Questions 1, 10, and 15 also show areas where students can improve since the mean is below 80%. However, the

Areas where students did NOT meet the target: Students clearly had trouble with question 12 which reviewed elements of ineffective counsel and proper steps needed before trial. The discipline will discuss the issues at the next meeting before the following semester. Perhaps the wording of the question could be improved in the future as well.

target goals were reached in each question involving the 4th, 5th, and 6th Amendments with the exception of question 12 involving the 6th Amendment. Based on the results starting in Fall 2023, instructor's teaching ADJ 212 will be asked to specifically review key elements of the 6th Amendment and relate the facts to real world examples.

5. Next assessment of this SLO: Spring 2025

Student Learning Outcome 2: Demonstrate a basic understanding of law enforcement, the courts, and correctional systems.

Assessment Methods

Course Name/Number: Survey of Criminal Justice - ADJ 100

Direct Measure Used: 15 Multiple-Choice Question SLO Quiz

SLO/Rubric Criteria or Question Concepts: The questions were based on basic understanding of law enforcement, court, and correctional concepts.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	2	26
AN	4	3	46
MA	3	3	30
LO	1	1	5
WO	3	3	39
NOVA Online	3	3	23
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**16**	**15**	**169**

Assessment Results

Semester/year data collected: Fall 2021

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results
All students assessed (weighted average)	78.2%	N/A
On-campus average	83%	N/A
Synchronous hybrid (remote) average	80%	N/A
NOVA Online average	71%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. Police	91%
2. Corrections	85%
3. Courts	77%
4. Corrections	79%
5. Corrections	82%
6. Courts	71%
7. Courts	60%
8. Courts	73%
9. Policing	79%
10. Corrections	79%
11. Corrections	71%
12. Corrections	77%
13. Policing	82%
14. Policing	79%
15. Courts	88%
Total	**78.2%**

Target Met: [ ] Yes [ ] No [X] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not assessed since 2017-18. The Administration of Justice (ADJ) discipline recently updated the curriculum map. In previous years, one map we used contained only 9 SLOs. The discipline chair has made suggestions on how to delineate SLO data based on majors, for instance A.A.S. and A.S. majors. Since several courses are optional within the A.A.S. program, identifying program placement of each student will be identified in the future. ADJ 100 Survey of Criminal Justice is mandated by all three degrees, but proper delineation will be needed in the future.

2. Impact of changes on current results: Although ADJ 100 Survey of Criminal Justice has been assessed multiple times in the past, the slight change in the SLO outcome description places a renewed emphasis on the three essential components of the criminal justice system. Overall, the updated curriculum mapping has not impacted the assessment, but the discipline will continue to monitor results in the future.

3. According to current results, areas needing improvement: One test question involving the Supreme Court case of *Madison v. Marbury* scored the lowest on the SLO quiz. This was consistent across all modalities. The discipline chair has suggested placing a renewed emphasis on judicial review. The landmark case helped define the powers of the executive and judicial branches. Most instructors do review this aspect within the course, perhaps a specific assignment or examination question can be linked to the case in order to improve future student learning outcome scores involving judicial review.

Administrative of Justice, A.A.S.

Areas where students met the target: Students appear to excel in the policing components of the SLO quiz, with question 1 scoring the highest percentage.

Areas where students did NOT meet the target: The area which students did not meet the target of 70% involved judicial review of the courts. The discipline chair has made suggestions and will discuss the outcomes among the discipline. Although each instructor does review judicial review, it will be a priority moving forward in the introductory course.

4. Based on current results, new actions to improve student learning: As mentioned, ADJ 100 Survey of Criminal Justice is mandated by all three degrees, but proper delineation will be needed in the future. The discipline chair has suggested placing a block on the top of each SLO form indicating proper program placement for each student. This will be done in the future for all SLO quizzes starting in the Spring of 202.

5. Next assessment of this SLO: Spring 2025

Student Learning Outcome 3: Define generally, domestic and international terrorism, organized crime, classified information, and propriety information.

Assessment Methods

Course Name/Number: Terrorism and Counter-Terrorism - ADJ 234

Direct Measure Used: 15 Multiple-Choice Question SLO Quiz

SLO/Rubric Criteria or Question Concepts: The questions were directly related to international and domestic terrorism along with general concepts of terrorism/counterterrorism and classified information.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	9
MA	1	1	4
WO	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**24**

Assessment Results

Semester/year data collected: Spring 2022

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	85.2%	N/A
On-campus average	88%	N/A
Synchronous hybrid (remote) average	82%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022
1. International Terrorism	83%
2. International Terrorism	83%
3. General Concepts	79%
4. General Concepts	88%
5. General Concepts	83%
6. General Concepts	88%
7. Domestic Terrorism	96%
8. Domestic Terrorism	96%
9. Classified Information	96%
10. International Terrorism	88%
11. International Terrorism	79%
12. International Terrorism	75%
13. Classified Information	73%
14. International Terrorism	88%
15. Classified Information	83%
Total	**85.2%**

Target Met: [X] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not assessed since 2017-18. The Administration of Justice (ADJ) discipline recently updated the curriculum map. In previous years, one map we used contained only 9 SLOs. The discipline chair has made suggestions on how to delineate SLO data based on majors, for instance A.A.S. and A.S. majors. Since several courses are optional within the A.A.S. program, identifying program placement of each student will be a critical component in the future. A box will be placed above each SLO quiz in the future identifying every program placed student. One issue will be double majors, i.e., A.S. and A.A.S. students and how they will be counted in the future. However, it should be noted there are a very small minority of students who are double majors.

2. Impact of changes on current results: This is the first time that we are using this course and the assessment method for this SLO. The current benchmark data can be used as a baseline for information going forward. Using this data will allow feature assessments to properly delineate between A.S. and A.A.S. majors. As mentioned above, the discipline chair has met multiple times with OIR representatives and believes a solid plan moving forward has been developed.

3. According to current results, areas needing improvement: Although the target score was reached within the SLO, it is a suggestion to place greater importance on issues associated with classified information. Additional test questions could focus on access to classified information. In addition, the discipline chair will suggest speaking about classified information during multiple modules of the course.

Administrative of Justice, A.A.S.

Areas where students met the target: Students clearly understood concepts around domestic terrorism. Specifically, questions addressing lone wolf terrorism within the United States of America.

Areas where students did NOT meet the target: Although, all questions met the target, questions 12 and 13 scored the lowest among students. Based on the questions, additional emphasis could be placed on access to classified information and issues associated with classified information. The discipline chair will suggest specific questions on upcoming examinations be based on case studies involving classified information in order to improve scores.

4. Based on current results, new actions to improve student learning: Overall, the results of the SLO were successful. Perhaps the discipline will consider additional examination questions or modalities of the course in the future. The discipline chair has suggested ADJ 234 - Terrorism and Counterterrorism be available via NOVA Online in the future. There were some misunderstandings and delineation issues, but going forward a proper strategy for solving these issues includes adding another SLO and have a box for program placement on each SLO/CLO quiz or written assignment, hence solving these problems.

5. Next assessment of this SLO: Spring 2025

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Define clear written communication skills involving terrorism and homeland security.

Assessment Methods

Course Name/Number: Terrorism and Counter-Terrorism - ADJ 234

Direct Measure Used: A written essay from an examination with a rubric. The CLO and rubric questions were based on a written essay from ADJ 234 – Terrorism and Counter-Terrorism. Scores were based on a quarter scale where 100% and 75% were considered passing while 50% and 25% were considered failing. The written essay involved radicalization aspects in America and how the internet excels the radicalization process.

CLO/Rubric Criteria or Question Concepts: The rubric involved content, professional writing, research, and A.P.A. formatting. Each component was weighed at 25% for the essay. In the future, the writer attends to breakdown the rubric into specific components (professional writing, research, and A.P.A. format) in order to show the differences within the rubric.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	9
MA	1	1	4
WO	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A

Assessment Results

Semester/year data collected: Spring 2022

Target: 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	80%	N/A
On-campus average	82%	N/A
Synchronous hybrid (remote) average	78%	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: This was the first time ADJ 234 has ever been used to assess the CLO.

Areas where students met the target: Students met all targets within the essay's rubric with an average score well above 70%. Almost all students demonstrated the use of academic databases such as, ProQuest and JSTOR as support for the information and opinion discussed within the essay.

Areas where students did NOT meet the target: Although students managed to score above the target goal, additional emphasis can be placed on professional writing in the future during 200 level courses.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time ADJ 234 Terrorism/Counterterrorism is being used to assess a CLO in the program.

2. Impact of changes on current results: It is the hope to be able to compare and contrast results of the CLO in the future.

3. According to current results, areas needing improvement: The discipline chair would recommend placing a renewed emphasis on professional writing since many students who enter homeland security, intelligence, or other related fields will need proper writing skills to excel in their position.

4. Based on current results, new actions to improve student learning: Although target goals were met, the discipline chair would suggest having a solid rubric across all modalities in the future in order to compare and contrast results.

5. Next assessment of this CLO: Spring 2025

Administrative of Justice, A.A.S.

Total	**3**	**3**	**24**

Program Goal on Graduation: Maintain current graduation levels

Assessment Method

Short description of method(s) and/or source of data:
Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain current graduation levels because enrollment has decreased due to the A.S. implementation and increased enrollment in the A.S. program.

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Administration of Justice, A.A.S.	55	48	31	30	20	-33
ADJ: Homeland Security Specialization, A.A.S.	7	6	4	5	5	0

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The Administration of Justice program Homeland Security Specialization stayed the same from 2020-2021 to 2021-22 with 5 graduates.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes – the ADJ AAS program meets the standard, but the Homeland Security Specialization does not. The discipline will need to discuss the VCCS productivity standards with the Homeland Security Specialization during the 2023 academic year.

Use of Results

1. Changes put in place since previous assessment to improve graduation results: We have updated the curriculum map for the A.A.S. and A.S. programs:

- The A.S. degree appears very successful because of the significant increases in graduates, program placed students, etc.
- The one downside of the new A.S. degree is it appears to have started a sudden collapse of the A.A.S. Administration of Justice degree. The Discipline is interested in the number of A.S. students who started the A.S. but do not finish the A.S. Are these students' better candidates for the A.A.S. degree? The A.S. degree is really meant for transferability while the A.A.S. degrees are geared for workforce development.
- The VCCS is currently meeting with Criminology/ADJ faculty to develop two courses (community policing and multiculturalism). The final roll out and how these courses impact our A.S. and A.A.S. degrees are TBD. The courses should not impact the A.A.S. degrees to much since there are enough ADJ elective courses, but the courses could hinder and impact the A.S. degree based on transferability.

2. Impact of changes on current results: The ADJ AAS did decrease by over 30% from the previous year while the ADJ AAS Homeland Security Specialization did not change.

3. According to current results, areas needing improvement: These upper-level classes at times do not make because of low enrollment.

4. Based on the results, new actions to improve graduation/productivity results: We are working with the Deans to ensure that lower-enrolled classes are allowed to run so students can complete the classes needed to graduate. The writer has suggested to the Pathway Dean of making all lower enrolled A.A.S. courses virtual in order to obtain more students.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Maintain current enrollment levels

Assessment Method | **Assessment Results** | **Use of Results**

Administrative of Justice, A.A.S.

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: Maintain current enrollment levels because enrollment has decreased due to the A.S. implementation and increased enrollment in the A.S. program.

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Administration of Justice, A.A.S.	307	201	128	133	109	-18
ADJ: Homeland Security Specialization, A.A.S.	87	46	41	47	57	21.3

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The Administration of Justice A.A.S. degree had nearly a 4% increase in enrollment over the past year while the Homeland Security Specialization had a nearly 15% increase.

Results for Past 5 Academic Years – FTES for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Administration of Justice, A.A.S.	183.5	114.7	63.2	74.3	57.7	-22
ADJ: Homeland Security Specialization, A.A.S.	52.1	25.7	22.5	28.1	34.3	22.1

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes – both AAS degrees surpass the standard.

1. Changes put in place since previous assessment to improve program placement results: We began an A.S. program (2018) for students wanting a transfer option. The A.S. has taken over enrollment growth and decreased enrollment in the A.A.S. degrees.

2. Impact of changes on current results: Program placement in both programs increased over the past year.

3. According to current results, areas needing improvement: Students need to be advised about which program will best met their needs/goals upon entering NOVA. The discipline will continue to work with first year advisors in order to properly place incoming students.

4. Based on the results, new actions to improve program placement/productivity: The program and Student Services need to work together to ensure students are properly placed in the correct degree to meet students' goals. The discipline will invite key members of Student Services starting in Fall of 2023 to ADJ discipline meeting in order to work together collectively on this issue.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Air Conditioning and Refrigeration, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed to prepare students for jobs in the air conditioning and refrigeration field. The second year provides students with skills that lead to leadership positions in the HVACR industry. Occupational objectives include industry licensing, advanced critical thinking skills, and state tradesman licenses in HVACR. Occupational objective includes preparing graduates with the knowledge and skills to become industry certified technicians, as well as meeting the educational requirements to be licensed as a HVACR Tradesman in Virginia.

Student Learning Outcome 1: Students will be able to identify various types of HVAC-R equipment and their components (e.g., high and low efficiency furnaces; heat pumps; Roof Top Unit; etc.)

Assessment Methods

Course Name/Number: Heat Pumps - AIR 235

Direct Measure Used: HVAC Excellence Employment Ready Exam on Heat Pumps. These exams are offered by ESCO and are national ready-to-work certification exams for HVAC professionals.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following topics:

1. Airflow
2. Heat Pump Components Design
3. Heat Pump Controls
4. Heat Pump Cycle
5. Heat Pump Installation and Settings
6. Heat Pump Service
7. Heat Pump Theory
8. Heat Pump Troubleshooting
9. Interpreting Heat Pump Schematics

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
WO only (hybrid)	02	02	22
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**22**

Assessment Results

Semester/year data collected: Fall 2021 & Spring 2022

Target: 70% of students receive 70% (passing grade on the ESCO Exam)

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021 & Spring 2022	Previous Results Fall 2020 & Spring 2021
Synchronous hybrid (remote) average	88%*	88%

*National average on this exam was 84%

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 & Spring 2022	Previous Results Fall 2020 & Spring 2021
1. Airflow	95	100%
2. HP Components Design	87	86%
3. HP Controls	93	94%
4. HP Cycle	84	84%
5. HP Install and Settings	96	96%
6. HP Service	91	89%
7. HP Theory	95	93%
8. HP Troubleshooting	90	87%
9. Interpreting HP Schematics	71	73%

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: Identical.

Areas where students met the target: All Areas

Continuous Improvement

1. Changes put in place since the previous assessment to improve student learning: This year was the second academic year to implement the ESCO Exams. These exams are national ready-to-work certification exams, and the program encourages students to take these exams to demonstrate their competencies as well as receive national certification in this field. The program plans to review program SLOs and assessments in the upcoming year (see #4 below).

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: We are testing only second year students. This exam has been established as an expectation of the course. Students scored lowest on topic #9: interpreting heat pump schematics. All results are comparable to last assessment and national averages.

4. Based on current results, new actions to improve student learning: A new instructor has been assigned to this course. The course should have more focus on Chapter 5 and have a lecture dedicated to schematics. Continue with testing and tracking.

5. Next assessment of this SLO: Fall 2023

Air Conditioning and Refrigeration, A.A.S.

Student Learning Outcome 2: Students will be able to apply skills, practical applications, technical knowledge, and troubleshoot HVAC-R sequential operation of various types of equipment

Assessment Methods

Course Name/Number: Gas-Fired Warm Air Furnaces - AIR 257

Direct Measure Used: HVAC Excellence Employment Ready Exam on Gast Heat. These exams are offered by ESCO and are national ready-to-work certification exams for HVAC professionals.

SLO/Rubric Criteria or Question Concepts: Students were assessed on:

1. Combustion Theory & Heating Fuels
2. Electrical Troubleshooting
3. Furnace Installation & Service
4. Furnace Troubleshooting
5. Heating Safety
6. Heating System & Components

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
WO only (hybrid)	2	2	44
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total			

Assessment Results

Semester/year data collected: Fall 2021 & Spring 2022

Target: 70% of students receive 70% (passing grade on the ESCO Exam)

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
Synchronous hybrid (remote) average	84%*	N/A

*National average on this exam was 80%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 & Spring 2022
1. Combustion Theory & Heating Fuels	83%
2. Electrical Troubleshooting	83%
3. Furnace Installation & Service	88%
4. Furnace Troubleshooting	80%
5. Heating Safety	71%
6. Heating System & Components	77%
7. Heating System & Components	88%
8.	

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: This is the first time that this SLO is being assessed with this exam.

Areas where students met the target: All.

Areas where students did NOT meet the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: This year was the first full academic year to implement the ESCO Exams. These exams are national ready-to-work certification exams and are now a program requirement. The program plans to review program SLOs and assessments in the upcoming year (see #4 below).

2. Impact of changes on current results:
N/A

3. According to current results, areas needing improvement:
All results are comparable to last assessment and national averages.

4. Based on current results, new actions to improve student learning:
Focus on Heating Safety and Heating System & Components for next year.

5. Next assessment of this SLO: Fall 2023

Student Learning Outcome 3: Students will be able to understand and apply the basic refrigeration principles to design and troubleshooting HVAC-R systems

Assessment Methods

Course Name/Number: Air Conditioning Systems I – AIR 251

Direct Measure Used: HVAC Excellence Employment Ready Exam on Air Conditioning. These exams are

Assessment Results

Semester/year data collected: Fall 2021 & Spring 2022

Target: 70% of students receive 70% (passing grade on the ESCO Exam)

Results by Modality: Overall Average/Mean Scores

Use of Results

1. Changes put in place since previous assessment to improve student learning: This year was the second full academic year to implement the ESCO Exams. These exams are national ready-to-work certification exams and are now a required course component. The exams demonstrate student competencies as well as

offered by ESCO and are national ready-to-work certification exams for HVAC professionals.

SLO/Rubric Criteria or Question Concepts: Students were assessed on:
1. Air Conditioning (A/C) & Refrigeration Theory
2. A/C Equipment Service
3. A/C Systems & Components
4. A/C Troubleshooting
5. Refrigeration Flow Control Theory & Application

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
WO only (hybrid)	02	02	24
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**XX**	**XX**	**XX**

Results by Modality	Current Results Fall 2021 & Spring 2022	Previous Results Fall 2020 & Spring 2021
Synchronous hybrid (remote) average	86%	88%*

*National average for this exam was 84%

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 & Spring 2022	Past Results Fall 2020 & Spring 2021
1. A/C & Refrigeration Theory	89	93
2. A/C Equipment Service	88	91
3. A/C Systems & Components	85	88
4. A/C Troubleshooting	85	87
5. Ref. Flow Control Theory & App.	81	83

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: All results are comparable to last assessment and national averages.

Areas where students met the target: N/A

Areas where students did NOT meet the target: N/A

receive national certification in this field. The program plans to review program SLOs and assessments in the upcoming year (see #4 below).

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: The number of students testing and passing is similar. This exam has been established as an expectation of the course. Students scored lowest on topic #5: refrigeration flow control theory and application.

4. Based on current results, new actions to improve student learning: Identify flow control theory and application questions from the exam and dedicate more class time to those topics. Continue with testing and tracking.

5. Next assessment of this SLO: Fall 2023

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalized Definition: Questions on the ESCO Carbon Monoxide Safety ESCO exam

Assessment Methods

Course Name/Number: Heating Systems I - AIR 154

Direct Measure Used: HVAC Excellence Employment Ready Exam on Carbon Monoxide Safety. These exams are offered by ESCO and are national ready-to-work certification exams for HVAC professionals.

CLO/Rubric Criteria or Question Concepts: Students were assessed on the following topics:
1. Alarm & Response
2. Building Pressure Measurements
3. Building Pressures Gen' Knowledge
4. Combustion Controls
5. Combustion Gas

Assessment Results

Semester/year data collected: Fall 2021 & Spring 2022

Target: Students will receive 70% (passing grade on the ESCO Exam)

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021 & Spring 2022	Previous Results
Synchronous hybrid (remote) average	76%	N/A

*There is no available National average for this exam. For this exam, 6 of 22 AIR students passed the exam (27%).

Use of Results

1. Changes put in place since previous assessment to improve student learning: This year was the first full academic year to implement this ESCO Exams. These exams are national ready-to-work certification exams and are now a program requirement. The program plans to review program SLOs and assessments in the upcoming year (see #4 below).

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Ensure students are taking the same exam. ESCO has provided a link as of this semester.

Air Conditioning and Refrigeration, A.A.S.

6. Combustion Gen' Knowledge
7. Documentation
8. Gas Heat Components
9. Gen' Knowledge
10. Measurements
11. Medical
12. Tools

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
WO only (hybrid)	02	02	22
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total			

Results by CLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 & Spring 202
1. Alarm & Response	84
2. Building Pressure Measurements	65
3. Building Pressures Gen' Knowledge	65
4. Combustion Controls	59
5. Combustion Gas	87
6. Combustion Gen' Knowledge	73
7. Documentation	90
8. Gas Heat Components	62
9. Gen' Knowledge	76
10. Measurements	83
11. Medical	88
12. Tools	77

Target Met: [ ] Yes [ ] No [X] Partially

Narrative comparison of current results to previous results: This is the first time assessing this CLO with this exam.

Areas where students met the target: All but 3.

Areas where students did NOT meet the target: Student have 3 sub-categories where results are below 70%

4. Based on current results, new actions to improve student learning: Ensure students are taking the same exam to help standardize exam results. Emphasize Building Pressure Measurements, Building Pressures Gen' Knowledge, Gas Heat Components, and Combustion Controls in the test preparation for Spring of 2024.

5. Next assessment of this CLO: Spring 2025

Program Goal on Graduation: Maintain 5-year average for graduation

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12

Assessment Results

Target: Maintain 5-year average for graduation

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	25	78.6
2020-21	14	-44.0
2019-20	25	-26.5
2018-19	34	47.8
2017-18	23	--

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Continuous Improvement

1. Changes put in place since previous assessment to improve graduation results: We have hired and are developing one new adjunct. We are in the hiring process for a new full-time position for fall 2023.

2. Impact of changes on current results: COVID impacts: Moved to an entirely online format. COVID impacts, coupled with the economic upturn and staff attrition, may have negatively affected enrollment and graduation. In addition, anecdotal evidence suggests that students do not complete the AAS program in 2 years, but rather 4-5 years. Also, enrollment in the program is highly sensitive to economic upturns whereby when the economy is good, students do not enroll in the program, but when the economy is in decline, we see an uptick in enrollment. The current economy is exceptional.

Air Conditioning and Refrigeration, A.A.S.

A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Narrative comparison of current results to previous year's results: Graduation increased by 79% over the past year.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes.

Enrollment is directly tied to number of sections and courses offered. We have eliminated daytime sections in spring of 2023 due to instructor shortages.

3. According to current results, areas needing improvement: The program would like to implement a tracking system to determine how many program-placed students persist through the program to graduation. The website needs to be updated, as well. In addition, the program would like to hire more instructors and continue efforts to hybridize the course delivery format. An exit interview also needs to be created to establish student hiring patterns.

4. Based on the results, new actions to improve graduation/productivity results: The program will continue to track results and seek personnel to implement suggested changes.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Maintain 5-year average for program placement

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain 5-year average for program placement

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	130	14.0
2020-21	114	-24.5
2019-20	151	11.9
2018-19	135	-11.2
2017-18	152	--

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Headcount increased by 14% over the past year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	81.8	11.9
2020-21	73.1	-17.5

Use of Results

1. Changes put in place since previous assessment to improve program placement results: We have hired one new adjunct. We were unsuccessful at a new hire over this past summer and are going through the hiring process again.

2. Impact of changes on current results: COVID impacts, coupled with the economic upturn and staff attrition, may have negatively affected enrollment.

3. According to current results, areas needing improvement: Need to hire more staff.

4. Based on the results, new actions to improve program placement/productivity: Hire a fourth full-time faculty member in order to offer more sections. This is limited by campus budget constraints.

5. Next assessment of this goal: Assessed annually

2019-20	88.6	13.0
2018-19	78.4	-0.9
2017-18	79.1	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes

Student Learning Outcome Assessment Report: 2021-2022
American Sign Language to English Interpretation, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program Purpose Statement: Designed for students who have limited, if any, previous experience with interpreting for Deaf people, this degree program provides the comprehensive training in theory and practical interpreting skills necessary for employment as an educational or community interpreter. Successful completion of this program prepares the student to pursue either a Virginia Quality Assurance Screening Level, national certification through the Registry of Interpreters for the Deaf, or a level on the Educational Interpreter's Performance Assessment. These credentials qualify the student to interpret in either educational or community settings.

Student Learning Outcome 1: Students will demonstrate the ability to transliterate a videotaped segment of English into Contact Sign with 65% accuracy

Assessment Methods

Course Name/Number: Transliterating I - INT 141

Direct Measure Used: This SLO is evaluated in INT 141: Transliterating. The students are required to voice a story with a familiar signer.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following criteria:

- Pidgin Signed English (PSE) Grammar
- Appropriate Sign Choice
- Dynamic Equivalence
- Processing Time
- Mouthing
- Fingerspelling/ Numbers
- Mannerisms

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN only	1	1	13
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**13**

Assessment Results

Semester/year data collected: Summer 2021

Target: 80% of students will score 65% or higher overall and on each criterion.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Summer 2021	Previous Results Summer 2020
Synchronous hybrid (remote) average	81.62	90.63

Results:

Results	Current Results Summer 2021	Current Results Summer 2020
Final Grades	90-100%-4 80-89%-5 703-79%-2 65-69%-1 60-69%-0 Below 59%-1	90-100%-9 80-89%-4 703-79%-2 65-69%-1 60-69%-0 Below 59%-0

Results by SLO Criteria:

Parameter	Number of Students for 2021	Number of Students for 2020	Number of Students for 2018
PSE grammar	90-100%- 0 80-89%- 6 70-79%- 4 65-69%-3 60-64%- 0 Below 59%- 0 Percentage of students meeting target- 100	90-100%- 2 80-89%- 8 70-79%- 1 65-69%-4 60-64%- 1 Below 59%- 0 Percentage of students meeting target- 94	90-100%- 3 80-89%- 2 70-79%- 7 60-69%- 1 Below 59%- 1 Percentage of students meeting target-86
Appropriate Sign Choice	90-100%- 5 80-89%- 3 70-79%- 3 65-69%-3	90-100%- 2 80-89%- 12 70-79%- 2 65-69%-0	90-100%- 4 80-89%- 4 70-79%- 3 60-69%- 3

Use of Results

1. Changes put in place since previous assessment to improve student learning: Assessments were developed in Summer 2018 to determine specifically which areas caused the greatest problems for students. These units relating to ASL grammar features that are preserved through transliteration are now presented early in the curriculum to give students more time to practice these skills with guidance and feedback. These were adapted for the online learning environment and have resulted in stronger student achievement in the areas of PSE grammar and ASL vocabulary.

2. Impact of changes on current results: Students met the target in all areas, and overall average scores increased as well as the percentage of students meeting the target for each area. However, most parameters indicated that the majority of students continued to earn a grade of “B” instead of “A”. The faculty will continue to develop strategies to adapt lessons to online environments.

3. According to current results, areas needing improvement: The faculty will continue to develop strategies to adapt lessons to online

	60-64%- 0 Below 59%- 0 Percentage of students meeting target-100	60-64%- 0 Below 59%- 0 Percentage of students meeting target-100	Below 59%- 0 Percentage of students meeting target-79
Dynamic Equivalence	90-100%- 0 80-89%- 8 70-79%- 2 65-69%- 3 60-64%- 0 Below 59%- 0 Percentage of students meeting target-100	90-100%- 3 80-89%- 10 70-79%- 0 65-69%- 1 60-64%- 2 Below 59%- 0 Percentage of students meeting target-88	90-100%- 3 80-89%- 4 70-79%- 3 60-69%- 3 Below 59%- 1 Percentage of students meeting target-71
Processing Time	90-100%- 1 80-89%- 10 70-79%- 0 65-69%-1 60-64%- 0 Below 59%- 1 Percentage of students meeting target-92	90-100%- 7 80-89%- 9 70-79%- 0 65-69%-0 60-64%- 0 Below 59%- 0 Percentage of students meeting target-100	90-100%- 1 80-89%- 4 70-79%- 9 60-69%- 0 Below 59%- 0 Percentage of students meeting target-100
Mouthing	90-100%- 0 80-89%- 9 70-79%- 1 65-69%-2 60-64%- 0 Below 59%- 1 Percentage of students meeting target-92	90-100%- 3 80-89%- 6 70-79%- 6 65-69%-1 60-64%- 0 Below 59%- 0 Percentage of students meeting target-94	90-100%- 5 80-89%- 1 70-79%- 3 60-69%- 5 Below 59%- 0 Percentage of students meeting target-64
Fingerspelling/ Numbers	90-100%- 1 80-89%- 7 70-79%- 1 64-69%-3 60-69%- 0 Below 59%- 1 Percentage of students meeting target- 92	90-100%- 10 80-89%- 4 70-79%- 0 64-69%-1 60-69%- 1 Below 59%- 0 Percentage of students meeting target- 94	90-100%- 6 80-89%- 1 70-79%- 0 60-69%- 5 Below 59%- 2 Percentage of students meeting target-50
Mannerisms	90-100%- 4 80-89%- 6 70-79%- 1 65-69%-1 60-64%- 0 Below 59%- 1 Percentage of students meeting target- 92	90-100%- 7 80-89%- 9 70-79%- 0 65-69%-0 60-64%- 0 Below 59%- 0 Percentage of students meeting target- 100	

Target Met: [X] Yes [ ] No [ ] Partially

environments to foster greater student success in all areas.

4. Based on current results, new actions to improve student learning: This is the first group of students to go through the program completely virtually. Faculty continue to work with NOVA Online to find and utilize resources such as Harmonize to give students more opportunities to interact with the professor and each other virtually.

5. Next assessment of this SLO: This SLO will be assessed in Summer 2022.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous results: According to the Results by SLO Criteria table, the Appropriate Sign Choice category remained consistent in achievement from the previous year's results to the current year's results. However, there was also a small percentage achievement drop in the Mouthing and Fingerspelling/Numbers categories during the current year from the previous year, dropping from 94 percent achievement to 92 percent achievement in both areas. Such minor changes occur with such a small sample size.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: Students met the target in all areas.

Student Learning Outcome 2: Students will demonstrate the ability to transliterate a videotaped segment of Contact Sign into English with 65% accuracy

Assessment Methods

Course Name/Number: Transliterating I - INT 141

Direct Measure Used: This SLO is evaluated in INT 141: Transliterating. The students are required to voice a story with a familiar signer.

SLO/Rubric Criteria or Question Concepts: Students are evaluated on their English grammar, appropriate word choice, dynamic equivalence, processing times, fingerspelling and number comprehension, vocal inflection and mannerisms.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN only	1	1	13
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**13**

Assessment Results

Semester/year data collected: Summer 2021

Target: 80% of students will score 65% or higher overall and on each criterion.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Summer 2021	Previous Results Summer 2020
Synchronous hybrid (remote) average	78.15	82.06

Results:

Results	Current Results Summer 2021	Previous Results Summer 2020
Final Grades	90-100%-1 80-89%-5 70-79%-6 65-69%-1 60-69%-0 Below 59%-0	90-100%-9 80-89%-4 70-79%-2 65-69%-1 60-69%-0 Below 59%-0

Results by SLO Criteria:

Parameter	Number of Students 2021	Number of Students 2020
English grammar	90-100%- 0 80-89%- 5 70-79%- 3 65-69%-3 60-64%- 0 Below 59%- 3	90-100%- 3 80-89%- 6 70-79%- 3 65-69%-1 60-64%- 0 Below 59%- 3

Use of Results

1. Changes put in place since previous assessment to improve student learning: In support of this SLO, the Interpreting Department met and discussed specific strategies to support students' English skill development early in the program through INT 105. Modules for this course were developed to address specific areas of need such as "Form and Meaning", Summarization, Finding the Main Idea, Lexical Substitution, and Paraphrasing. The goal was to provide a strong foundation in English that could be used for all of the subsequent classes throughout the 2-year program. In addition, this is the first cohort that went through the entire program in a virtual environment as instructors have worked to adapt instructional methods and materials to the new environment. We discovered "Harmonize", a program that allows instructors to provide direct feedback on students' recorded material. Now students can submit work that they have completed, and instructors can pause a video and

American Sign Language to English Interpretation, A.A.S.

	Percentage of students meeting target-77	Percentage of students meeting target-81
Appropriate Word Choice	90-100%- 2 80-89%- 3 70-79%- 5 65-69%-3 60-64%- 0 Below 59%- 0 Percentage of students meeting target-100	90-100%- 3 80-89%- 6 70-79%- 3 65-69%-2 60-64%- 0 Below 59%- 2 Percentage of students meeting target-88
Dynamic Equivalence	90-100%- 0 80-89%- 4 70-79%-3 65-69%-4 60-64%- 0 Below 59%- 1 Percentage of students meeting target-92	90-100%- 2 80-89%- 6 70-79%-3 65-69%-4 60-64%- 0 Below 59%- 1 Percentage of students meeting target-94
Processing Time	90-100%- 0 80-89%- 4 70-79%- 0 65-69%-5 60-64%- 0 Below 59%- 4 Percentage of students meeting target-70	90-100%- 2 80-89%- 8 70-79%- 2 65-69%-2 60-64%- 2 Below 59%- 0 Percentage of students meeting target-88
Fingerspelling/ Numbers	90-100%- 0 80-89%- 4 70-79%- 0 65-69%-6 60-64%- 0 Below 59%- 8 Percentage of students meeting target-46	90-100%- 4 80-89%- 8 70-79%- 1 65-69%-1 60-64%- 0 Below 59%- 2 Percentage of students meeting target-88
Vocal Inflection	90-100%- 1 80-89%- 2 70-79%- 0 65-69%-6 60-64%- 0 Below 59%- 4 Percentage of students meeting target- 70	90-100%- 2 80-89%- 5 70-79%- 3 65-69%-3 60-64%- 2 Below 59%- 1 Percentage of students meeting target- 81
Mannerisms	90-100%- 3 80-89%- 6 70-79%- 0 65-69%-3 60-64%- 0 Below 59%- 1	90-100%- 3 80-89%- 6 70-79%- 1 65-69%-2 60-64%- 4 Below 59%- 0

insert either a written comment or a video demonstrating the target for students to see alongside of their own work.

2. Impact of changes on current results: The increased emphasis on English skills earlier in the program have resulted in improved results for the Appropriate Word Choice parameter.

3. According to current results, areas needing improvement: Students did not meet the target for English Grammar, Processing Time, Fingerspelling and Numbers, and Vocal Inflection. The most surprising result was the fingerspelling and numbers parameter. Student achievement fell from 88% to 46%. This drop was unexpected based on previous results.

4. Based on current results, new actions to improve student learning: The ASL department will evaluate the current ASL 115: Fingerspelling and Numbers course to determine if there are more effective online teaching methods to support students in this area. The department has been developing ASL 101, 102, 201 and 202 as NOL courses. During the summer of 2023, the faculty will meet to determine effective strategies for implementing fingerspelling production and reception across the ASL language courses, to be implemented starting in the fall of 2023.

5. Next assessment of this SLO: This SLO will be assessed in Summer 2022.

	Percentage of students meeting target-92	Percentage of students meeting target-75

Target Met: [ ] Yes [ ] No [x] Partially

Current Results improved vs. Previous Results:
[ ] Yes [] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: The parameters where students demonstrated improvement were Appropriate Word Choice and Mannerisms. All other parameters indicated a decline in student success.

Areas where students met the target: Students achieved the target in Appropriate word choice, Dynamic Equivalence, and Mannerisms

Areas where students did NOT meet the target: Students did not meet the target for English Grammar, Processing Time, Fingerspelling and Numbers, and Vocal Inflection.

Student Learning Outcome 3: Students will demonstrate the ability to interpret a videotaped segment of American Sign Language into English with 65% accuracy

Assessment Methods

Course Name/Number: ASL to English Interpretation II - INT 233

Direct Measure Used: A interpretation of a 7-minute videotaped segment of American Sign Language into English with 65% accuracy. This SLO is assessed in INT 233: Simultaneous Interpreting, ASL to English using the Final Exam Grade. The Final Exam is comprised of a videotaped selection that students have never seen before, and they videotape themselves providing an interpretation. The students are required to provide an interpretation of the lecture.

SLO/Rubric Criteria or Question Concepts: Students are evaluated on their English grammar, appropriate word choice, dynamic equivalence, error recovery, processing times, fingerspelling and number comprehension, voice quality, deletions/ additions/ substitutions, and mannerisms.

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed

Assessment Results

Semester/year data collected: Spring 2022

Target: 80% of students will score 65% or higher overall on each criterion**.**

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
Synchronous hybrid (remote) average	80.8%	72%

Results by SLO Criteria:

Parameter	Number of students in 2022	Number of students in 2021
1. English Grammar	90-100%-3 80-89%-5 70-79%- 3 65-69%- 2 60-64%- 0 Below 59%- 2 % of students reaching target- 85	90-100%-2 80-89%-5 70-79%- 1 65-69%- 2 60-64%- 1 Below 59%- 2 % of students reaching target- 77
2. Appropriate Word Choice	90-100%- 4 80-89%- 3 70-79%- 6	90-100%- 5 80-89%- 3 70-79%- 2

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO relies heavily on English skills. Therefore, the interpreting teachers implemented a plan to stress English skills across the interpreting courses. These started in the first year (Fall 2018) with INT 105 and continued with INT 133 in the second year. These skills are specifically targeted and supported early and often.

2. Impact of changes on current results: The overall achievement increased significantly from 72% to 80%, thereby meeting the target. The increased focus on grammar and dynamic equivalence resulted in improvements in these areas, as well as many others.

American Sign Language to English Interpretation, A.A.S.

AN only	1	1	15
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**15**

	65-69%- 2 60-64%- 0 Below 59%-0 % of students reaching target-100	65-69%- 2 60-64%- 1 Below 59%-0 % of students reaching target-92
3. Dynamic Equivalence	90-100%- 1 80-89%- 3 70-79%- 7 65-69%- 4 60-69%- 0 Below 59%- 0 % of students reaching target- 100	90-100%- 5 80-89%- 1 70-79%- 3 65-69%- 1 60-69%- 1 Below 59%- 2 % of students reaching target- 77
4. Error Recovery	90-100%- 4 80-89%- 1 70-79%- 2 65=69%- 5 60-64%- 0 Below 59%- 3 % of students reaching target-80	90-100%- 5 80-89%- 5 70-79%- 0 65=69%- 1 60-64%- 1 Below 59%- 1 % of students reaching target-85
5. Processing time	90-100%- 5 80-89%- 6 70-79%- 1 65-69%- 3 60-64%- 0 Below 59%- 0 % of students reaching target—100	90-100%- 4 80-89%- 4 70-79%- 3 65-69%- 1 60-64%- 1 Below 59%- 0 % of students reaching target—85
6. Fingerspelling/ Numbers	90-100%- 4 80-89%- 5 70-79%- 2 65-69%- 2 60-64%-0 Below 59%- 1 % of students reaching target-93	90-100%- 5 80-89%- 2 70-79%- 4 65-69%- 1 60-64%-1 Below 59%- 0 % of students reaching target-92
7. Voice quality	90-100%- 1 80-89%- 7 70-79%- 1 65-69%- 3 60-64%- 0 Below 59%-3 % of students reaching target-80	90-100%- 6 80-89%- 2 70-79%- 1 65-69%- 2 60-64%- 2 Below 59%-0 % of students reaching target-85
8. Deletions/ additions/ substitutions	90-100%- 0 80-89%- 4 70-79%- 1 65-69%- 9 60-64%- 0 Below 59%- 1 % of students reaching target-93	90-100%- 4 80-89%- 4 70-79%- 1 65-69%- 3 60-64%- 0 Below 59%- 1 % of students reaching target-92

3. According to current results, areas needing improvement: While all parameters met the target, further work needs to continue in the areas of English grammar, error recovery, and voice quality.

4. Based on current results, new actions to improve student learning: The interpreting instructors continue to collaborate to ensure that these skills are emphasized throughout the program. The interpreting faculty meet each summer to look at the student achievement for each parameter from the previous year and to determine what adjustments should be made in response. Based on this assessment, more practice should be placed on English grammar, error recover, and voice quality. These topics will be stressed in the course prior to this course, INT 133.

5. Next assessment of this SLO: This SLO will be assessed in Spring 2023.

	9. Mannerism	90-100%- 9 80-89%- 3 70-79%- 0 65-69%- 3 60-64%- 0 Below 59%- 0 % of students reaching target-100	90-100%- 7 80-89%- 4 70-79%- 1 65-69%- 1 60-64%- 0 Below 59%- 0 % of students reaching target-100

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: All students met the target in all areas which indicates an improvement over previous results. The parameters of error recovery and voice quality demonstrated a slight decrease in achievement, even though the target was still met. The faculty will continue to emphasize these particular areas to ensure that further deterioration does not occur. In addition, while students met the target for English grammar and there was demonstrated improvement, the percentage should still be improved for such a vital parameter.

Areas where students met the target: All students met the target in all areas.

Areas where students did NOT meet the target: All students met the target in all areas. There was a decrease in achievement in the areas of voice quality and error recovery. Although there was an increase in achievement for English grammar, there is still more work to be done to support this parameter.

Core Learning Outcome: [ ] Civic Engagement [x] Written Communication
Operationalized Definition: Students will demonstrate the ability to critically assess their work and effectively communicate logical conclusions using supporting evidence.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: INT 237 **Direct Measure Used**: Students are required to write a final essay where they analyze their strengths and areas of continued improvement after two years of studies. **CLO/Rubric Criteria or Question Concepts:** The students are assessed on the following: • Thoughtful reflections • Inclusion of all required Elements • Evidence of Practice • Organization and structure • Development of supporting evidence	**Semester/year data collected:** Spring 2022 **Target:** 80% of students will score 80% or higher overall and on each parameter. **Results by Modality:** Overall Average/Mean Scores **Results by Modality** / **Current Results Semester Year** **Synchronous hybrid (remote)** average: 96% **Results by CLO Criteria:** [X] Average/Mean Score per criteria or [ ] Percent of Students > target per criteria **Results by** / **Current**	**1. Changes put in place since previous assessment to improve student learning:** This CLO was last assessed in the spring of 2019. At that time the faculty realized that only the content had truly been assessed, not written communication. The curriculum across the program focuses on oral communication skills but it was determined that more emphasis on written communication was needed. This now starts with INT 105 in the first semester of the program where all assignments have a written

- Grammar and Mechanics

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	10
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	10

SLO Criteria/ Question Concepts	Results Semester Year
1. Thoughtful reflections	93
2. Inclusion of all required Elements	93
3. Evidence of Practice	86
4. Organization and structure	93
5. Development of supporting evidence	93
6. Grammar and Mechanics	100

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:
This CLO was last assessed in the spring of 2019. At that time the faculty realized that only the content had truly been assessed, not written communication. Therefore the methodology was completely revised.

Areas where students met the target:
Students met the target in all parameters.

Areas where students did NOT meet the target:
Students met the target in all parameters.

communication assessment component. This continues throughout the program. INT 237 is taken in the 7th semester of the program, and students are asked to complete an in-depth evaluation of their areas of strength, areas of continued improvement, and to create a plan for continued professional development. This builds on the skills that they have been using throughout the program.

2. Impact of changes on current results:
Students were successful in all criteria of the CLO.

3. According to current results, areas needing improvement:
The one area that needs further support is the "evidence of practice". This is defined as " Response shows strong evidence of synthesis of ideas presented and insights gained throughout the entire program. The implications of these insights for the respondent's overall interpreting practice are thoroughly detailed, as applicable." The faculty are encouraging the students to use evidence from their entire learning experience, and not limit it to one semester or one practicum experience.

4. Based on current results, new actions to improve student learning:
The faculty will continue to emphasize written communication along with oral communication skills.

American Sign Language to English Interpretation, A.A.S.

<table>
<tr><td></td><td></td><td>5. Next assessment of this CLO: This CLO will be reassessed in 3 years.</td></tr>
<tr><td colspan="3">Program Goal on Graduation: The program will graduate at least 12 students each year</td></tr>
<tr><td>Assessment Method</td><td>Assessment Results</td><td>Use of Results</td></tr>
<tr>
<td>Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards
<table>
<tr><th>Degree Program</th><th>Required Number of Graduates (for Institutions with 5,000 or more students)</th></tr>
<tr><td>Transfer (A.A., A.S., A.A.&S.)</td><td>17</td></tr>
<tr><td>A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies</td><td>12</td></tr>
<tr><td>A.A.S. in Engineering, Mechanical, and Industrial Technologies</td><td>9</td></tr>
<tr><td>A.A.S. in Health Technologies</td><td>7</td></tr>
</table>
Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.
</td>
<td>Target: The program will graduate at least 12 students each year

Results for Past 5 Academic Years:
<table>
<tr><th>Academic Year</th><th>Number of Graduates</th><th>Percentage Increase/ Decrease</th></tr>
<tr><td>2021-22</td><td>7</td><td>0</td></tr>
<tr><td>2020-21</td><td>7</td><td>75.0</td></tr>
<tr><td>2019-20</td><td>4</td><td>-42.9</td></tr>
<tr><td>2018-19</td><td>7</td><td>-22.2</td></tr>
<tr><td>2017-18</td><td>9</td><td>--</td></tr>
</table>
Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The number of graduates in 2022 remained the same as 2021.

<u>For Associate-Degree Granting Programs only (N/A for Certificates)</u>:
Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: No. While an average of 14 students complete the INT coursework, many fewer finish the internship and apply for graduation. Some do not finish the required Gen Ed classes but go directly into the workforce without the degree. There is a desperate need for interpreters in the workforce and students would be able to readily find employment even without the completed degree. In addition, based on the structure of the ASL-English Interpretation Program, the students eligible for graduation would be the cohort who were forced online during the spring of 2020. Several students did not complete the program for a variety of reasons.</td>
<td>1. Changes put in place since previous assessment to improve graduation results:
• The faculty have worked hard to promote the program and work with local partners to recruit and retain students. Students are assigned the Department Head as their academic advisor during their first semester, and their progress is monitored.
• Changes to the degree requirements have been made to remove barriers to graduation. The PED requirement has been removed and students no longer take the elective course, a course that often did not make due to low enrollment.

2. Impact of changes on current results: While the department has not met the target, through the Covid crisis we did not lose students.

3. According to current results, areas needing improvement: The faculty need to continue to work with students. While an average of 14 students finish the capstone course, only 7-8 students take the internship course which leads to graduation. The faculty have worked with a wider variety of community partners to identify different internship opportunities to increase access. In addition, the department is working with the NOVA Interpreting Services Department to provide students</td>
</tr>
</table>

<table>
<tr>
<td></td>
<td></td>
<td>internship opportunities on campus as well.

4. Based on the results, new actions to improve graduation/productivity results: Students have demonstrated a preference for online classes. The ASL Interpreting Department has been working diligently this year to work with NOVA Online to create an online synchronous option for all of the INT courses. The intent is that eventually students will have the option of in-person courses during the day or online courses in the evenings to remove more barriers to success. The online option will allow additional instructors from any area of the country and more partnerships for internships.

5. Next assessment of this goal: Assessed annually</td>
</tr>
<tr>
<td colspan="3">Program Goal on Program-Placed Students: The program will produce at least 30 FTES</td>
</tr>
<tr>
<td>Assessment Method</td>
<td>Assessment Results</td>
<td>Use of Results</td>
</tr>
<tr>
<td>Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards
<table>
<tr><th>Degree Program</th><th>FTES Requirement (for Institutions with 5,000 or more students)</th></tr>
<tr><td>Transfer (A.A., A.S., A.A.&S.)</td><td>24</td></tr>
<tr><td>A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies</td><td>18</td></tr>
<tr><td>A.A.S. in Engineering, Mechanical, and Industrial Technologies</td><td>13</td></tr>
<tr><td>A.A.S. in Health Technologies</td><td>10</td></tr>
</table>
Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.</td>
<td>Target: Number of program-placed students in each degree/certificate will increase by 2%

Results for Past 5 Academic Years - Headcount:
<table>
<tr><th>Academic Year</th><th>Number of Program-Placed Students</th><th>Percentage Increase/ Decrease</th></tr>
<tr><td>2021-22</td><td>62</td><td>-.7.4</td></tr>
<tr><td>2020-21</td><td>67</td><td>8.1</td></tr>
<tr><td>2019-20</td><td>62</td><td>5.1</td></tr>
<tr><td>2018-19</td><td>59</td><td>-4.8</td></tr>
<tr><td>2017-18</td><td>62</td><td>8.8</td></tr>
</table>
Target Met for Headcount: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The program goal of producing at least 30 FTES were met. However, there was a drop in both headcount and number of program-placed FTES.</td>
<td>1. Changes put in place since previous assessment to improve graduation results:
• Recruitment activities continue. There were three Dual Enrollment classes for 2020-21 in Loudon County, and we met with both Prince William and Fairfax Counties to initiate programs in those counties as well.
• Marketing materials that were developed in conjunction with the NOVA marketing department and the INT classes were distributed to local high schools and programs.
• For the 2021-2022 Virginia Department of Education (VDOE) grant year, we received funds to develop ASL 102 as an online course for NOVA Online</td>
</tr>
</table>

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	31.0	-11.4
2020-21	35.4	-1.7
2019-20	36.0	-4.5
2018-19	37.7	22.8
2017-18	30.7	-10.5

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Yes.

Please explain: The program has a goal of producing at least 30 FTES which is higher than the VCCS Productivity Standards.

and Shared Services Distant Learning (SSDL) to compliment ASL 101 and 201 that was developed last year.

2. Impact of changes on current results: The number of program-placed students has decreased, although the program continues to meet the stated goal of producing at least 30 FTES. The department would like to increase that number. Approximately 42% of the educational interpreters in our region graduated from NOVA in the past 15 years. Moreover, 97% of the educational interpreters in this region meet the standard of "qualified" as defined by the Virginia Department of Education. This is an increase from last year which was 93%. The state average is 81%.

3. According to current results, areas needing improvement: The department will continue to focus on recruitment in order to increase the number of program-placed students.

4. Based on the results, new actions to improve graduation/productivity results:

- While we have added more dual enrollment programs, they have been focused in Loudoun county. The Department continues to work with Fairfax and Prince William Counties to foster Dual Enrollment programs there as well.
- The field of ASL interpreting has changed in response to Covid. There is a desperate need for interpreters across the region and the nation. This demand is for both in person and virtual interpreting. Additionally, students have demonstrated a

		preference for online learning, and the NOVA Online SSDL ASL classes have been extremely popular. In response to this, the department has partnered with NOVA Online to create a synchronous virtual option for completing the ASL to English Interpretation AAS. This work is supported by funding from VDOE, the LASS department, and NOVA Online. The work is expected to be completed by Fall 2023. At this time there will be synchronous virtual options for all ASL and INT courses. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Architecture Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed to prepare students for employment. Students must see their Architecture Technology advisor to satisfy individual goals. The graduates may find employment in the field of architecture, construction, and urban design utilizing their construction knowledge, graphic communication, and problem-solving skills.

Student Learning Outcome 1: Students will be able to describe how site characteristics influence the design and construction of buildings

Assessment Methods

Course Name/Number: Architectural Design and Graphics I - ARC 231

Direct Measure Used: This student learning outcome was measured by evaluating the projects produced in our capstone course ARC 231. Projects were evaluated in 4 areas for this SLO on a scale of 1 to 4:

1= Not demonstrated
2= Marginally demonstrated
3= Well demonstrated
4= Very well demonstrated

SLO/Rubric Criteria or Question Concepts: Students were evaluated on the following areas:

1. Documentation of site characteristics
2. Manipulation of site topography to accommodate new structures.
3. Attention to solar orientation
4. Organization of the site

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
AN	1	1	12
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**26**

Assessment Results

Semester/year data collected: Fall 2021

Target: The Architecture cluster has agreed that a target of 2.5 is acceptable for each of the SLOs with an ultimate goal of 3.0

Results: Total of 26 projects were evaluated in Fall 2021 by five faculty and professional Architects and Engineers. The project evaluation team rated the projects presented 3.31 for SLO # 6 on a scale of 1 to 4.

Results by Modality: Overall Average/Mean Scores On-Campus and Online:

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
On-campus average	3.31	3.08

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019
1. Site characteristics	3.23	3.04
2. Site topography	3.23	3.00
3. Solar orientation	3.43	3.02
4. Organization of site	3.35	3.27

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Because of improvement in this course the result of this evaluation is 7.4% higher than previous results.

Areas where students met the target: Students met the target in all 4 areas of this SLO.

Use of Results

1. Changes put in place since previous assessment to improve student learning: The score of 3.31 is higher than the last evaluation (2019-20) of 3.08. With breaking down our SLO # 6 to evaluate specific criteria and gain more detailed evaluation, the faculty was able to revisit the syllabus and concentrate on areas Like topography and Land Use that needed most of the improvement.

2. Impact of changes on current results: The average score of this SLO was elevated by 7.5%.

3. According to current results, areas needing improvement: Though the SLO has met an ultimate goal of 3.0, the faculty are trying to reach the highest score of 4.

4. Based on current results, new actions to improve student learning: We are taking the advice of the Architecture Curriculum Advisory Board members to improve and add additional subjects to our courses, like adjusting student's project with site topography and special conditions, as it becomes necessary to make our students and graduates more marketable in the architecture and construction fields and possibility of transfer to four-year colleges.

By measuring the SLOs through the evaluation of capstone courses, the evaluation includes all other relevant courses, thereby making the evaluation comprehensive and efficient.

5. Next assessment of this SLO: This SLO will be evaluated again in Fall 2023.

Areas where students did NOT meet the target: None

Student Learning Outcome 2: Student will be able methodically design a building

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Architectural Design and Graphics 1 - ARC 231

Direct Measure Used: This student learning outcome was measured by an evaluation of the projects produced in our capstone course ARC 231. Projects were evaluated in 4 areas for this SLO on a scale of 1 to 4:

1= Not demonstrated
2= Marginally demonstrated
3= Well demonstrated
4= Very well demonstrated

SLO/Rubric Criteria or Question Concepts: Students were evaluated on the following areas:
1. Demonstrate logical organization of spaces
2. Clearly communicate horizontal & vertical circulations
3. Demonstrate an appropriate scale for spaces
4. Preliminary selection of materials for appearance

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
AN	1	1	12
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**26**

Semester/year data collected: Fall 2021

Target: The Architecture cluster has agreed that a target of 2.5 is acceptable for each of the SLOs with an ultimate goal of 3.0.

Results: Total of 26 projects were evaluated in Fall 2021 by five faculty and professional Architects and Engineers. The project evaluation team rated the projects presented at 3.50 on a scale of 1 to 4.

Results by Modality: Overall Average/Mean Scores On-Campus and Online:

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
On-campus average	3.50	3.23

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2020	Previous Results Fall 2019
1. Organization of spaces	3.37	3.20
2. Horizontal & vertical circulations	3.62	3.16
3. Scale	3.61	3.41
4. Materials	3.42	3.10

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Because of improvement in this course, the result of this evaluation is 8% higher than previous results.

Areas where students met the target: Students met the target in all 4 areas of this SLO.

Areas where students did NOT meet the target: None

1. Changes put in place since previous assessment to improve student learning: SLO # 8 was evaluated in 2021-2022. The score of 3.50 is higher than the last evaluation (2019-2020) of 3.23. With breaking down our SLO # 8 to evaluate specific criteria and gain more detailed evaluation, the faculty was able to concentrate on areas like organization of the spaces based on sustainability that needed most of the improvement.

2. Impact of changes on current results: Because of these improvements the average score of SLO # 8 is elevated by 8%.

3. According to current results, areas needing improvement: Though the SLO # 8 has met an ultimate goal of 3.0, the faculty are trying to reach the highest score of 4.

4. Based on current results, new actions to improve student learning: We are taking the advice of the Architecture Curriculum Advisory Board members to improve and add additional subjects to our courses, like sustainable design to make our students and graduates more marketable in the architecture and construction fields.

By measuring the SLOs through evaluation of capstone courses, the evaluation includes all other relevant courses, thereby making the evaluation comprehensive and efficient.

5. Next assessment of this SLO: This SLO will be evaluated again in Fall 2023.

Student Learning Outcome 3: Students will be able to communicate graphically the architectural aspects of a building for the purpose of presentation and construction using computer graphics

Architecture Technology, A.A.S.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Architectural Design and Graphics II - ARC 232 **Direct Measure Used**: The student learning outcome was measured by evaluation the projects produced in our capstone course ARC 232. Projects were evaluated in 4 areas for this SLO on a scale of 1 to 4: 1= Not demonstrated 2= Marginally demonstrated 3= Well demonstrated 4= Very well demonstrated **SLO/Rubric Criteria or Question Concepts:** Students were evaluated on the following areas: 1. Project demonstrates the students' competence in using architectural software commonly used in the industry. 2. Project demonstrates the student's ability to organize graphic communication using computer applications. 3. Project demonstrates the student's ability to represent building components using architectural software commonly used in the industry. **Sample:**	**Semester/year data collected:** Spring 2022 **Target:** The Architecture cluster has agreed that a target of 2.5 is acceptable for each of the SLOs with an ultimate goal of 3.0. **Results:** Total of 26 projects were evaluated in Spring 2022 by five faculty and professional Architects and Engineers. The project evaluation team rated the projects presented 3.80 for SLO # 7 on a scale of 1 to 4. **Results by SLO Criteria:** Average/Mean Score per criteria **Target Met:** [X] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous results:** Because of improvement in this course, the result of this evaluation is 8% higher than previous results. **Areas where students met the target:** Students met the target in all 3 areas of this SLO. **Areas where students did NOT meet the target:** None	**1. Changes put in place since previous assessment to improve student learning:** SLO # 7 was evaluated in 2021-22. The score of 3.80 is higher than last evaluation (2019-2020) of 3.52. With breaking down our SLO # 7 to evaluate specific criteria and gain more detailed evaluation, the faculty was able to concentrate on areas Like using latest developments of Auto Cad and Revit in their projects that needed most of the improvement. **2. Impact of changes on current results:** Because of these improvements, the average score of SLO # 7 is elevated by 8%. **3. According to current results, areas needing improvement:** Though the SLO # 1 has met an ultimate goal of 3.0, the faculty are trying to reach the highest score of 4. **4. Based on current results, new actions to improve student learning:** We are taking the advice of Architecture Curriculum Advisory Board members to improve and add additional subjects to our courses, like New versions of Computer Aided software to make our students and graduates more marketable in the architecture and construction fields. By measuring the SLOs through an evaluation of capstone courses, the evaluation includes all other relevant courses, thereby making the evaluation comprehensive and efficient. **5. Next assessment of this SLO:** This SLO will be evaluated again in Spring of 2024.

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
AN	1	1	12
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**26**

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
On-campus average	3.80	3.52

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020
1. Architectural software	3.88	3.61
2. Graphic communication	3.68	3.57
3. Building components	3.84	3.40

Core Learning Outcome: [X] Critical Thinking [ ] Quantitative Literacy

Operationalized Definition: Students will be able to research, describe and decide how buildings are constructed

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Architectural Design and Graphics II - ARC 232 **Direct Measure Used**: The core learning outcome was measured by an evaluation of the projects produced in	**Semester/year data collected:** Spring 2022 **Target:** The Architecture cluster has agreed that a target of 2.5 is the acceptable score for each of the SLOs with an ultimate goal of 3.0.	**1. Changes put in place since previous assessment to improve student learning:** SLO # 2 was evaluated in Spring 2022.The score of 3.24 is slightly higher than the last evaluation (2019-20) score of 3.21. With breaking down our SLO # 2 to evaluate specific criteria and gain a more detailed evaluation, the faculty will be able to

Architecture Technology, A.A.S.

our capstone course ARC 232. Projects were evaluated in 4 areas on a scale of 1 to 4:

1= Not demonstrated
2= Marginally demonstrated
3= Well demonstrated
4= Very well demonstrated

CLO/Rubric Criteria or Question Concepts: Students were evaluated on the following areas:

1. Project demonstrates the student's ability to research building materials and methods.
2. Project demonstrates the student's ability to assemble building components.
3. Project demonstrates the student's ability to design construction details.
4. Project demonstrates the student's ability to graphically communicate construction systems.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
AN	1	1	12
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**26**

Results: Total of 26 projects were evaluated in Spring 2022 by five faculty and professional Architects and Engineers. The project evaluation team rated the projects presented 3.24 for SLO # 2 on a scale of 1 to 4.

Results by Modality: Overall Average/Mean Score by On-campus and Online

Results by Modality	Current Results Spring 2022	Results Fall 2019
On-campus average	3.24	3.21

Results by CLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2019
1. Building materials and methods	3.28	3.20
2. Assemble building components	3.48	3.16
3. Design construction details	2.99	3.41
4. Graphically communicate	3.02	3.10

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The result of this evaluation is slightly higher than previous results.

Areas where students met the target: In all three areas the target of 3.0 and above has been achieved.

Areas where students did NOT meet the target: None student scores decreased on #3 related to designing construction details but still it is above required target of 2.5

identify and concentrate on areas that needed most of the improvement.

2. Impact of changes on current results: The average score of SLO # 2 is elevated by 0.9%.

3. According to current results, areas needing improvement: Though the SLO # 2 has met an ultimate goal of 3.0, it is slightly lower in area #3. Faculty think it was the result of minimizing face to face contact with the students due to COVID-19 restrictions.

4. Based on current results, new actions to improve student learning: We are taking the advice of the Architecture Curriculum Advisory Board members to improve and add additional subjects to our courses, to make our students and graduates more marketable in the architecture and construction fields.

By measuring the SLOs through evaluation of capstone courses, the evaluation includes all other relevant courses, thereby making the evaluation comprehensive and efficient.

5. Next assessment of this CLO: Critical Thinking will be assessed again in Spring 2024.

Program Goal on Graduation: The Goal is to increase the number of graduates by 10% next academic year.

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates

Target: To increase number of graduates by 10%

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	7	-69.6
2020-21	23	130.0
2019-20	10	0

1. Changes put in place since previous assessment to improve graduation results: The number of graduates has decreased by 69%. Faculty believe that is due to the COVID-19 pandemic and also economic hardship. Students did not take their remaining courses for graduation.

Architecture Technology, A.A.S.

	(for Institutions with 5,000 or more students)
Transfer (A.A, A.S., A.A., & S.)	17
A.A.S. in Agriculture & Natural Resources, business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, And Industrial Technology	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2018-19	10	-16.7
2017-18	12	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results
[ ]Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The number of graduates has decreased by 69%.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: No for reasons explained in the next column.

2. Impact of changes on current results: We believe now with conditions relatively going back to normal we will see much higher number pf graduates.

3. According to current results, areas needing improvement: Though we already are witnessing the return of our students to complete their program, we need to contact others, encourage them to return and complete their studies and graduate, and inform them about opportunities provided (see below).

4. Based on the results, new actions to improve graduation/productivity results: The Architecture Curriculum Advisory board members and some major construction firms like Turner Construction, Page Southerland Page Inc., and Del-Rey Inc. are offering opportunities to our graduates and students for internship/employment, to make them marketable in the architecture and construction fields. It also offers a possibility of advancement in their studies.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To prepare students for employment/internship in architecture and construction fields or possible transfer to 4-year college.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.,.& S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain Current levels of enrollment.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	129	4.9
2020-21	123	16.0
2019-20	106	-2.8
2018-19	109	-8.4
2017-18	119	--

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The number of program-placed students has Increased by 5% from last year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease

Use of Results

1. Changes put in place since previous assessment to improve program placement results: We noticed that many Architecture students did not know that they need to program place in our program. With faculty advice and direction, all Architecture students are program placed in Architecture, so there was an increase by 5% in the number of program-placed students over the past year.

2. Impact of changes on current results: There is a higher number of program-placed students.

3. According to current results, areas needing improvement: To find and create more possibilities for students' internship/employment in order to make it a more attractive and practical program.

4. Based on the results, new actions to improve program placement/productivity: Continue advising all Architecture students to program place in our program and receive the proper information and advice about our program and possibility of internship and employment.

5. Next assessment of this goal: Assessed annually

Architecture Technology, A.A.S.

	2021-22 | 93.5 | 20.5 2020-21 | 77.6 | 5.6 2019-20 | 73.5 | -0.7 2018-19 | 74.0 | -6.2 2017-18 | 78.9 | ---- **For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-2022 FTES meet the VCCS Productivity Standards from the previous column? Please explain:** FTES of 93.5 is much higher than the VCCS Productivity Standard of 13.	
Additional Program Goal (optional): Architecture Career Study Certificate Program		
Assessment Method	**Assessment Results**	**Use of Results**
Short description of method(s) and/or source of data:	**Target:** To get the approval to replace the Architecture Drafting Certificate with a new Architecture Career Study Certificate **Target Met:** [X] Yes [ ] No [ ] Partially **Narrative comparison of current results to previous year's results:** Proposal for new Certificate program has been approved.	**1. Changes put in place since previous assessment to improve program goal:** The new proposal for Architecture Career Study Certificate Program was reviewed by the Architecture Curriculum Advisory Board and later on approved by Curriculum Committee. **2. Impact of changes on current results:** The new proposal has been approved by Curriculum Committee and we will start offering Architecture Career Study Certificate program in Fall 2023. This will create a great opportunity for our students to specialize in specific areas of the Architecture and Construction industry. **3. According to current results, areas needing improvement:** N/A **4. Based on the results, actions to improve program goal:** To receive the Architecture Curriculum advisory board recommendation about offering our elective courses mentioned in our new certificate, according to the market's needs. **5. Next assessment of this goal:** Assessed Spring 2024

Student Learning Outcome Assessment Report: 2021-2022
Automotive Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed to train technicians for the automotive field. Students completing this program will be ready for full-time employment as automotive technicians. Job opportunities include line technician, new car make-ready, and customer service representative.

Student Learning Outcome 1: Retrieve diagnostic trouble codes and monitor status using a scan tool. Using the scan tool data and wiring diagrams, determine the next logical step in the drivability diagnostic process.

Assessment Methods

Course Name/Number: Automotive Fuel Systems II – AUT 122

Direct Measure Used: Lab Exercise / ASE Style Test Question on Diagnostic Trouble Codes (DTC) using a scan tool. Students were required to diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes, and obtain, graph, and interpret scan tool data.

SLO/Rubric Criteria or Question Concepts: Instructor collaborated and approved hands-on assessment assessed students on the following areas:

1. Retrieving powertrain DTCs using a scan tool
2. Reading and interpreting diagnostic trouble code descriptions
3. Locating and identifying I/M monitor readiness status
4. Diagnosing drivability faults using a combination of code description, wiring diagrams, and tests performed.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	2	26
MA	2	2	30
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**4**	**4**	**56**

Assessment Results

Semester/year data collected: Fall 2021

Target: Students' average on each SLO and sub-scores will be at or above 80%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2018
On-campus average	97%	98%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. Retrieve DTCs	97%	95%
2. Interpret DTCs	100%	100%
3. Identify I/M monitors	100%	100%
4. Diagnose faults with codes wiring diagrams and test performed	93%	95%

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: Results are consistent with the results from last year: 97% for 2021 and 98% for Fall 2018 & 2017. This would indicate the students are learning the information taught.

Areas where students met the target: Students met the criteria in all areas.

Areas where students did NOT meet the target: None

Use of Results

1. Changes put in place since previous assessment to improve student learning: We continue to stress the importance of scan tool diagnostics and reading wiring diagrams to our students. We are covering wiring diagrams in all Electricity classes (SUT 241, 242 & 245) and Fuels 1 and 2 (AUT 121 & 122).

2. Impact of changes on current results: Maintaining the improvements made from 2018; practicing using Mode 6 data monitors on all vehicles has held the students' attention! Reviewing Electrical Diagrams in other classes has help students understand the process of reading a wiring diagram.

3. According to current results, areas needing improvement: N/A – Students are meeting all targets.

4. Based on current results, new actions to improve student learning: We will meet in 2022-23 to clarify the final question of the assessment in order to assist the students in final diagnostics.

5. Next assessment of this SLO: Fall 2023

Student Learning Outcome 2: Diagnose transmission/transaxle gear reduction/multiplication concerns using driving, driven, and held member (power flow) principles using a range reference chart

Assessment Methods

Course Name/Number: Auto Power Trains II – AUT 142

Assessment Results

Semester/year data collected: Spring 2022

Use of Results

1. Changes put in place since previous assessment to improve student learning: Reviewing the importance

Automotive Technology, A.A.S.

Direct Measure Used: ASE style test questions: Students were provided with a range reference chart, and they answered questions on the concepts listed below.

SLO/Rubric Criteria or Question Concepts:
Instructors collaborated and approved the ASE style test question assessment. Students were assessed on the following concepts:

1. No reverse
2. No fourth
3. Only first
4. 3rd Sprag
5. Only 3rd and 4th

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	2	23
MA	2	2	53
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**4**	**4**	**76**

Target: Student average on each SLO and sub-scores will be at or above 80%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
On-campus average	85.2%	81%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. No Reverse	98%	90%
2. No Fourth	87%	88%
3. Only First	72%	63%
4. 3rd Sprag	81%	92%
5. Only 3rd & 4th	79%	73%
Total	**85.2%**	**81%**

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Scores for the Spring 2022 rose 4.2 percentage points over Spring 2019 from 81% to 85.2%. This is above our criteria of 80%. Changes made to the assessments have helped the students retain more information and become more able to diagnose transmissions.

Areas where students met the target: Students continue to show good strength in areas 1, 2 & 4. The big improvements came in underachieving areas of 3 & 5, as these areas both rose significantly: 9% rise in area 3 and 6% in area 5.

Areas where students did NOT meet the target: Areas 3 & 5 are below the criteria, however with the changes implemented from the last reporting, the students made big improvements! Area 3 rose 9% up to 72% and Area 4 rose 6% from 73% to 79%. Area 5 is only 1% below the target!

of the range reference charts in class and in lab discussions, while giving students multiple examples of diagnosing transmission faults using the range reference charts, has helped the students learn transmission diagnostic.

2. Impact of changes on current results: The changes implemented for this SLO did increase the students' understanding in all areas, except area 4, which dropped by 9%. Overall scores went up 4.2%.

3. According to current results, areas needing improvement: Area 3 & 5 continue to need improvement; however, they did improve significantly over the previous SLO assessments.

4.Based on current results, new actions to improve student learning: In 2022-23, we will do the following:

- Q2: Spend more time on cause and effect of different faults. Identify applied/holding/overrunning components that are operating properly.
- Q3: Spend more time in class on the use of a range reference chart for transmission diagnosis. Give worksheets and assignments relating to the use of range reference charts. Will incorporate tests on range reference charts.
- Include more instruction on the principles of applied/holding/overrunning components as they relate to power flow and transmission diagnosis. recognize what components are working properly with functioning gears and may also be used in the failing gear.
- Q4: Spend more time on mechanical clutch operation and the effects of hold vs. overrunning. Discuss that some clutches and bands are applied but not effective.
- Q5: Stress that the range reference chart includes electrical components and hydraulics not just clutches, bands, and mechanical clutches.

5. Next assessment of this SLO: Spring 2025

Student Learning Outcome 3: Students will perform preliminary inspections and procedures needed to prepare a vehicle for an alignment by checking and assessing vehicle ride height, tire condition, and inflation

Assessment Methods	Assessment Results	Use of Results

Automotive Technology, A.A.S.

Course Name/Number: Auto Alignment, Suspension and Steering – AUT 266

Direct Measure Used: SLO Lab Exercise using NATEF task sheet to include measuring the following with appropriate tools, including dial indicator, micrometers and other measuring tools.

1. Tire size
2. Optional tire size
3. Spare tire size
4. Tire pressure
5. Tread wear rating
6. Temperature resistance
7. Traction rating
8. Tire build date
9. Front ride height
10. Rear ride height
11. Inspection before measuring
12. Left front height
13. Right front height
14. Left rear height
15. Right rear height
16. Ride height correction

SLO/Rubric Criteria or Question Concepts: Instructors collaborated and approved hands-on assessment which assessed students in the following areas:

17. Tire size
18. Optional tire size
19. Spare tire size
20. Tire pressure
21. Tread wear rating
22. Temperature resistance
23. Traction rating
24. Tire build date
25. Front ride height
26. Rear ride height
27. Inspection before measuring
28. Left front height
29. Right front height
30. Left rear height
31. Right rear height
32. Ride height correction

Sample:

Semester/year data collected: Spring 2022

Target: Student average on each SLO and sub-scores will be at or above 80%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
On-campus average	96.38%	96%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. Tire size	100%	100%
2. Optional tire size	100%	100%
3. Spare tire size	100%	100%
4. Tire pressure	100%	100%
5. Tread wear rating	94%	93%
6. Temperature resistance	94%	93%
7. Traction rating	100%	100%
8. Tire build date	100%	100%
9. Front ride height	100%	100%
10. Rear ride height	100%	100%
11. Inspection before measuring	100%	100%
12. Left front height	95%	95%
13. Right front height	95%	95%
14. Left rear height	90%	89%
15. Right rear height	90%	89%
16. Ride height correction	88%	89%
Total	**96.38%**	**96%**

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Students had a slight increase in the overall scores of 0.38%. This was led by better understanding of the Uniform Tire Quality Grading System. Students were better able to accurately measure the ride height around the vehicles, as the front measurements are slightly higher than the rear measurements. Scores remained above our target of 80%

Areas where students met the target: All areas..

1. Changes put in place since previous assessment to improve student learning: Students were given more practice measuring necessary components in the lab, comparing measurements to specifications and knowing where to find the corrective measures in service information. Students were instructed on the Uniform Tire Quality System (UTQS) and where to find the markings on the tires. Students were using the same diagnostic forms that were used on this assessment, to ensure understanding.

2. Impact of changes on current results: Current results went up 0.38%, with the improvements coming from the measuring ride height at all four corners of the car, and from the tire UTQS grading system.

3. According to current results, areas needing improvement: Students still need practice on determining the diagnostic correction portion.

4. Based on current results, new actions to improve student learning: In 2022-23, Q16-Ride Height Correction will be reworded for clarity, and instructors will stress the use of the Service information systems in assisting students in the understanding of repairs that are necessary to repair the variances.

5. Next assessment of this SLO: Spring 2024

Automotive Technology, A.A.S.

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	3	3	41
MA	3	3	44
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**6**	**6**	**85**

Areas where students did NOT meet the target: None

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Along with their regular SLO, students will also turn in a properly written repair order as a part of their CLO assessment to ensure they can properly communicate what is needed to repair/adjust the vehicle to the service writer or customer. Student Learning Outcome 5: Students will perform preliminary inspections and procedures needed to prepare a vehicle for an alignment by checking and assessing vehicle ride height, tire condition, and inflation.

Assessment Methods

Course Name/Number: Auto Alignment, Suspension and Steering – AUT 266

Direct Measure Used: CLO Written Repair Order Documentation Students completed a properly written repair order as a part of their CLO assessment to ensure they can properly communicate what is needed to repair/adjust the vehicle to the service writer or customer. Student Learning Outcome 5: Students will perform preliminary inspections and procedures needed to prepare a vehicle for an alignment by checking and assessing vehicle ride height, tire condition, and inflation.

CLO/Rubric Criteria or Question Concepts:

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	3	3	41
MA	3	3	44
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**6**	**6**	**85**

Assessment Results

Semester/year data collected: Spring 2022

Target: Student average on each SLO/CLO and sub-scores will be at or above 80%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
On-campus average	69%	63%

Results by CLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. Customer Name/ Year/ Make/ Model/ VIN	95%	95%
2. Diagnostic steps, specs & measurements	49%	43%
3. Concern, Cause, Correction, and Estimate	43%	43%
4. Language & Mechanics	72%	76%
5. Clarity for target audience	62%	61%
Total	**64%**	**63%**

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: The students continue to be able to recognize and input the Customer Name, year, make, model and VIN for the current vehicles. The students made a 6% increase for Diagnostic steps by taking measurements and writing them down more often than before. Students

Use of Results

1. Changes put in place since previous assessment to improve student learning: Instructors continue to require students to write down inspections results after taking each measurement on the repair order. Many students previously rushed around measuring components, but failed to write them on the repair order, which meant they could not accurately record the data to help them make a determination. Students did show some modest improvement in writing down the inspection results, giving them a 6% increase. Students were instructed in every class to use repair orders, in order to practice before this assessment.

2. Impact of changes on current results: There was a modest 1% increase overall over last assessment. Students did increase their Diagnostic steps by 6%.

3. According to current results, areas needing improvement: Students need to slow down and take the time to record the data they have measured on the repair order. Students need to spend more time researching the specifications found in the service information systems so they are better able to make a diagnostic. Students need better English skills, which would be covered by the English Department. However, Language & Mechanics was one of the top areas for students! Focus on Concern, Cause, Correction, and Estimate in all classes will continue for every lab assignment. Students will continue being instructed in Clarity for target audience with every lab assignment. What are we doing and why are we doing this test or repair, will be questions the students will answer for lab activities.

4. Based on current results, new actions to improve student learning: In 2022-2, focus on Concern, Cause,

	remained the same for the Concern, Cause Correction and Estimate. Many are able to identify the concern and the correct cause of the concern yet are not able to write the correction. Students are confused about writing the estimate with proper numbers and identifiers such as $, ft-lb signs and decimals. Language and Mechanics dropped 4% this year compared to the previous year. Most often it is spelling, grammar and punctuation mistakes. Clarity of the explanation went up marginally by 1%. Overall, the average score did go up by 1%. **Areas where students met the target:** Customer Name/ Year/ Make/ Model/ VIN remains high! **Areas where students did NOT meet the target:** Students continue to struggle with all the remaining areas.	Correction, and Estimate in all classes will continue for every lab assignment. Students will continue being instructed in Clarity for target audience with every lab assignment. What are we doing and why are we doing this test or repair, will be questions the students will answer for lab activities. **5. Next assessment of this CLO:** Spring 2024

Program Goal on Graduation: To have a minimum of 9 Graduates according to the VCCS Associate Degree Productivity Standards

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: 9 graduates for AAS Engineering Technologies according to the VCCS Associate Degree Productivity Standards

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
AUT Tech AAS	45	48	41	25	38	52.0
AUT Emissions AAS (ending)	6	1	1	1	2	100
Maintenance and Light Repair CSC	25	42	37	24	23	-4.2
Diagnostic CSC	--	--	--	3	16	433
Total	**76**	**91**	**79**	**53**	**79**	**49.1**

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: AUT graduating numbers have increased 49%. We have been trying to increase our class offerings through the semesters, and the increased classes have increased our graduate numbers. More students are

Use of Results

1. Changes put in place since previous assessment to improve graduation results: We continue to advise students in class at least once per semester to direct students to the proper courses to take the following semester so they're able to stay on track to graduate in a timely manner.

2. Impact of changes on current results: While we are still operating with a reduced schedule covering all required classes to complete program requirements, we have been able to increase the number of graduates by 49%. Counseling students and reminding them to sign up early for classes has made the difference this year.

3. According to current results, areas needing improvement: Recruitment, counseling and increasing our classes to pre-pandemic levels is our goal and will help the number of graduates recover to pre-pandemic levels. We will resume recruiting at the high schools as we are able.

4. Based on the results, new actions to improve graduation/productivity results: We will continue to advise students in class twice per semester on courses to take the following semester so they're able to stay on track to graduate in a timely manner. We will meet with all students to be certain they are on the right track. We continue to alert students of missing assignments during

returning to classes as financial strains have been reduced. Students are still working in the AUT field during the semesters to increase their knowledge.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes: AUT continually surpasses the 9 required graduates.

the midterm and following weeks of classes. This will allow them the necessary time to complete assignments.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students To have 13 FTES program-placed students per year, according to VCCS Associate Degree productivity Standards.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To have 13 FTES Program-Placed Students per year, according to VCCS Associate Degree productivity Standards.

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
AUT Tech AAS	283	270	267	213	264	24
AUT Emissions AAS (ending)	76	59	60	34	17	-50
AUT MLR CSC	14	13	18	12	15	25
Diagnostic CSC	--	--	--	9	16	78

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: We had a 24% increase in head count for our AAS degree offering this report cycle for 2021-22. The MLR certificate also showed a 25% increase, and the Diagnostic certificate showed a 78% increase. While we are still operating on a limited course offering schedule, we have been trying to offer more courses and this has helped our headcount. Switching to the hybrid model has helped make some room for limited additional course offerings.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	167.1	26.6

Use of Results

1. Changes put in place since previous assessment to improve program placement results: We are continuing to meet with students throughout the semester each semester to ensure proper program placement.

2. Impact of changes on current results: Additional courses have allowed more students to take classes. Our goal is to return to a full schedule of classes as we are able by adding classes into our schedule as we can find space, time, and instructors.

3. According to current results, areas needing improvement: Recruitment will be a necessary goal for us to keep up our headcount. We will return to recruitment as the local high schools open to visitors.

4. Based on the results, new actions to improve program placement/productivity: AUT should be able to work towards resuming our normal course offerings as well as recruitment efforts. We will continue our efforts to recruit students.

5. Next assessment of this goal: Assessed annually

Automotive Technology, A.A.S.

2020-21	132.0	-14.8
2019-20	154.9	-3.4
2018-19	160.3	-3.8
2017-18	166.7	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: 167.1 FTES is much larger than the 13 FTES requirement. We have increased FTES numbers by 26% and have returned to our pre-pandemic levels! This is attributed to switching to hybrid instruction and adding a few limited courses into our schedule.

Student Learning Outcome Assessment Report: 2021-2022
Biology, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement The curriculum is designed to prepare students to transfer to a four-year college or university to complete a baccalaureate degree program with a major in one of the following fields: agriculture, biology, botany, pre-dentistry, forestry, genetics, microbiology, molecular biology, neuroscience, pre-pharmacy, pre-physical therapy, pre-medicine, science education, pre-veterinary, or zoology.

Student Learning Outcome 1: Students will apply laboratory safety to pursue biology experimental exercises.

Assessment Methods

Course Name/Number: General Biology I/ BIO 101

Direct Measure Used:
A quiz consisting of 10 multiple-choice questions that assessed knowledge of the scientific method was available in Canvas, as an embedded Google Form, to all of the BIO 101 students enrolled during the Fall 2021 semester. DE students accessed the Google Form via direct link. All BIO 101 sections at NVCC were included in the assessment, including students from all campuses, Nova Online, and DE. **896** students responded.

SLO Question Concepts:
1. prohibited items
2. proper lab attire
3. personal protective equipment
4. preparing for lab
5. emergency equipment
6. lab bench cleaning
7. emergency procedures
8. waste disposal
9. lab best practices
10. lab best practices (broken glass)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	11	11	156
AN	32	32	416
MA	11	11	47
MEC	N/A	N/A	N/A
LO	16	16	126
WO	15	15	60
NOVA Online	8	8	33
Off-Site Dual Enrollment	23	23	62
Total	116	116	900

Assessment Results

Semester/year data collected: Spring 2019

Target:
For the whole quiz:
70% of students achieving 70% on the quiz.
For each item:
70% of students correctly answering each item.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2019
All students assessed (weighted average)	96.1%	88.2%
On-campus average	96.8%	N/A
Synchronous hybrid (remote) average	95.6%	N/A
NOVA Online average	97.0%	N/A
Dual Enrollment average	97.7%	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Question Concepts	Current Results Fall 2021	Previous Results Spring 2019
1. prohibited items	89.8%	88.7%
2. proper lab attire	99.4%	99.5%
3. personal protective equipment	99.9%	98.0%
4. preparing for lab	99.9%	99.4%
5. emergency equipment	99.0%	99.1%
6. lab bench cleaning	87.4%	88.4%
7. emergency procedures	99.6%	99.6%
8. waste disposal	94.7%	95.3%
9. lab best practices	98.8%	99.2%
10. lab best practices (broken glass)	89.3%	86.7%

Use of Results

1. Changes put in place since previous assessment to improve student learning:
This assessment was previously administered in Blackboard (each question was a separate quiz). Now, all questions are presented in a single quiz that is available as a Google Form embedded in Canvas. As a result, the percentage of students completing the quiz has increased from 86.7% to 100%.

2. Impact of changes on current results:
Due to the limitations of the previous software (Blackboard), it was not possible to analyze results for NovaOnline and DE students separately. Now, deploying the assessment as a Google Form embedded in Canvas allows analysis of data subsets. As a result, there are data for different class modalities (on-campus, synchronous hybrid, NOL, and DE), as well as item analysis for each assessment question.

3. According to current results, areas needing improvement:
Student scores for the assessment and for each question are already very good – in 2019 and 2021, more than 85% of students answered each question correctly. Faculty will continue to discuss lab safety and show the safety training video at the beginning of each lab course.

4. Based on current results, new actions to improve student learning:
Results will be communicated to the faculty in the next Discipline meeting (May or August 2023). During the Fall 2023 semester, faculty will emphasize topics with the lowest student scores:
1) Items prohibited in the lab (question 1) and
2) Lab bench cleaning (question 6).

5. Next assessment of this SLO:
Spring 2023 in BIO 102

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Current results are very similar to previous results. In fact, most of the scores in Fall 2021 were within 1-2% of scores from Spring 2019 (likely within the margin of error).

Areas where students met the target: All.
For the whole quiz:
99.6% of students scored 70% or higher on the quiz.
For each item:
>70% of students correctly answered each item.
Areas where students did NOT meet the target: None.
Faculty will (of course) make efforts to improve scores, but most measures score over 90% and lowest over 85% - very good results overall.

Student Learning Outcome 2: Students will use scientific terminology to identify cellular processes including cell membrane transport and communication, energetics and cell division.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Cell Biology/ BIO 206

Direct Measure Used:
A quiz, consisting of 7 multiple-choice questions and 3 short-answer questions, that assessed knowledge of cellular processes was available in Canvas, as an embedded Google Form, to all of the BIO 206 students enrolled during the Fall 2021 semester. All BIO 206 sections at NVCC were included in the assessment. BIO 206 is not offered as a DE or Nova Online course, so no sections of these types were assessed. BIO 206 is usually offered on 5 campuses (all except MEC), but only 4 campuses had BIO 206 sections in Fall 2021. Since this is the first year this SLO has been deployed, there are no previous results. **52** students responded.

SLO Question Concepts:

1. Enzyme catalysis
2. Enzyme inhibition
3. Kinase enzyme function
4. Anabolic and catabolic pathways
5. Ion channels in neuron depolarization
6. Free energy change during catalysis
7. Cellular respiration

Semester/year data collected: Fall 2021

Target: 90% Percent of Students will score 80% or higher on the cellular processes assessment.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results None
All students assessed (weighted average)	78.8%	N/A
On-campus average	81.8%	N/A
Synchronous hybrid (remote) average	76.7%	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results None
1. Enzyme catalysis	86.5%	N/A
2. Enzyme inhibition	90.4%	N/A
3. Kinase enzyme function	82.7%	N/A

1. Changes put in place since previous assessment to improve student learning:
N/A. This is the first time the Cellular Processes SLO assessment has been administered.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement:
Since this is the first time the new Cellular Processes SLO Assessment has been administered, unsurprisingly, there have been challenges.

Positive aspects of the assessment:
The question topics are appropriate for the goals set forth in the AS Biology Proposal.

Negative aspects of the assessment:
1. Several assessment questions were very long and confusing.
2. Some assessment questions asked more than one question and required complex multiple-choice answers (also confusing).
3. Short-answer questions were graded by 5 different faculty members, so grading was not consistent.

8. Protein modification and secretion
9. Cell-cell signaling and signal transduction
10. Cell cycle

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	10
AN	0	0	0
MA	2	2	20
MEC	N/A	N/A	N/A
LO	1	1	13
WO	1	1	9
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	4	4	52

4. Anabolic and catabolic pathways	73.1%	N/A
5. Ion channels in neuron depolarization	82.7%	N/A
6. Free energy change during catalysis	73.1%	N/A
7. Cellular respiration	78.8%	N/A
8. Protein modification and secretion	78.8%	N/A
9. Cell-cell signaling and signal transduction	76.9%	N/A
10. Cell cycle	71.2%	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:
67.3% of students scored 80% or higher on the cellular processes assessment. Since this is a new assessment, there were no previous results for comparison.

All AS Biology SLOs (except the Cellular Processes SLO) set the targets as a) an average SLO assessment grade of 70% or higher and b) at least 70% of students answering each question correctly. Targets will be adjusted to align this SLO with the "70% correct" standard that applies to all other AS Biology SLO assessments.

Areas where students met the target:
More than 80% of students answered questions 1, 2, 3, and 5 correctly.

Areas where students did NOT meet the target:
Fewer than 80% of students answered questions 4 and 6-10 correctly. Only 67% of students scored 80% or higher on the assessment (target is currently 90% score higher than 80% on the assessment).

4. AS Biology SLO assessment standards are not uniform. All AS Biology SLOs (except the Cellular Processes SLO) set the target as a) an average SLO grade of 70% or higher and b) at least 70% of students answering each question correctly. By these standards, student performance on the Cellular Processes SLO assessment met the target.

Refinement and revision of the new Cellular Processes SLO Assessment and the target is necessary.

4. Based on current results, new actions to improve student learning:
Results will be communicated to the faculty in the next Discipline meeting (May or August 2023). During the Fall 2023 semester, faculty will emphasize topics with the lowest student scores (fewer than 75% of students answered correctly):

1. The energy changes associated with anabolic and catabolic reactions (question 4).
2. The free energy change of a reaction, both with and without enzyme catalysis (question 6).
3. The events occurring during the cell cycle, including the order of these events (question 10).

5. Next assessment of this SLO: Fall 2024

Student Learning Outcome 3: Students will demonstrate effective scientific communication skills, including writing.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: General Chemistry II (CHM 112) **Direct Measure Used:** Introduction, Experimental Procedure, Recorded Data, Discussion and Conclusion from a Formal Laboratory Report in course CHM 112 was used for this assessment. Four-criteria rubric with sub-categories, were created and provided to all faculty	**Semester/year data collected: Spring 2022** **Target** **1.** Overall average (weighted) and individual modality average is set to 80% **2.** Average score for each criterion is set to 80%. **3.** 80% of the students to achieve a total score of 80% or more.	**1. Changes put in place since previous assessment to improve student learning and assessment:** Written Communication was assessed in the current delivery method using rubric via CANVAS LMS for the first time in Spring 2022 resulting in 92.9% of the sections offered participating in the assessment. The previous delivery method (hand-graded formal lab

teaching CHM 112 via CANVAS LMS. Faculty used this rubric to assess the formal laboratory report written by the CHM 112 students. Completion of the CANVAS rubric by the faculty resulted in automatic submission of the assessment data for evaluation.

Rubric Criteria or Question Concepts: Assessment Categories include:

1: Conceptual Understanding

a. The objectives of the experiment are described clearly
b. Demonstrated an understanding of the scientific concepts and terms of the experiment within the introduction
c. Discussion is meaningful and derived from data tables and calculated results, including percent error.
d. Conclusions summarizes the paper and states whether the objectives were met.

2. Math writing comprehension / Writing mathematically

a. Appropriate formulas written, applied, and calculated correctly
b. Proper use of significant figures (and scientific notation)

3. Spelling, Capitalization, Punctuation and Grammar

- Spelling, Capitalization, Punctuation and Grammar

4. Report format has appropriate sections

- Report contains required sections with proper headings

Rubric provided via google Document link: https://docs.google.com/document/d/1ezi84KvUyyOadSE4DLsoCBtqYAIbncUm/edit?usp=sharing&ouid=104432048940892634106&rtpof=true&sd=true

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	43
AN	8	7	99

4. To increase the number of sections participating in the evaluation to 70% for the results to be meaningful

Table 2: Results – Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Spring 2019	Current Results Spring 2022
All students assessed (weighted average)	89.6%	89.58%
On-campus average	82.1%	87.92%
Synchronous/Asynchronous/Hybrid (Remote) average	N/A	N/A
NOVA Online average	96.0%	91.18%
Dual Enrollment average	90.8%	96.04%

Table 3: Results by CLO Criteria
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criterion/ Question Concepts	Spring 2019	Current Results Spring 2022
1. Conceptual Understanding	N/A	90.50%
2. Math writing comprehension / Writing mathematically	N/A	83.48%
3. Spelling, Capitalization, Punctuation and Grammar	91.3%	95.98%
4. Report format has appropriate sections	85.3%	92.00%

Targets Met: [✓] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[✓] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
The Written Communication CLO Assessment was last administered in Spring 2019. Spring 2019 assessment had three criteria while Spring 2022 saw an expanded set of criteria as seen in column 1, Assessment Methods.

Spring 2019 Criteria #1, '*Student writes the report using good spelling, punctuation, and grammar'* and Spring reports) resulted in low faculty participation (only 26.6%% of 112 sections reporting data) and potentially subjective scoring. Clear break down of rubric and setting the expectation with the faculty and hence the students resulted in a much higher participation and scores.

Since faculty and campus participation in past assessments has been low, actions were taken to improve involvement in college-wide evaluations:

i. The steering committee took a hands-on approach in reaching out to all full-time and adjunct faculty teaching CHM 112. Mandatory participation in the assessment was stressed repeatedly to all faculty teaching CHM 112 by steering committee members, discipline chair and associate deans, as well as the subject dean. The Chair sent multiple reminders of the assessment, and the importance of collecting data and sharing the data with the steering committee was emphasized via multiple emails and individual campus MSTB/Chemistry meetings.
ii. Recognizing the time and effort of faculty to administer and collect the data, the steering committee updated the assessment and delivery method by providing a standardized rubric that could be launched through Canvas to all CHM 112 courses by respective course instructors. Scoring was simplified and unambiguous. A word document of how to write a formal lab report was shared with all faculty by the discipline chair and were asked to share with students. The students were also provided with the rubric to emphasize the importance of the key components of formal lab report.

2. Impact of changes on current results:
Target 4 results demonstrate the positive impact of college-wide participation. As a result of the concerted effort to improve participation in these college-wide assessments, 92.9% (26/28) of all sections of CHM 112 submitted results, as opposed to a 26.6% participation rate in 2019. The sample population of students assessed has increased dramatically, and the method of delivery no longer includes subjective grading.

All modalities between Spring 2019 and Spring 2022 saw an improvement, except NOVA online. However, in Spring 2019, only 1 out of 2 NOVA online section participated with 19 students, while in Spring 2022, 3 out of 3 NOVA online sections participated totaling 62 students. The drop in the NOVA online average from 2019 to 2022 could be justified due to sample size.

MA	3	3	30
MEC	N/A	N/A	N/A
LO	2	2	25
WO	3	3	43
Online	3	3	38
Off-Site Dual Enrollment	5	4	52
Total	28	26	330

2022 Criteria #3 are comparable. Spring 2022 saw an average of 95.98% which is well above the 80% expectation, and it is also higher than 2019 percent which was 91.3%

Spring 2019 Criteria #2 '*Student's report follows the rubric and contains the appropriate sections..*' is comparable to 2022 criteria #4. Spring 2022 saw an average of 92.00% whereas Spring 2019 was 85.3%. Spring 2022 saw a significant improvement in the results compared to 2019.

Spring 2019 Criteria #3 '*The purpose of the experiment is well explained. Scientific concepts are well explained. Discussion/ Conclusions are supported by the experimental evidence. All scientific terms are used accurately and appropriately throughout'* was dissected into a criterion with sub-categories to expand the assessment and can be found under Spring 2022 criteria #1. The broad category used in Spring 2019 saw an average of 81.2%. In Spring 2022, criteria #1 which assessed conceptual understanding fared well (90.50%), which was above the 80% expectation.

Spring 2022 criteria #2 was not assessed in 2019 and was added to Spring 2022 to enrich the assessment. Although Spring 2022 criteria #2. *Math writing comprehension / Writing mathematically* was lowest of the 4 criteria assessed in 2022, it was still above the targeted 80% score.

NOTE: All Laboratory sessions were back to in-person format for Spring 0222, after COVID, Spring 2019 assessment was also in-person and are comparable.

Areas where students met the target:
Target 1. Overall, all modalities exceeded Target 1, (see **Table 2**) with all students assessed averaging 89.6%, which is 9.6% above target 80%.

When comparing data from Spring 2019 and Spring 2022, the All student assessed scored the same average, 89.6%. However, an increase in performance is noticed from 2019 to 2022 for on-campus (from 82.1% to 87.9%) and Dual Enrollment (90.8% to 96.0%). NOVA online saw a small dip in the average (96.0% to 91.5%). However, in Spring 2019, only 1 out of 2 NOVA online sections participated, while in Spring 2022, 3 out of 3 NOVA online sections participated. The drop in the

3. According to current results, areas needing improvement:
Although all criteria saw a score above the target 80% value, criteria 2 (Math writing comprehension / Writing mathematically) could be improved as the score was 83.48%

4. Based on current results, new actions to improve student learning:

CHM 112 instructors' college-wide will be given the results of this assessment and feedback from the discipline chair, emphasizing the need to reinforce with student the skills of data analysis by writing, applying, and calculating correctly as well as using correct number of significant figures when reporting data.

Instructors will be encouraged to incorporate additional experiential learning by emphasizing this criterion within data analysis of other laboratory experiment conducted within the semester.

5. Next assessment of this SLO: Spring 2025

	NOVA online average could be due to lab of sample size in Spring 2019. **Target 2.** Average student scores for each of the four criteria were also above target of 80% - see **Table 3**. Criteria 1, 3, and 4 exceeded the target 80% by scoring above 90% (90.50%, 95.58% and 92.00% respectively). Criteria 2. Math writing comprehension / Writing mathematically had also scored above target 80% (83.48%), however found to be the lowest of all criteria. This criterion required students to demonstrate *Appropriate formulas written, applied, and calculated correctly* and *Proper use of significant figures (and scientific notation).* Although expectations of 80% proficiency were exceeded by 3.48%, the students' conceptual recognition was significantly better than interpreting and presenting mathematically. **Target 3** requires 80% of the students to achieve a total score of 80% or more. Spring 2022 data showed that 82.7% students earned greater than 80% on their entire assessment. **Target 4** indicates that the number of sections participating in the evaluation should be a minimum of 70% for the results to be meaningful. This target was achieved with leaps and bounds. In 2019, 17 out of 64 sections participated (26.6%). Although the number of sections offered in Spring 2022 decreased overall, the number of sections participated relative to the number of sections offered increased. 26 out of 28 CHM 112 sections participated (92.9%). In Spring 2019, the total number of students assessed were 291 while in Spring 2022, it was 330 students. This is a tremendous increase due to actions taken after 2019 report. See *Impact of changes on current results* under *Use of Results* sections	
Core Learning Outcome: [X] Civic Engagement [ ] Written Communication **CLO: Environmental Footprint -** Students will assess their own environmental impact using an online tool and evaluate ways to reduce personal consumption and its impact on the environment.		
Assessment Methods	**Assessment Results**	**Use of Results**
Course Name/Number: General Biology II/ BIO 102 **Direct Measure Used**: The survey consisted of 10 multiple-choice questions that assessed student awareness of campus sustainability initiatives, consumer behavior and its environmental impact, and student willingness to make behavioral changes.	**Semester/year data collected: Spring 2022** **Target:** For the whole quiz: Students completing 70% of the survey questions. For each item: 70% of students completing each survey question.	**1. Changes put in place since previous assessment to improve student learning:** This assessment was previously administered in Blackboard (each question was a separate quiz). Now, all questions are presented in a single quiz that is available as a Google Form embedded in Canvas. As a result, the percentage of students completing the quiz has increased from 93% to 100%. A question (#11) was

Biology, A.S.

Survey questions were scored for completion (1 point per completed question. The survey was available in Canvas as an embedded Google Form in all BIO 102 Canvas courses (5 campuses and Nova Online). DE students completed the Google Form using a direct link.

CLO Question Concepts:

1. Student sustainability awareness
2. Concern for environment
3. Changes in concern for environment
4. Campus awareness of sustainability efforts

   Questions 5-9 were answered after the student completed a global and carbon footprint exercise at https://www.footprintcalculator.org/.

5. Number of planet Earths needed to sustain all people at student's level of consumption
6. Percentage of student's global footprint that is due to carbon emissions
7. Likelihood of making more careful food and other purchases in the future
8. Likelihood of choosing public transportation one more time per month
9. Likelihood of walking or riding a bike one more time per month
10. Choose one sustainable practice to try in the next month
11. Practices that reduce someone's ecological footprint.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	8	8
AN	15	15	0
MA	5	5	47
MEC	N/A	N/A	N/A
LO	8	8	28
WO	6	6	24
NOVA Online	4	4	6
Off-Site Dual Enrollment	16	16	104
Total	16	16	217

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
All students assessed (weighted average)	100%	93.1%
On-campus average	100%	N/A
Synchronous hybrid (remote) average	100%	N/A
NOVA Online average	100%	N/A
Dual Enrollment average	100%	N/A

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by CLO Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. sustainability awareness	100%	97.5%
2. Concern for environment	100%	96.5%
3. Changes in concern	100%	94.7%
4. Campus awareness	100%	95.4%
5. Number of planet Earths needed	100%	91.9%
6. footprint due to carbon emissions	100%	87.4%
7. making more careful purchases	100%	91.6%
8. choosing public transportation	100%	90.9%
9. walking or riding a bike	100%	91.2%
10. one sustainable practice to try	100%	93.7%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

Several questions were re-written since the 2018-19 assessment (without faculty discussion). Since this makes comparisons with previous assessments challenging, the assessment questions will be restored. added to the assessment (assessing student awareness of factors that reduce the ecological footprint).

2. Impact of changes on current results:
Due to the limitations of the previous software (Blackboard), it was not possible to analyze results for NovaOnline and DE students separately. Now, deploying the assessment as a Google Form embedded in Canvas allows analysis of all data subsets. As a result, there are data for different class modalities (on-campus, synchronous hybrid, NOL, and DE), in addition to the item analysis for each assessment question.

3. According to current results, areas needing improvement:
According to the BIO 102 enrollment report, 1223 students took BIO 102 in Spring 2022. 217 students took the BIO 102 CLO Assessment, a response rate of only 17.7%. This is a lower response rate compared to previous SLO assessment delivered as a Google Form embedded in Canvas.

4. Based on current results, new actions to improve student learning and participation:
Additional reminders from the discipline chair may increase faculty participation. When faculty members ask their students to complete an SLO/CLO assessment, students are more likely to participate.

5. Next assessment of this CLO: Spring 2025

	In the future, if additional questions are deemed necessary by the faculty, they will be added and the original questions will be retained. The data indicate that since the 2018-19 Ecological Footprint Assessment, students are more environmentally aware and concerned, but slightly less willing/able to make more sustainable choices about transportation and lifestyle. 1) 82% of students are aware of campus recycling (comparable to 86% in 2018-19) and 45% are aware of water conservation efforts, including bottle-filling stations (reduced compared to 2018-19). 2) 78.3% of students are concerned or very concerned about environmental issues, comparable to 78% of students in 2018-19. 3) 47% of students have grown more concerned about environmental issues due to NVCC courses and activities, similar to 50% in 2018-19. 4) 39% of students agree or strongly agree that the NVCC community is aware of NVCC's sustainability efforts, similar to 45% for 2018-19. After completing the Global Footprint Calculator activity: 5) <1% of students maintain a lifestyle that is compatible with the resources available on our 1 plant Earth, lower than the 12% of students in 2018-19 (this difference may be due to changes in the way the online footprint calculator determines a student's footprint). 6) More than 80% of students have a global footprint that is primarily due to carbon dioxide emissions (40-100% of the footprint), higher than the 59% from 2018-19. 7) 53% of students are likely or very likely to choose eco-friendly food and other products, down from 64% in 2018-19. 8) 22% of students are likely or very likely to take public transportation one additional time per month, down from 36% in 2018-19. 9) 48% of students are likely or very likely to walk or ride a bike one additional time per month, comparable to 48% in 2018-19. 10) 60% of students would be willing to try using no straw or a reusable straw instead of a plastic straw within the next month – a significant	

increase from 32% in 2018-19. 67% of students would be willing to use reusable grocery bags instead of disposable plastic grocery bags within the next month – also a significant increase from 32% in 2018-19.

Areas where students met the target: All.

Areas where students did NOT meet the target: None.

Program Goal on Graduation: VCCS Productivity Standards: At least 17 graduates after the 4th year of the program (academic year 2025-26).

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: At least 17 students graduate with an AS Biology after the program has been in place for 4 years (2025-26 academic year).

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	3	N/A
2020-21	0	N/A
2019-20	N/A	N/A
2018-19	N/A	N/A
2017-18	N/A	N/A

Target Met: [ ] Yes [ ] No [ ] Partially [X] N/A

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous year's results: This is the first full year that the AS Biology program has been available.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:
No, productivity standards for programs older than 4 years have not been met. AS Biology is a new program inaugurated in Spring '21. We anticipate that the number of graduates will increase as more NOVA students are program-placed in the AS Biology program and work through the program to graduate.

1. Changes put in place since previous assessment to improve graduation results:
Faculty are encouraging new advisees interested in biology to be program-placed in AS Biology.

2. Impact of changes on current results:
Although no students were program-placed before the APER report was submitted for 2020-21, 3 students met the graduation requirements and were awarded the AS Biology degree. This year, more than 200 students were program-placed and the number of students earning the AS Biology will increase of program-placed students finish the program and graduate.

3. According to current results, areas needing improvement:
Faculty advising is an important feature of identifying students who are interested in biology, are program placed in AS Biology, and graduate with the AS Biology degree.

4. Based on the results, new actions to improve graduation/productivity results:
Current numbers and targets will be communicated to the faculty at the next Discipline meeting (May or August 2023). During the Fall 2023 semester, faculty will advise students to pursue the AS Biology, as appropriate. Regular communication with faculty is ongoing and a BIO Discipline presentation to the faculty is planned for the May or August 2023 BIO Discipline Meeting.

5. Next assessment of this goal: 2022-23.

Program Goal on Program-Placed Students: Headcount 350 and 152 FTEs

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target: Headcount of 350 and 152 FTEs (from AS Biology Proposal, first full year of program, 2020-21)**	**1. Changes put in place since previous assessment to improve program placement results:**

Biology, A.S.

Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	207	N/A
2020-21	0	N/A
2019-20	N/A	N/A
2018-19	N/A	N/A
2017-18	N/A	N/A

Target Met for first full year of program (shown as 2020-21 in the AS Biology Proposal): [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous year's results: This is the first full year that the AS Biology program has been available.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	169.0	N/A
2020-21	0	N/A
2019-20	N/A	N/A
2018-19	N/A	N/A
2017-18	N/A	N/A

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
Although, the AS Biology Proposal projects a headcount of 525 and 228 FTEs for 2021-22, the AS Biology program was not available until later than expected (Spring 2021), so the projections for the first full program year, 2020-21 (headcount 350 and 152 FTEs), are more appropriate. Compared to the 2020-21 projection, this year's headcount is low, but the FTEs are on target.

Faculty are encouraging new advisees interested in biology to be program-placed in AS Biology.

2. Impact of changes on current results:
Although no students were program-placed before the 2020-21 APER report was submitted, 3 students met the graduation requirements and were awarded the AS Biology degree. This year, more than 200 students were program-placed, and the number of program-placed students is anticipated to increase. In Fall 2019, a survey of 999 students enrolled in introductory BIO, CHM, and PHY classes found that 58% would choose placement in the AS Biology program if it were available. This indicates strong interest in the program, even though there have been pandemic-era enrollment challenges since the survey was conducted. Although, the AS Biology Proposal projects a headcount of 525 and 228 FTEs for 2021-22, the AS Biology program was not available until later (Spring 2021), so the projections for 2020-21 (headcount 350 and 152 FTEs) are more appropriate. Compared to the 2020-21 projection, this year's headcount is low, but the FTEs are on target.

3. According to current results, areas needing improvement:
Faculty advising is an important feature of identifying students who are interested in biology and will be program placed in the AS Biology.

4. Based on the results, new actions to improve program placement/productivity:
Regular communication with faculty is ongoing and a BIO Discipline presentation to the faculty is planned for the May or August 2023 BIO Discipline Meeting.

5. Next assessment of this goal: 2022-23.

Student Learning Outcome Assessment Report: 2021-2022
Biotechnology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This program is designed to prepare graduates for employment in entry-level positions at biotechnology and pharmaceutical companies as laboratory, research, or manufacturing technicians. Coursework will develop an understanding of basic scientific principles in biology and chemistry, and will emphasize laboratory techniques and procedures such as solution and media preparation, DNA purification and analysis, electrophoresis, chromatography, maintenance of cells in culture, and quality control techniques.

Student Learning Outcome 1: Demonstrate professional communication and interpersonal skills necessary for working in a collaborative environment.

Assessment Methods

Course Name/Number: Introduction to Careers in Biotechnology-Bio 180

Direct Measure Used: Students were assessed during the 8-week course on their reliability as potential employees and their personal presentations of themselves. Student cover letters and resumes produced during this course were used as a component of this assessment. Students were also assessed on their performance in a mock interview setting.

SLO/Rubric Criteria or Question Concepts: The mock interview activity (including the final resume and cover letter) was worth 100 points, with the Final Cover Letter and Resume accounting for 80 of those points and the Mock Interview Performance accounting for 20 of those points. For the purpose of standardizing this assessment, a fictitious job announcement and description was provided to students to use as the basis of their cover letter and resume.

The interviewers who participated in the mock interviews were asked to evaluate each student they interviewed on their performance, and were additionally asked: "Would you hire this applicant? Why or why not?" Based on the interviewer evaluations, points were assigned to reflect each student's performance in the mock interview activity. Points were assigned for the Final Cover Letter and Resume based on criteria including proper formatting, inclusion of relevant information to the position being applied for, use of a professional and respectful tone, inclusion of relevant educational achievements and work experience, and descriptions of the student's skills or abilities that are relevant to the job position.

Assessment Results

Semester/year data collected: Spring 2022

Target: 80% of students will earn 80% or better on each SLO/CLO and sub-score

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	97%	95%

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Attendance	• 100% (5/5) of students scored 80% or higher. • Average score (n=5) was 100%	• 100% (16/16) of students scored 80% or higher. • Average score (n=16) was 99%
2. Final Resume, and Cover Letter	• 100% (5/5) of students scored 80% or higher • Average score (n=5) was 96%	94% (15/16) of students scored 80% or higher Average score (n=16) was 90%
3. Mock Interview	• 100% (5/5) scored 80 or	unknown

Use of Results

1. Changes put in place since previous assessment to improve student learning: An adjunct faculty member with many years of experience in hiring biotech professionals taught the course.

It should be noted that the Spring 2022 course was held in a different modality as compared to the Spring 2021 course. The 2022 course was taught live on campus. The Spring 2021 course was conducted in a Synchronous hybrid (remote) modality.

2. Impact of changes on current results: The slight improvement may be statistically insignificant.

3. According to current results, areas needing improvement: All the targets were met for this assessment, so there are not any notable areas that appear to need improvement.

4. Based on current results, new actions to improve student learning: Continue to update course materials and improve examples of resumes and cover letters to reflect current business practice.

5. Next assessment of this SLO: Spring 2023

Attendance (including punctuality and professional appearance) was worth 40 points. Students were expected to dress professionally (business casual) for each class meeting, and student attendance and punctuality when attending class meetings was equated to reliability, which is how an employee may be evaluated.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA	1	1	5
NOVA Online	N/A		
Off-Site Dual Enrollment	N/A		
Total	1	1	5

	higherAll students scored 100% for participation	

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Current results were improved from previous results (Spring 2021). Evaluation of the mock interview was changed to a participation grade. All students completed the assignment in the 2022 course.

Areas where students met the target: Students met the target in both SLO Criteria.

Areas where students did NOT meet the target: N/A. All SLO Criteria targets were met.

Student Learning Outcome 2: Describe the ethical and regulatory aspects of the biotechnology industry.

Assessment Methods

Course Name/Number: Principles in Regulatory and Quality Environments for Biotechnology- Bio 165

Direct Measure Used: Students were required to present a novel biotech product they designed to the class by generating a presentation and sharing the link to the presentation on the discussion board.

SLO/Rubric Criteria or Question Concepts: The presentation was graded according to the following rubric:

1. A brief introduction of the company
2. A brief introduction of the biotech product
3. A flowchart that shows the process of how the company produces the biotech product
4. An action plan (a plan for quality control)
5. Attributions provided properly
6. The link to the presentation works well
7. Script attached

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
NOVA Online	1	1	11

Assessment Results

Semester/year data collected: fall 2021

Target: 80% of the students achieves 80% or higher

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	84.1%	96.5%
On-campus average		
Synchronous hybrid (remote) average		
NOVA Online average	84.1%	96.5%
Dual Enrollment average		

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1.	91%	100%
2.	82%	100%
3.	82%	100%

Use of Results

1. Changes put in place since previous assessment to improve student learning:
No major changes were made from previous year.

2. Impact of changes on current results:
NA

3. According to current results, areas needing improvement:
Some students' proposed biotech products were not innovative enough. More guidance and help are needed for student projects.

4. Based on current results, new actions to improve student learning:
Instructor will review the initial submission of students' projects and provide feedback so the students can make adjustments to their proposed products. In addition, a new textbook focusing on FDA regulations will be used in the future.

5. Next assessment of this SLO: 2023

Off-Site Dual Enrollment			
Total	1	1	11

4.	91%	100%
5.	82%	89%
6.	82%	66.7%
7.	82%	77.8%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: One student missed the assignment, and another student did minimum work, which affected the overall performance.

Areas where students met the target: All.

Areas where students did NOT meet the target: N/A

Student Learning Outcome 3: Explain the fundamental scientific concepts in biotechnology.

Assessment Methods

Course Name/Number: Biotechnology Concepts Bio 253

Direct Measure Used: Students completed a cumulative Final Exam.

SLO/Rubric Criteria or Question Concepts: Students were evaluated in the following categories:
- Basic concepts of Biotechnology
- Structure and functions of DNA and proteins
- Genetic engineering to produce products
- Techniques used in bio-manufacturing

Students were scored in each category listed above based on answers to multiple short answer questions in each category given on the final exam.

Students were expected to receive an 80% or higher to demonstrate competency in each area.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA	1	1	6
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	6

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% or more students are expected to receive an 80% or higher to demonstrate competency in each area.

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
4. Basic concepts of Biotechnology	67% (4 out of 6)	94% (17 out of 18)
5. Structure and functions of DNA and proteins	33% (2 out of 6)	50% (9 out 18)
6. Genetic engineering to produce products	50% (3 out of 6)	33% (6 out of 18)
7. Techniques used in bio-manufacturing	50% (3 out of 6)	61% (10 out of 18)

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results:

Use of Results

1. Changes put in place since previous assessment to improve student learning:
1. Lecture PowerPoint presentation (PPT) were modified to make it easier for the students to understand the concepts.
2. Besides the lecture time spent on these topics, special Q&A sessions were planned to review the homework assignments on these topics to make sure students fully master the knowledge points.

2. Impact of changes on current results:
Although the current results did not improve over previous results, these changes were welcomed by the students and will be kept in the future.

3. According to current results, areas needing improvement: Improvements are needed in all four SLO criteria, including Basic concepts of Biotechnology, Structure and functions of DNA and proteins, Genetic engineering to produce products, and Techniques used in bio-manufacturing.

4. Based on current results, new actions to improve student learning:
The new actions will be providing study guide to the students to help them better prepare for the final test.

5. Next assessment of this SLO: 2023

	Current results improved in one area while declined in three areas. **Areas where students met the target:** None **Areas where students did NOT meet the target:** All areas.	

Core Learning Outcome: **[X] Civic Engagement** **[ ] Written Communication**

Operationalized Definition: Describe the business and legal aspects of the biotechnology industry

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Capstone Seminar in Biotechnology - Bio 254 **Direct Measure Used**: Final exam – The final exam reviews all areas related to the business and legal aspects of the biotechnology industry, so this exam assesses the extent to which students mastered all of these concepts. **CLO/Rubric Criteria or Question Concepts:** The target was for students to score above 80% on the final exam. There were 9 questions on the exam, and students were assessed on the following topics: 1. The biotech industry 2. Biotech companies 3. Business success 4. Funding 5. Costs 6. Business plans 7. Developing a new drug 8. Patents 9. Defining terms **Sample:**	**Semester/year data collected: Spring 2022** **Target:** 80% of the students achieves 80% or higher **Results by CLO Criteria:** [ ] Average/Mean Score per criteria or [X] Percent of Students > target per criteria	**1. Changes put in place since previous assessment to improve student learning:** Emphasis was placed on the concepts during instruction. Home assignments were designed to deepen the understanding of these concepts. **2. Impact of changes on current results:** The success rate improved from 89% to 100%. **3. According to current results, areas needing improvement:** None **4. Based on current results, new actions to improve student learning:** Current methods of instruction will be followed. **5. Next assessment of this CLO:** 2024

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA	1	1	8
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	8

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
Score above 80% in the final	100%	89%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Only one student failed to score above 80% because of some missing assignments, which is the same as last time this course was assessed.

Areas where students met the target:
Students mastered all concepts pretty well.

Areas where students did NOT meet the target:
None

Program Goal on Graduation: Increase the number of students who graduate from Biotechnology program

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target:** Increase the number of students graduate from biotech program	**1. Changes put in place since previous assessment to improve graduation results:**

Biotechnology, A.A.S.

Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2020-21	3	50%
2019-20	2	-67%
2018-19	6	-14%
2017-18	7	75%
2016-17	4	----

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

We offered supervised study (BIO 299) to substitute requirement for internships (BIO 296), as there were limited internships due to COVID.
We also offered supervised research on campus (Bio 296) to help students fulfill the internship requirement.

2. Impact of changes on current results:
5 students finished all program requirements this summer and 3 students will finish this fall.

3. According to current results, areas needing improvement:
We need to encourage the students to apply for graduation after they finish the study.

4. Based on the results, new actions to improve graduation/productivity results:
We will continue to place the students into internships.
We will try harder to urge the students who have finished their course work to file the application for graduation.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Increase the number of students enrolled in the Biotechnology programs

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Increase the number of students enrolled in the Biotechnology programs

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2020-21	16	-47%
2019-20	30	-3.2%
2018-19	31	-30%
2017-18	44	-2.2%
2016-17	45	----

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
FTE numbers decreased by

Use of Results

1. Changes put in place since previous assessment to improve program placement results:
One Biotech faculty member was dedicated to outreach and recruitment. Biotech was included in the REV program during the pandemic. State funding was used to pay for the tuition of qualified students to accommodate the increase.

2. Impact of changes on current results:
Unfortunately, no obvious change was observed in the enrollment numbers.

3. According to current results, areas needing improvement:
Better outreach and retention efforts are needed to increase enrollment.

4. Based on the results, new actions to improve program placement/productivity:
An NSF-ATE grant was submitted to enhance the biotech program, which put lots of emphases on outreach via

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	9.3	-40.8%
2019-20	15.7	-22%
2018-19	20.1	-26%
2017-18	27.1	-12%
2016-17	30.8	----

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
No. There has been a decline in enrollment in the program which was made worse by COVID.

recruiting from NVCC students, local high school students and career changers. We also plan to improve retention through enhanced advising and mentorship.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Business Administration A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program Purpose Statement: The Associate of Science degree curriculum in Business Administration is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in Business Administration with a major in Accounting, Business Management, Decision Science and Management, Information Systems, Finance, Marketing, etc.

Student Learning Outcome 1: Students will be able to identify the factors of production in the creation of goods and services in an economic society.

Assessment Methods

Course Name/Number: Introduction to Business - BUS 100

Direct Measure Used: Short answer questions.
Maximum points = 5. Criteria:

a) Know: Naming the factors of production
b) Understand: Defining each factor of production named
c) Apply: The ability to give an example of each factor of production in the process of wealth creation

Rubric criteria:
Part a) Know. Maximum points = 1. If the factors are named correctly, the full 1 point is given. For each incorrect or no answer, 0.25 point is deducted.
Part b) Understand. Maximum points = 3. For each factor, 0.75 points is allocated.
Part c) Apply. Maximum point = 1. If the contribution of any two factors to the creation of goods or services in an economic society was answered correctly, the full 1 point is given. For each incorrect or no answer, 0.5 point is deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	3	54
AN	14	8	152
MA	4	2	38
LO	9	4	55
WO	8	4	60
Nova Online	11	5	87
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**54**	**26**	**446**

Assessment Results

Semester/year data collected: Fall 2021

Target: See the Table below.

Results by Modality/SLO Criteria	Will earn 70% or better
On-campus average	70%
Synchronous hybrid average	70%
Nova Online average	70%
SLO Criteria	
Know	80%
Understand	70%
Apply	60%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Current Results Fall 2020
All students assessed (weighted average)	68% scored 70% or better	72% scored 70% or better
On-campus average	71% scored 70% or better	N/A
Synchronous hybrid (remote) average	78% scored 70% or better	76% scored 70% or better
NOVA Online average	46% scored 70% or better	37% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
a. Know	77% scored 70% or better	80% scored 70% or better
b. Understand	67% scored 70% or better	71% scored 70% or better
c. Apply	66% scored 70% or better	70% scored 70% or better

Target Met: [ ] Yes [ ] No [×] Partially - The targets for BUS 100 students are 80% "Know", 70% "Understand", and 60% "Apply". The target was met for SLO criteria

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Fall 2020 when no face-to-face section of BUS100 course offered due to the pandemic. Therefore, no on-campus score was calculated for the Fall 2020 term. The feedback received from the students indicate that many were interested to take in person classes. As a result, there were 19 (35% of the total offering) on-campus sections offered across all five campuses for the term 2021. The College plans to increase this figure (the number of face-to-face sections) as the pandemic restrictions are lifted.

2. Impact of changes on current results: The on-campus average is calculated for the Fall 2021 term – 71% scored 70% or better. The target was met.

3. According to current results, areas needing improvement: The target was not met for the NOVA online average. The online average is much lower than the on-campus average or the synchronous hybrid average. As a result, the overall average is skewed. The current results have not improved from the previous results.

4. Based on current results, new actions to improve student learning: The Discipline Group discussed these results at the Spring 2022 meeting. The Group was dissatisfied with the NOVA online scores. The Discipline Group has appointed a Lead faculty to make the following adjustments on the online sections beginning Fall 2022:

- Post video lectures
- Insert study sheets
- Communicate with the instructors to introduce the information before the exams

The Group noticed that the average for the face-to-face sections was lower than the zoom sections. The Group

<table>
<tr>
<td></td>
<td>apply. The target was not met for SLO criteria know and understand. The target was also not met for NOVA online average.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [×] Partially [ ] N/A

Narrative comparison of current results to previous results: Due to the pandemic, there were no face-to-face on-campus sections of BUS 100 courses offered in the previous year (Fall 2020). In Fall 2021, there were 19 face-to-face sections offered across all 5 campuses. The current result for these sections shows 71% of students scored 70% or better. No basis for comparison since no face-to-face section offered in Fall 2020. In comparison:
• SLO Criteria “Know”: Of these 446 responses, 77% were graded at 70% or better. This figure was 80% in Fall 2020. The target (80%) was not met.
• SLO Criteria “understand”: Of these 446 responses, 67% were graded at 70% or better. This figure was 71% in Fall 2020. The target (70%) was not met.
• SLO Criteria “apply”: Of these 446 responses, 66% were graded at 70% or better. This figure was 70% in Fall 2020. The target (60%) was met.

Areas where students met the target: The target (70%) was met for on-campus average. For on-campus sections, 71% were graded at 70% or better. The target (70%) was also met for the synchronous hybrid average. For synchronous hybrid sections, 78% were graded at 70% or better.

Areas where students did NOT meet the target: The target (70%) was not met for the NOVA online average. For online sections, only 46% were graded at 70% or better. This figure was 37% in Fall 2020.</td>
<td>was unable to pinpoint the exact reason for this variation. The Group has agreed to spend more time teaching the factors of production in the creation of goods and services in an economic society.

5. Next assessment of this SLO: This SLO will be assessed again in Fall 2022.</td>
</tr>
<tr>
<td colspan="3">Student Learning Outcome 2: Students will be able to identify the various forms of business ownership (sole proprietorship, partnership and corporation) and the multiple ways of getting a business started.</td>
</tr>
<tr>
<td>Assessment Methods</td>
<td>Assessment Results</td>
<td>Use of Results</td>
</tr>
<tr>
<td>Course Name/Number: Introduction to Business - BUS 100

Direct Measure Used: Short answer questions. Maximum points = 5. Criteria:
a) Know: The main forms of business ownership
b) Understand: Advantages and disadvantages for each form</td>
<td>Semester/year data collected: Fall 2021

Target: See the Table below.
<table><tr><th>Results by Modality/SLO Criteria</th><th>Will earn 70% or better</th></tr><tr><td>On-campus average</td><td>70%</td></tr><tr><td>Synchronous hybrid average</td><td>70%</td></tr><tr><td>Nova Online average</td><td>70%</td></tr><tr><td colspan="2">SLO Criteria</td></tr></table></td>
<td>1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Fall 2020 when no face-to-face section of BUS100 course offered due to the pandemic. Therefore, no on-campus score was calculated for the Fall 2020 term. The feedback received from the students indicate that many were interested in taking in person classes. As a result, there were 19 (35% of the total offering) on-campus sections offered across all five campuses for the</td>
</tr>
</table>

c) Apply: Examples for each of the main forms of business ownership

Rubric criteria:
Part a) Know. Maximum points = 1.5. If the main forms are listed correctly, the full 1.5 points are given. For each incorrect or no answer, 0.5 point is deducted.
Part b) Understand. Maximum points = 3. For each form, 1 point is allocated (0.5 point for advantage, and 0.5 point for disadvantage).
Part c) Apply. Maximum point = 0.5. If all companies are correct, the full 0.5 points is given. For each incorrect or no answer, 0.2 points is deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	3	58
AN	14	8	158
MA	4	2	41
LO	9	4	55
WO	8	4	68
Nova Online	11	5	94
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**54**	**26**	**474**

Know	75%
Understand	70%
Apply	65%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	77% scored 70% or better	78% scored 70% or better
On-campus average	76% scored 70% or better	N/A
Synchronous hybrid (remote) average	84% scored 70% or better	80% scored 70% or better
NOVA Online average	70% scored 70% or better	68% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
a. Know	84% scored 70% or better	84% scored 70% or better
b. Understand	70% scored 70% or better	68% scored 70% or better
c. Apply	67% scored 70% or better	74% scored 70% or better

Target Met: [×] Yes [ ] No [ ] Partially - The targets for BUS 100 students are 75% "Know", 70% "Understand", and 65% "Apply". The target was met for all three SLO criteria: *know, understand,* and *apply*. The target was also met for the NOVA Online average.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [×] Partially [ ] N/A

Narrative comparison of current results to previous results: Due to the pandemic, there were no face-to-face on-campus sections of BUS 100 courses offered in the previous year (Fall 2020). In Fall 2021, there were 19 face-to-face sections offered across all 5 campuses. The current result for these sections shows 76% of students scored 70% or better. No basis for comparison since no face-to-face section offered in Fall 2020. In comparison:

- SLO Criteria "know": Of these 474 responses, 84% were graded at 70% or better. This figure was same in Fall 2020. The target (75%) was met.

term 2021. The College plans to increase this figure (the number of face-to-face sections) as the pandemic restrictions are lifted.

2. Impact of changes on current results: The on-campus average is calculated for the Fall 2021 term – 76% scored 70% or better. The target was met.

3. According to current results, areas needing improvement: Though the NOVA online average shows improvement from the previous result, it is lower (-14%) than the synchronous hybrid average. The online average is also lower (-6%) than the on-campus average.

4. Based on current results, new actions to improve student learning: The Discipline Group discussed these results at the Spring 2022 meeting. The Discipline Group has appointed a Lead faculty to make the following adjustments on the online sections beginning Fall 2022:

- Post video lectures
- Insert study sheets
- Communicate with the instructors to introduce the information before the exams

The Group noticed that the average for the face-to-face sections was lower (-8%) than the zoom sections. The Group was unable to pinpoint the exact reason for this variation. The Group agreed to use interactive classroom exercises to improve student performance on SLO criteria "apply".

5. Next assessment of this SLO: This SLO will be assessed again in Fall 2022.

- SLO Criteria "understand": Of these 474 responses, 70% were graded at 70% or better. This figure was also 68% in Fall 2020. The target (70%) was met.
- SLO Criteria "apply": Of these 474 responses, 67% were graded at 70% or better. This figure was 74% in Fall 2020. The target (65%) was met.

The target (70%) was met for the NOVA Online average. The current results show 70% were graded at 70% or better. This figure was 68% in Fall 2020.

Student Learning Outcome 3: Students will apply the planning, organizing, leading and control processes of management in identifying the various theories related to the development of leadership skills.

Assessment Methods

Course Name/Number: Introduction to Business - BUS 100

Direct Measure Used: Short answer questions. Maximum points = 5. Criteria:

a) Know: The functions of management
b) Understand: The importance of each function
c) Apply: Give a specific example of each function in practice

Rubric criteria:
Part a) Know. Maximum point = 1. If the functions are named correctly, the full 1 point is given. For each incorrect or no answer, 0.25 points is deducted.
Part b) Understand. Maximum point = 1. For each function, 0.25 points is allocated.
Part c) Apply. Maximum points = 3. If the examples are answered correctly, the full 3 points are given. For each incorrect or no answer, 0.75 points is deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	3	28
AN	14	6	100
MA	4	2	16
LO	7	3	47
WO	7	4	48
NOVA Online	14	5	37
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**53**	**23**	**276**

Assessment Results

Semester/year data collected: Spring 2022

Target: See the Table below.

Results by Modality/SLO Criteria	Will earn 70% or better
On-campus average	70%
Synchronous hybrid average	70%
Nova Online average	70%
SLO Criteria	
Know	75%
Understand	70%
Apply	65%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)	67% scored 70% or better	76% scored 70% or better
On-campus average	61% scored 70% or better	N/A
Synchronous hybrid (remote) average	72% scored 70% or better	77% scored 70% or better
NOVA Online average	78% scored 70% or better	63% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
a. Know	86% scored 70% or better	89% scored 70% or better
b. Understand	75% scored 70% or better	75% scored 70% or better
c. Apply	62% scored 70% or better	60% scored 70% or better

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Spring 2021 when no face-to-face section of BUS100 course was offered due to the pandemic. Therefore, no on-campus score was calculated for the Spring 2021 term. The feedback received from the students indicate that many were interested in taking in person classes. As a result, there were 19 (36% of the total offering) on-campus sections offered across all five campuses for the term 2021. The College plans to increase this figure (the number of face-to-face sections) as the pandemic restrictions are lifted.

2. Impact of changes on current results: The on-campus average is calculated for the Spring 2022 term – 61% scored 70% or better. The target was not met.

3. According to current results, areas needing improvement: The target was not met for the on-campus average. The on-campus average is much lower than the synchronous hybrid average or the Nova online average. The target was also missed for the SLO criteria "apply."

4. Based on current results, new actions to improve student learning: The Discipline Group noticed that the synchronous hybrid average is much higher (+11%) than the on-campus average. The synchronous hybrid averages were also higher that the on-campus averages for SLO 1 and SLO 2 for Fall 2021 term. The Group is unable to explain the reason(s) for this variation. The Group will carefully review the results for the academic year 2022-23. In the meantime, the Group plans to use interactive exercises to emphasize application. These exercises would include methods designed to force

	Target Met: [ ] Yes [ ] No [×] Partially - The targets for BUS 100 students are 75% "Know", 70% "Understand", and 65% "Apply". The target was met for two SLO criteria: *know* and understand. The target was missed for the on-campus average and SLO criteria *apply*. **Current Results Improved vs. Previous Results:** [ ] Yes [ ] No [×] Partially [ ] N/A **Narrative comparison of current results to previous results:** Due to the pandemic, there were no face-to-face on-campus sections of BUS 100 courses offered in the previous year (Spring 2021). In Spring 2022, there were 19 face-to-face sections offered across all 5 campuses. The current result for these sections shows 61% of students scored 70% or better. No basis for comparison since no face-to-face section was offered in Spring 2021. In comparison: • SLO Criteria "Know": Of these 276 responses, 86% were graded at 70% or better. This figure was 89% in Spring 2021. The target (75%) was met. • SLO Criteria "understand": Of these 276 responses, 75% were graded at 70% or better. This figure was same in Spring 2021. The target (70%) was met. • SLO Criteria "apply": Of these 276 responses, only 62% were graded at 70% or better. This figure was 60% in Spring 2021. The target (65%) was not met. The target (70%) was met for the NOVA Online average. For online sections, 78% were graded at 70% or better. The previous year (Spring 2021), this figure was only 63% i.e., 63% were graded at 70% or better.	students to cite real world examples of these functions in the community marketplace. The Group also plans to post videos on the functions of management in the course Canvas site. **5. Next assessment of this SLO:** This SLO will be assessed again in Spring 2023.

Core Learning Outcome: [ ] Civic Engagement [×] Written Communication
Operationalized Definition: Students will be able to describe the various theories related to the development of leadership skills, motivation techniques, teamwork and effective communication

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Introduction to Business (BUS 100) Direct Measure Used: Short answer questions. Criteria – a) Clarity and conciseness: Answer the question, succinct, appropriate complexity b) Development of Ideas: Develop the main idea c) Technical writing skills: Spelling, capitalization, punctuation, grammar, general proofreading	**Semester/year data collected:** Spring 2022 **Target:** See the Table below. **SLO Criteria** / **Will earn Satisfactory or Exemplary** Clarity and conciseness: 80% or more Development of Ideas: 80% or more	**1. Changes put in place since previous assessment to improve student learning:** This SLO was last assessed in Spring 2019. Then, no data were reported for online sections. Therefore, the online average was not calculated for Spring 2019 term. The Discipline Group reported this issue to the NOVA Online team. Subsequently the SLO Lead was instructed to work closely with NOVA online instructional designers. Before the start of the Spring 2022 term, the assessment question for this CLO was embedded to an online proctored exam.

Business Administration A.S.

Provide Rubric Criteria or Question Concepts: (attach Rubric): See Appendix

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	3	15
AN	14	6	92
MA	4	2	10
LO	7	3	43
WO	7	4	47
NOVA Online	14	5	37
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**53**	**23**	**244**

Technical writing skills	80% or more

Results by CLO Criteria: Overall Average/Mean Scores

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. Clarity and conciseness	86% scored satisfactory or exemplary	77% scored satisfactory or exemplary
2. Development of Ideas	86% scored satisfactory or exemplary	77% scored satisfactory or exemplary
3. Technical writing skills	74% scored satisfactory or exemplary	78% scored satisfactory or exemplary

Results by Modality: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
On-Campus		
Clarity and conciseness	81% scored S or E	77% scored S or E
Development of Ideas	80% scored S or E	77% scored S or E
Technical writing skills	75% scored S or E	78% scored S or E
Synchronous hybrid		
Clarity and conciseness	99% scored S or E	N/A
Development of Ideas	99% scored S or E	N/A
Technical writing skills	66% scored S or E	N/A
Nova Online		
Clarity and conciseness	87% scored S or E	Data not reported
Development of Ideas	86% scored S or E	Data not reported
Technical writing skills	86% scored S or E	Data not reported

Note: S for Satisfactory, E for Exemplary

Target Met: [ ] Yes [ ] No [×] Partially

2. Impact of changes on current results: The on-campus average is calculated for the Spring 2022 term – see the Table under **Results by Modality**. The target was met for all three CLO criteria.

3. According to current results, areas needing improvement: For all three CLO Criteria, the target is 80% of the students will earn satisfactory or Exemplary. The target is met for the criteria *clarity and consciousness*, and *development of ideas*, but not met for the criteria *technical writing skills*. The synchronous hybrid result shows only 66% of the students was graded satisfactory or Exemplary for the criteria *technical writing skills*.

4. Based on current results, new actions to improve student learning:
The Discipline Group reviewed these results. The Group recommended the following actions to improve results:

- Encourage students to use Canvas Online Tutoring: English writing skills
- Post video lectures
- Engage the students more on zoom
- Challenge the students for critical thinking
- Spend more time to explain how the leadership styles differ

5. Next assessment of this CLO: Spring 2025.

	The target is met for CLO criteria: clarity and conciseness. The target is 80% of the students will earn satisfactory or Exemplary. The actual result is 86%. The target is also met for CLO criteria: development of ideas. The target is 80% of the students will earn satisfactory or Exemplary. The actual result is 86%. The target is not met for CLO criteria: technical writing skills. The target is 80% of the students will earn satisfactory or Exemplary, but the actual result is only 74%. **Current Results Improved vs. Previous Results:** [ ] Yes [ ] No [×] Partially [ ] N/A **Narrative comparison of current results to previous results:** The overall comparison shows that the current results (Spring 2022) have improved from the previous results (Spring 2019) for 2 out of 3 CLO criteria: *clarity and conciseness* (up 9%), *development of ideas* (up 9%), and technical writing skills (down 4%). **Areas where students met the target:** SLO/CLO Criteria "Clarity and conciseness": Of these 244 responses, 86% were graded satisfactory or exemplary. The target (80%) was met. SLO/CLO Criteria "development of ideas": Of these 244 responses, 86% were graded satisfactory or exemplary. The target (80%) was met. **Areas where students did NOT meet the target:** SLO/CLO Criteria "technical writing skills": Of these 244 responses, 74% were graded satisfactory or exemplary. The target (80%) was not met.	

Program Goal on Graduation: To encourage students placed in the Business Administration, A.S. program to complete the degree.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html#panel1 VCCS Associate Degree Productivity Standards	**Target:** The percentage change of the program graduates outpaces the percentage change of all A.S. graduates. **Results for Past 5 Academic Years for Business Administration A.S. program:**	**1. Changes put in place since previous assessment to improve graduation results:** A partnership called ADVANCE was formed between NOVA and Mason. This partnership was created to increase graduation rates. This partnership gives NOVA students targeted, personalized support to complete their bachelor's degrees in a timely manner and save money. This year (2022), the ADVANCE NOVA-Mason Academic Summit is scheduled for October 11. The goals of this summit are:

Degree Program	Required Number of Graduates

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	904	-8%

Business Administration A.S.

	(for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2020-21	987	21%
2019-20	813	6%
2018-19	770	-9%
2017-18	845	--

Results for Past 5 Academic Years - Associate of Science (A.S):

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	3983	-9%
2020-21	4,352	12%
2019-20	3,878	1%
2018-19	3,853	-3%
2017-18	3,975	--

Target Met: [×] Yes [ ] No [ ] Partially - From 2020 - 2021 to 2021-2022, the percentage of A.S. (all A.S. programs) graduates decreased by 9% (from 4,352 to 3,983). During the same time period, the percentage of Business Administration A.S. graduates decreased by 8%.

Current Results Improved vs. Previous Results:
[ ] Yes [×] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: From 2019-2020 to 2020-2021, the percentage of Business Administration A.S. graduates increased by 21%. But, from 2020-2021 to 2021-2022, the percentage of Business Administration A.S. graduates decreased by 8%.

Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes, it does. The 2021-21 graduation total surpasses the VCCS productivity standards from the previous column.

- Share exciting updates about the progression of ADVANCE students.
- Bring faculty and staff together in disciplinary areas to enhance and update existing pathways.
- Develop faculty partnerships to promote the exchange of syllabi and other materials.
- Explore new areas of focus.

The VCCS approved the new statewide Business curriculum developed by Transfer VA. This new statewide Business curriculum will go into effect in Fall 2023. The Transfer Guides that have been developed by the four-year institutions using this common curriculum are being reviewed now. The review will be completed by October 2022.

In previous APER report (2018-19), we wrote that Radford University was interested in partnering with NOVA to offer bachelor's degree in business online. A meeting was scheduled for April 16, 2020. Unfortunately, the meeting was canceled due to COVID-19 pandemic. The meeting took place this year. The transfer committee is yet to finalize a deal.

2. Impact of changes on current results: According to the latest data (2021-22), the drop in Business Administration A.S. graduation rate is smaller than the Total A.S. graduation rate.

3. According to current results, areas needing improvement: The Discipline Group is satisfied with the recent graduation rates.

4. Based on the results, new actions to improve graduation/productivity results: The universities are interested in reviewing our Business programs for potential partnerships. However, there are still a number of course content summaries that are outdated. These outdated course content summaries starting with the required courses in all Business programs need to be updated. The Discipline Group has not set up a date yet to complete this process

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To increase the number of students program placed in the Business Administration, A.S. program.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target:** The growth in program placement outpaces the growth in all A.S. Programs.	**1. Changes put in place since previous assessment to improve program placement results:**

Business Administration A.S.

Program placement data obtained from OIR: Fact-Book-2017-2022.pdf (nvcc.edu)

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years – Headcount for Business Administration A.S. program:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
Fall 2021	4,170	-10%
Fall 2020	4,642	-5%
Fall 2019	4,872	-1%
Fall 2018	4,937	-2%
Fall 2017	5,020	-

Results for Past 5 Academic Years – Headcount for Associate of Science (A.S):

Academic Year	Number of students in all A.S. Programs	Percentage Increase/ Decrease
Fall 2021	22,201	-11%
Fall 2020	24,952	-4%
Fall 2019	25,963	-6%
Fall 2018	27,723	-4%
Fall 2017	28,811	--

Target Met for Headcount: [×] Yes [ ] No [ ] Partially - From Fall 2020 to Fall 2021, the percentage of A.S. (all A.S. programs) program-placed students decreased by 11% (from 24,952 to 22,201). During the same time period, the percentage of Business Administration A.S. program-placed students decreased by 10%.

Current Results Improved vs. Previous Results:
[ ] Yes [×] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: From Fall 2019 to Fall 2020, the percentage of Business Administration A.S. program-placed students decreased by 5%. From Fall 2020 to Fall 2021, the percentage of Business Administration A.S. program-placed students decreased by 10%.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	3,198	-3%
2019-20	3,296	-3%
2018-19	3,402	2%
2017-18	3,343	-9%
2016-17	3,667	N/A

A partnership called ADVANCE was formed between NOVA and Mason. This partnership was created to increase graduation rates. This partnership gives NOVA students targeted, personalized support to complete their bachelor's degrees in a timely manner and save money. This year (2022), the ADVANCE NOVA-Mason Academic Summit is scheduled for October 11. The goals of this summit are:

- Share exciting updates about the progression of ADVANCE students.
- Bring faculty and staff together in disciplinary areas to enhance and update existing pathways.
- Develop faculty partnerships to promote the exchange of syllabi and other materials.
- Explore new areas of focus.

The VCCS approved the new statewide Business curriculum developed by Transfer VA. This new statewide Business curriculum will go into effect in Fall 2023. The Transfer Guides that have been developed by the four-year institutions using this common curriculum are being reviewed now. The review will be completed by October 2022.

In previous APER report (2018-19), we wrote that Radford University was interested to partner with NVCC to offer bachelor's degree in Business online. A meeting was scheduled for April 16, 2020. Unfortunately, the meeting was canceled due to COVID-19 pandemic. The meeting took place this year. The transfer committee is yet to finalize a deal.

2. Impact of changes on current results: According to the latest data, the percentage of Business Administration A.S. program-placed students decreased by 10%. This figure was down by 5% from 2019 to 2020.

3. According to current results, areas needing improvement: Due to the tight labor market, the student enrollments are down nationwide. Now that the pandemic restrictions are lifted, the areas to focus on are the promotion of the programs and degree maps to the universities.

4. Based on the results, new actions to improve program placement/productivity:

Business Administration A.S.

	Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes, it does. The 2021-21 FTES exceed the VCCS productivity standards from the previous column.	The universities are interested in reviewing our Business programs for potential partnerships. However, there are still a number of course content summaries that are outdated. These outdated course content summaries starting with the required courses in all Business programs need to be updated. The Discipline Group has not set up a date yet to complete this process. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Business Management A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The Associate of Applied Science degree curriculum in Business Management is designed for persons who seek employment in business management or for those presently in management who are seeking promotion. The occupational objectives include administrative assistant, management trainee, department head, branch manager, office manager, manager of small business, and supervisor.

Student Learning Outcome 1: Students will be able to describe the various theories related to the development of leadership skills, motivation techniques, teamwork and effective communication.

Assessment Methods

Course Name/Number: Principles of Management - BUS 200

Direct Measure Used: Short answer questions.
Maximum points = 5. Criteria:

d) Know: List the basic styles of leadership
e) Understand: Describe the differences in the basic styles of leadership
f) Apply: Give a specific example of behavior for each leadership style

Rubric criteria:
Part a) Know. Max. points = 0.5. If the styles are listed correctly, the full 0.5 points are given. For each incorrect or no answer, 0.2 points are deducted.
Part b) Understand. Max. points = 3. For each style, 1 point is allocated.
Part c) Apply. Max. points = 1.5. If all examples of behavior are correct, the full 1.5 points are given. For each incorrect or no answer, 0.5 points are deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	2	1	5
MA	1	1	10
LO	1	1	12
NOVA Online	2	1	18
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**6**	**4**	**45**

Assessment Results

Semester/year data collected: Fall 2021

Target: See the Table below.

Results by Modality/SLO Criteria	Will earn 70% or better
Synchronous hybrid average	75%
Online average	75%
SLO Criteria	
Know	80%
Understand	70%
Apply	70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	78% scored 70% or better	77% scored 70% or better
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	70% scored 70% or better	79% scored 70% or better
NOVA Online average	89% scored 70% or better	69% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

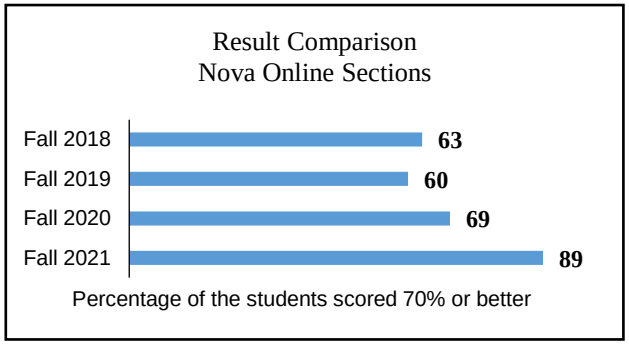
Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
a. Know	84% scored 70% or better	78% scored 70% or better
b. Understand	76% scored 70% or better	75% scored 70% or better
c. Apply	78% scored 70% or better	74% scored 70% or better

Target Met: [ ] Yes [ ] No [×] Partially - The targets for BUS 200 students are 80% "Know", 70% "Understand", and 70% "Apply" (the target values are lower for BUS

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Fall 2020. The target was not met for Nova online sections. Only 69% were graded at 70% or better. The Discipline Group discussed these results. The Discipline Group decided not to make any changes since the country/region was going through the pandemic. The Group recommended to offer on-campus classes once the campuses were open for the students/faculty.

2. Impact of changes on current results: The current result for NOVA Online sections shows an improvement (+ 20%) from the previous result. The current result also shows improvement from the previous results:



In the past (Fall 2018 and Fall 2019) for the online sections, the assessment was framed as extra credit. By offering the assessment as extra credit, students were given a penalty free option to not provide an answer which would then be counted as incorrect. Beginning Fall 2020, the assessment was no longer counted as extra credit. The assessment questions for this SLO were embedded into BUS200 online proctored exam.

100 students). The target was met for all three SLO criteria Know, Understand and Apply. The target was met for NOVA Online average. The target however was not met for synchronous hybrid average.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [×] Partially [ ] N/A

Narrative comparison of current results to previous results: The current results have partially improved from the Fall 2020 results. In comparison:

- SLO Criteria "know": Of these 45 responses, 84% were graded at 70% or better. This figure was 78% in Fall 2020. The target (80%) was met.
- SLO Criteria "understand": Of these 45 responses, 76% were graded at 70% or better. This figure was 75% in Fall 2020. The target (70%) was met.
- SLO Criteria "apply": Of these 45 responses, 78% were graded at 70% or better. This figure was 74% in Fall 2020. The target (70%) was met.

The target (75%) was not met for the synchronous hybrid average. For zoom sections, 70% were graded at 70% or better. This figure was 79% in Fall 2020.

3. According to current results, areas needing improvement: The following areas –

- The target (75%) was not met for the synchronous hybrid sections.
- Offer on-campus section(s)

4. Based on current results, new actions to improve student learning: The Discipline Group discussed these results at the Spring 2022 meeting. The Group recommends the following actions beginning Fall 2022:

- Offer face-to-face on-campus sections
- Post videos on leadership styles in the course Canvas site.
- Engage the students more on zoom
- Challenge the students for critical thinking
- Spend more time to explain how the leadership styles differ
- During presentations, use the real-world examples. Double check students' understandings by asking them to figure out the right leadership approach under those circumstances.

5. Next assessment of this SLO: This SLO will be assessed again in Fall 2022.

Student Learning Outcome 2: Students will apply the planning, organizing, leading and control processes of management in identifying the various theories related to the development of leadership skills

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Principles of Management - BUS 200

Direct Measure Used: Short answer questions. Maximum points = 5. Criteria:

d) Know: The functions of management
e) Understand: The importance of each function
f) Apply: Give a specific example of each function in practice

Rubric criteria:
Part a) Know. Maximum point = 1. If the functions are named correctly, the full 1 point is given. For each incorrect or no answer, 0.25 points is deducted.
Part b) Understand. Maximum point = 1. For each function, 0.25 points is allocated.

Semester/year data collected: Fall 2021

Target: See the Table below.

Results by Modality/SLO Criteria	Will earn 70% or better
Synchronous hybrid average	80%
Online average	80%
SLO Criteria	
Know	90%
Understand	80%
Apply	70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	82% scored 70% or better	82% scored 70% or better
On-campus average	N/A	N/A

1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Fall 2020. The target was barely missed for Nova online sections: 77% were graded at 70% or better. The Discipline Group discussed these results. The Discipline Group decided not to make any changes since the country/region was going through the pandemic. The Group recommended offering on-campus classes once the campuses were open for the students/faculty.

2. Impact of changes on current results: The current result for NOVA Online sections shows an improvement (+ 23%) from the previous result. The current result also shows improvement from the previous results:

Business Management A.A.S.

Part c) Apply. Maximum points = 3. If the examples are answered correctly, the full 3 points are given. For each incorrect or no answer, 0.75 points is deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	2	1	5
MA	1	1	10
LO	1	1	12
NOVA Online	2	1	18
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**6**	**4**	**45**

Synchronous hybrid (remote) average	70% scored 70% or better	83% scored 70% or better
NOVA Online average	100% scored 70% or better	77% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
a. Know	96% scored 70% or better	86% scored 70% or better
b. Understand	82% scored 70% or better	82% scored 70% or better
c. Apply	69% scored 70% or better	80% scored 70% or better

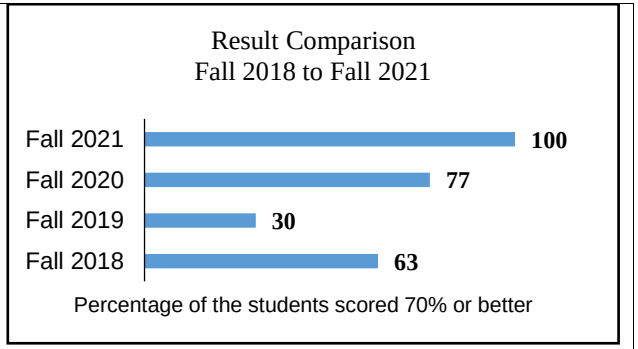
Target Met: [×] Yes [ ] No [ ] Partially - The targets for BUS 200 students are 90% "Know", 80% "Understand", and 70% "Apply" (the target values are lower for BUS 100 students). The target was met for SLO criteria "Know", and "Understand". The target was slightly off for the SLO criteria "Apply". The target was 70%, but the actual result was 69%. This difference is not statistically significant.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [×] Partially [ ] N/A

Narrative comparison of current results to previous results: The current results have partially improved from the Fall 2020 results. In comparison:

- SLO Criteria "know": Of these 45 responses, 96% were graded at 70% or better. This figure was 86% in Fall 2020. The target (90%) was met.
- SLO Criteria "understand": Of these 45 responses, 82% were graded at 70% or better. This figure was also 82% in Fall 2020. The target (80%) was met.
- SLO Criteria "apply": Of these 45 responses, 69% were graded at 70% or better. This figure was 80% in Fall 2020.

The target (80%) was met for the NOVA Online average. For online sections, 100% were graded at 70% or better. This figure was 77% in Fall 2020.
The target (80%) was not met for the synchronous hybrid average. For zoom sections, only 70% were graded at 70% or better. This figure was 83% in Fall 2020.



In the past (Fall 2018 and Fall 2019) for the online sections, the assessment was framed as extra credit. By offering the assessment as extra credit, students were given a penalty free option to not provide an answer which would then be counted as incorrect. Beginning Fall 2020, the assessment was no longer counted as extra credit. The assessment questions for this SLO were embedded into BUS200 online proctored exam.

3. According to current results, areas needing improvement: The following areas –

- The target (80%) was not met for the synchronous hybrid sections.
- Offer on-campus section(s).

4. Based on current results, new actions to improve student learning: The Discipline Group discussed these results at the Spring 2022 meeting. The Group recommends the following actions beginning Fall 2022:

- Offer face-to-face on-campus sections
- Post videos on functions of management in the course Canvas site.
- Engage the students more on zoom
- Challenge the students for critical thinking
- Use interactive exercises to emphasize application.

5. Next assessment of this SLO: This SLO will be assessed again in Fall 2022.

Business Management A.A.S.

Student Learning Outcome 3: Students will be able to identify the various forms of business ownership and the multiple ways of getting a business started.

Assessment Methods

Course Name/Number: Introduction to Business - BUS 100

Direct Measure Used: Short answer questions.
Maximum points = 5. Criteria:

a) Know: The main forms of business ownership
b) Understand: Advantages and disadvantages for each form
c) Apply: Examples for each of the main forms of business ownership

Rubric criteria:
Part a) Know. Maximum points = 1.5. If the main forms are listed correctly, the full 1.5 points are given. For each incorrect or no answer, 0.5 point is deducted.
Part b) Understand. Maximum points = 3. For each form, 1 point is allocated (0.5 point for advantage, and 0.5 point for disadvantage).
Part c) Apply. Maximum points = 0.5. If all companies are correct, the full 0.5 points is given. For each incorrect or no answer, 0.2 points is deducted.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	3	5
AN	14	8	4
MA	4	2	2
LO	9	4	2
WO	8	4	9
NOVA Online	11	5	3
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**54**	**26**	**25**

Assessment Results

Semester/year data collected: Spring 2022

Target: See the Table below.

Results by Modality/SLO Criteria	Will earn 70% or better
On-campus average	70%
Synchronous hybrid average	70%
Nova Online average	70%
SLO Criteria	
Know	75%
Understand	70%
Apply	65%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)	87% scored 70% or better	79% scored 70% or better
On-campus average	88% scored 70% or better	N/A
Synchronous hybrid (remote) average	80% scored 70% or better	80% scored 70% or better
NOVA Online average	100% scored 70% or better	75% scored 70% or better

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
a. Know	87% scored 70% or better	88% scored 70% or better
b. Understand	78% scored 70% or better	88% scored 70% or better
c. Apply	78% scored 70% or better	71% scored 70% or better

Target Met: [×] Yes [ ] No [ ] Partially - The targets for BUS 100 students are 75% "Know", 70% "Understand", and 65% "Apply". The target was met for all three SLO criteria: know, understand, and apply. The target was also met for synchronous hybrid and NOVA Online averages.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [×] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was last assessed in Spring 2021 when no face-to-face section of BUS100 course was offered due to the pandemic. Therefore, no on-campus score was calculated for the Spring 2021 term. The feedback received from the students indicate that many were interested in taking in person classes. As a result, there were 19 (35% of the total offering) on-campus sections offered across all five campuses for the term 2021. The College plans to increase this figure (the number of face-to-face sections) as the pandemic restrictions are lifted.

2. Impact of changes on current results: The on-campus average is calculated for the Spring 2022 term – 88% scored 70% or better. The target was met.

3. According to current results, areas needing improvement: Though the target is met, the results for the SLO criteria "understand" and "apply" were not as high as for the criteria "know".

4. Based on current results, new actions to improve student learning: The Discipline Group reviewed these results. The Group recommends the following actions beginning Spring 2023:

- Use interactive exercises. For example, the Group will include real-world scenarios in the presentation, and then double check students' understanding by asking them to figure out the best form of ownership under those circumstances.
- Post videos on the ownership structure in the course Canvas site.
- Engage the students more on zoom

5. Next assessment of this SLO: Not decided yet.

Business Management A.A.S.

Narrative comparison of current results to previous results: The current results have partially improved from the previous results (Spring 2021). In comparison:

- SLO Criteria "know": Of these 25 responses, 87% were graded at 70% or better. This figure was 88% in Spring 2021. The target (75%) was met.
- SLO Criteria "understand": Of these 25 responses, 78% were graded at 70% or better. This figure was 88% in Spring 2021. The target (70%) was met.
- SLO Criteria "apply": Of these 25 responses, 78% were graded at 70% or better. This figure was 71% in Spring 2021. The target (65%) was met.

The target (70%) was met for the NOVA Online average. The current result for the online sections shows improvement from the previous result.

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Students will be able to generate a summary report of sample data using graphs and descriptive measures.

Assessment Methods

Course Name/Number: Introduction to Business Statistics (BUS 220)

Direct Measure Used: Short answer questions. Criteria –

d) Clarity and conciseness: Answer the question, succinct, appropriate complexity
e) Development of Ideas: Uses of statistics/data
f) Technical writing skills: Spelling, capitalization, punctuation, grammar, general proofreading

Provide Rubric Criteria or Question Concepts: (attach Rubric): See Appendix

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
NOVA Online	2	2	19
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**19**

Note: Data are collected from all BUS 220 sections. These are population data.

Assessment Results

Semester/year data collected: Spring 2022

Target: See the Table below.

SLO Criteria	Will earn Satisfactory or Exemplary
Clarity and conciseness	80% or more
Development of Ideas	80% or more
Technical writing skills	80% or more

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
All students assessed (weighted average)	Reported by CLO criteria	Reported by CLO criteria
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	See Table below	See Table below

Results by CLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. Clarity and conciseness	89% scored satisfactory or exemplary	80% scored satisfactory or exemplary

Use of Results

1. Changes put in place since previous assessment to improve student learning: This CLO was last assessed in Spring 2019. In general, the Discipline Group was satisfied with the results. The Group recommended spending more time teaching numerical measures to improve the score for the CLO *criteria development of ideas*.

2. Impact of changes on current results: The current result (- 3%) has not improved from the previous result for the CLO *criteria development of ideas*.

3. According to current results, areas needing improvement: For the CLO criteria *development of ideas*, only 70% were graded satisfactory or exemplary. This figure was 73% in Spring 2019. The target (80%) was missed for both years.

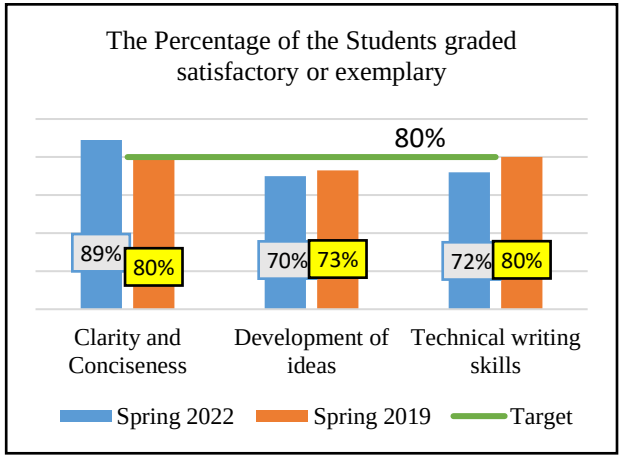
4. Based on current results, new actions to improve student learning: The Discipline Group agreed to the following actions to improve results beginning Spring 2023:

- Spend more time teaching numerical measures
- Spend more time explaining when to use mean or median as measure of the central tendency
- Use interactive classroom exercises

2.	Development of Ideas	70% scored satisfactory or exemplary	73% scored satisfactory or exemplary
3.	Technical writing skills	72% scored satisfactory or exemplary	80% scored satisfactory or exemplary

Target Met: [ ] Yes [ ] No [×] Partially – The target is met for CLO criteria: clarity and conciseness. The target is 80% of the students will earn satisfactory or Exemplary. The actual result is 89% (i.e., 56% + 33%). The target is missed for other two CLO criteria: development of ideas and technical writing skills.

Narrative comparison of current results to previous results: In comparison –



SLO/CLO Criteria "Clarity and conciseness": Of these 19 responses, 89% were graded satisfactory or exemplary. This figure was 80% in Spring 2019. The target (80%) was met.

SLO/CLO Criteria "development of ideas": Of these 19 responses, only 70% were graded satisfactory or exemplary. This figure was 73% in Spring 2019. The target (80%) was not met. The target for this CLO Criteria was missed both in 2019 and 2022.

SLO/CLO Criteria "technical writing skills": Of these 19 responses, only 72% were graded satisfactory or

- Encourage students to use Canvas Online Tutoring: English writing skills

5. Next assessment of this CLO: Not decided yet.

Business Management A.A.S.

exemplary. This figure was 80% in Spring 2019. The target (80%) was not met.

Program Goal on Graduation: To encourage students to complete the degree.

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: COLLEGE-GRADUATES-BY-SPECIALIZATION-AND-AWARD-TYPE-2017-18-to-2021-22.pdf (nvcc.edu)

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: The program is seeking an increase of 2% year to year.

Results for Past 5 Academic Years for Business Management A.A.S. only:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	45	-24%
2020-21	59	28%
2019-20	46	0%
2018-19	46	31%
2017-18	35	N/A

Target Met: [ ] Yes [×] No [ ] Partially - From 2020 - 2021 to 2021-2022, the percentage change is -24%. The target of 2% increase was not met.

Current Results Improved vs. Previous Results: [ ] Yes [×] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: From 2019-2020 to 2020-2021, the percentage of Business Management A.A.S. graduates increased by 28%. But from 2020-2021 to 2021-2022, this figure has decreased by 24%. This exact reason of this big drop is not known.

Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes, it does. The 2021-21 graduation total surpasses the VCCS productivity standards from the previous column.

Use of Results

1. Changes put in place since previous assessment to improve graduation results: The Discipline Group has formed a committee to review the Business Management A.A.S program.

2. Impact of changes on current results: The committee has completed its tasks and sent the report to the OIR for final review.

3. According to current results, areas needing improvement: The Discipline Group is unable to pinpoint the exact reason for this decline in graduation rates.

4. Based on the results, new actions to improve graduation/productivity results: In the past, a small number of students had hard time taking the right courses in their last semester. The Discipline Group recommends scheduling the courses in advance (at least 1 year in advance) so that students are aware when they will be offered. In rare cases, if the student cannot find the required course in the last semester, the course substitution option should be explored.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To increase the number of students program placed in the Business Management, A.A.S. program.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: Fact-Book-2017-2022.pdf (nvcc.edu)

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)

Assessment Results

Target: The program is seeking an increase of 2% year to year.

Results for Past 5 Academic Years – Headcount for Business Management A.A.S. only:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
Fall 2021	571	+2%
Fall 2020	561	+5%

Use of Results

1. Changes put in place since previous assessment to improve program placement results: The Discipline Group has formed a committee to review the Business Management A.A.S program.

2. Impact of changes on current results: The committee has completed its tasks and sent the report to the OIR for final review.

Business Management A.A.S.

Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Fall 2019	533	-15%
Fall 2018	624	-17%
Fall 2017	753	N/A

Target Met for Headcount: [×] Yes [ ] No [ ] Partially - From Fall 2020 to Fall 2021, the percentage of Business Management A.A.S. students increased by 2%. The target of 2% increase was met.

Current Results Improved vs. Previous Results: [ ] Yes [×] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: From Fall 2019 to Fall 2020, the percentage of Business Management A.A.S. students increased by 5%. From Fall 2020 to Fall 2021, the percentage of Business Management A.A.S. students increased by 2%.

Results for Past 5 Academic Years – Business Management A.A.S. FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	311	5%
2019-20	295	-7%
2018-19	318	-13%
2017-18	364	12%
2016-17	326	N/A

Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes, it does. The 2021-21 FTES exceed the VCCS productivity standards from the previous column.

3. According to current results, areas needing improvement: The Discipline Group is satisfied with the recent increase in the number of program-placed students.

4. Based on the results, new actions to improve program placement/productivity: The Discipline Group noted that the A.A.S. Business Management Program is susceptible to changes in the labor market in that demand is greatest when unemployment is high. The Discipline Group also believes that there has been a shift toward IT related fields. The Business Management program review committee is exploring to add a Global Business Certificate within the program. The Group is also looking at better ways to communicate the value of an A.A.S. Business Management degree to both employers and employees in the area.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Cinema, A.F.A.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: [This curriculum is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree program in the Visual Arts with a major in cinema, film, or media production

Student Learning Outcome 1: Develop and produce original creative and time-based content

Assessment Methods

Course Name/Number: PHT 274: Digital Editing and Post-Production

Direct Measure Used: Editing Project Rubric

SLO/Rubric Criteria or Question Concepts:

1.	(basic editing technique)
2.	(digital enhancements)
3.	(creative/coherent content)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	17
AN	0	0	0
MA	0	0	0
ME	0	0	0
LO	0	0	0
WO	0	0	0
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	1	1	17

Assessment Results

Semester/year data collected: Fall 2021

Target: Mean score of 70% or better

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results N/A
All students assessed (weighted average)	81	N/A
Synchronous hybrid (remote) average	81	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Basic Editing Technique	83	N/A
2. Digital Enhancements	84	N/A
3. Creative Content	91	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target: Students met targets in all three categories. Full data was collected for the one section of the course was offered at the college resulting in a sample size. All SLOS for the Cinema, A.F.A. were disseminated, collected and analyzed by the Discipline Chair, administered by the faculty; the results

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first SLO assessment of this course since the implementation of the Cinema AFA program.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: The changes in software availability of the college may further impact the results of any assessment that is software specific. The Adobe Premiere/Final Cut Pro license has not been scheduled for renewal for the college and students and instructors will need to find a common and cost effective alternative. The rubric will need to be altered to reflect any tools not available in this new software that were included in the previous software. More emphasis will be placed on the foundational aspects of these areas in the beginning weeks of the course beginning in Fall 2022.

4.Based on current results, new actions to improve student learning: At the next assessment data may need to be assessed regarding students' successful completion of ART 160 to assess preparedness for course basics. The target date for the assessment will be Spring 2025.

5. Next assessment of this SLO: Scheduled for Spring 2023.

	are reviewed by the discipline group. All questions were above the target goal of 70%. **Areas where students did NOT meet the target:** No results were below the target goal. Students scored lower in Basic Editing Technique and Digital Enhancements criteria.	

Student Learning Outcome 2: Critically evaluate film scholarship using basic research methods.

Assessment Methods

Course Name/Number: CST 152: Film Appreciation II

Direct Measure Used: Quiz

SLO/Rubric Criteria or Question Concepts: .

1.	(mise-en-scene)
2.	(history of film movements)
3.	(editing technique)
4.	(US film history)
5.	(feminist film movement)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	0	0
AN	0	0	0
MA	0	0	0
ME	0	0	0
LO	0	0	0
WO	1	1	11
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	2	1	11

Assessment Results

Semester/year data collected: Fall 2021

Target: Mean score of 70% or better

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2019
All students assessed (weighted average)	81.2	78
Synchronous hybrid (remote) average	81.2	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2019
1. Mise-en-scene	74	68
2. Film Movements	91	91
3. Editing technique	88	77
4. US Film History	81	88
5. Feminist Film Movement	72	61

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The majority of scores improved between assessment years. There were marked increases in success in answering questions regarding editing technique and feminist film movement. The percentage of correct answers regarding film movements remained consistent, but this percentage remains at a high success rate. There was a decreases in success rate of the

Use of Results

1. Changes put in place since previous assessment to improve student learning: The previous assessment was a quiz distributed in an in-class session. The quiz was not open note and students could not collaborate. The current assessment was distributed during a Zoom session in a synchronous course. In this, the instructor has no control over students' access to course materials or preventing collaboration. Both the previous and current assessments were not included in final course grade totals, this may not have deterred students from wanting to perform the best as possible.

2. Impact of changes on current results: There have been positive results on the majority of criteria assessed. The transition to synchronous online learning may have had a positive impact on these results. However, it is unclear whether these gains would be consistent in on-campus courses.

3. According to current results, areas needing improvement: The assessment must be distributed to more sections and to assess a larger student population. The college offerings of this course are limited, but assessment should occur when there are multiple sections being offered and more than one instructor distributing the assessment. Further exploration of prominent, international female filmmakers will need to be implanted in the course materials. Additional readings and other learning materials will be explored in consideration for building student knowledge of elements of mise-en-scene (including the impact of art direction and production design) and its impact on the visual aesthetic.

4. Based on current results, new actions to improve student learning: More enhancement of the course material on US film history is needed to restore the high performance rate of the previous assessment. This course material will be introduced in Fall 2022.

question regarding US film history, but this percentage remained above the target goal of 70%.

Areas where students met the target: Students met the target goal for all five criteria: mise-en-scene, film movements, editing technique, US film history, and feminist film movement.

Areas where students did NOT meet the target: No results were below the target goal.

5. Next assessment of this SLO: Fall 2022

Student Learning Outcome 3: Integrate knowledge of professional industry standards and practices.

Assessment Methods

Course Name/Number: CST 290: Cinema Internship

Direct Measure Used: Rubric for Journal Evaluation

SLO/Rubric Criteria or Question Concepts:

1.	(Goals and Objectives)
2.	(Experience and Skills)
3.	(Successes and Failures)
4.	(Professional Development)
5.	(Reflection)
6.	(Grammar and Mechanics)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	0	0	0
AN	0	0	0
MA	0	0	0
ME	0	0	0
LO	0	0	0
WO	1	1	19
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	1	1	19

Assessment Results

Semester/year data collected: Spring 2022

Target: Mean score of 70% or better

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results N/A
All students assessed (weighted average)	73	N/A
Synchronous hybrid (remote) average	73	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results N/A
1. Goals and Objectives	74	N/A
2. Experience and Skills	73.5	N/A
3. Successes and Failures	78.5	N/A
4. Professional Development	71	N/A
5. Reflection	70	N/A
6. Grammar and Mechanics	71	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: Each criterion resulted slightly above the target goal of 70%. The highest success rate was in the area of

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first SLO assessment of this course since the implementation of the Cinema AFA program.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: There is a need for further development and implementing of writing tools. All areas scored above or at the target goal, but continual improvement will be sought.

4. Based on current results, new actions to improve student learning: The discipline would benefit from conversations with ENG faculty on developing tools which will improve the writing skills of Cinema students. Writing workshops may be organized by the department in coordination with willing ENG faculty members or other specialists during the 2022-2023 academic year.

5. Next assessment of this SLO: Spring 2024

assessment of the students' perceived successes and failure of the internship position. The lowest scoring criteria was the students' reflection on the overall experience of the internship. While lower, this assessment still yielded results which meet the target goal of 70%.

Areas where students met the target: All results met the target goal of 70% with the highest result of 78.5% and the lowest result of 70%.

Areas where students did NOT meet the target: No results were below the target goal.

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Integrate knowledge of professional industry standards and practices.

Assessment Methods

Course Name/Number: CST 298

Direct Measure Used: Resume rubric

CLO/Rubric Criteria or Question Concepts:

1.	(Purpose and Rationale)
2.	(Focus and Reflection of Skills)
3.	(Proposed Contribution)
4.	(Manageability and Estimates)
5.	(Mechanics)
6.	(Objective Match)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	0	0	0
AN	0	0	0
MA	0	0	0
ME	0	0	0
LO	0	0	0
WO	1	1	17
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total			17

Assessment Results

Semester/year data collected: Spring 2022

Target: Mean score of 70% or better

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
All students assessed (weighted average)	83.47	86.86
On-campus average	N/A	86.86
Synchronous hybrid (remote) average	83.47	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by CLO Criteria:

[ ] Average/Mean Score per criteria or

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Purpose and rationale	95.51	95.75
2. Focus and refection skills	93.14	92.51
3. Proposed contribution	90.14	89.76
4. Manageability and estimates	78.51	71.59
5. Mechanics	73.76	84.67
6. Objective match	71.76	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:

Use of Results

1. Changes put in place since previous assessment to improve student learning: A new criteria was added to the previous assessment. This criterion was "Objective Match". One area lacking in the previous incarnation of the film project proposal was matching the assignment to real-world application. This included options for students to cater the proposal for a senior project for a transfer program, a project for a specific area employer, or a project for a short independent film. These changes were made to reflect the evolving interests of students who want the flexibility of choosing to transfer for a four-year degree or immediately enter the workforce. The criteria of manageability and estimates had a lower success percentage than the other areas in the previous assessment. Discussions and preliminary assignments to increase knowledge of managed and realistic expectations of short films budgets and production timelines were implemented into the course.

2. Impact of changes on current results: The newly implemented discussions and preliminary assignments on creating manageable production timelines and resulted in a slight increase in success rates from the previous assessment.

3. According to current results, areas needing improvement: Continual improvement is always a goal for the program. The majority of the areas for assessment saw slight increases in success rates. However, many of these areas only saw slightly marginal increases. The one area criteria that has a decrease is

[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: The results yielded marginal increases for majority of the criteria (1-4, 6). These increases were only slight on an already high success rate in the previous assessment. There was one decrease in success rate for one criterion (5). The decline was substantial but remained above the target goal of 70%.

Areas where students met the target: Students meet the target goal of 70% or above for all criteria.

Areas where students did NOT meet the target: N/A

in mechanics. The students' grammar and sentence structure had many more problematic issues in this collection for assessment than in the past. Such issues have been a common point of discussion for faculty both inside and outside of the discipline as a current challenge in the education environment.

4. Based on current results, new actions to improve student learning: The discipline group will discuss ways to combat these challenges. Discussions with ENG faculty and attending workshops on best practices for writing within the discipline may be beneficial.

5. Next assessment of this CLO: Spring 2024

Program Goal on Graduation: Program Graduation totals will increase by 25 percent

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: To increase program graduation by 25 percent

Results for Past 5 Academic Years - Graduation:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	42	50%
2020-21	28	250%
2019-20	8	N/A
2018-19	N/A*	N/A
2017-18	N/A	N/A
2016-17	N/A	N/A

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2020-21	211	17.58
2019-20	256	9.87
2018-19	233	79.23
2017-18	130	N/A
2016-17	N/A	N/A

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: There were continual increases in headcount and FTES for the past two years. There has been a marked decrease in both FTES and Headcount

1. Changes put in place since previous assessment to improve program placement results: Changes to enhance recruitment were proposed, but barriers still remain with visiting area high schools and holding large scale events. Advising lists were printed and advisees were to be distributed among the full-time faculty. However, the academic advising model has not been decided upon at the college level. In lieu of a completed advising model and a return to coordinated recruitment events at the high schools, the Cinema faculty will organize and deliver group advising sessions for majors. Additionally, the Cinema faculty will continue to work with local high schools in gaining access and participating in college recruitment and employment fairs.

2. Impact of changes on current results: Alternative marketing through the NOVArts website did offer some level of recruiting materials and resulted in many inquires about the program.

3. According to current results, areas needing improvement: Both FTEs and Headcounts need to be increased and brought back to or exceed the previous levels.

4. Based on the results, new actions to improve program placement/productivity: Traditional recruitment methods of visiting high schools and large, public events have been a continual challenge. The discipline group is working at the campus and pathway levels to resurrect these practices and continue to raise awareness of the program for potential students.

totals from the gains in previous years. However, there has been a significant increase in the graduation rate.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	133.9	26.06
2019-20	181.1	13.4
2018-19	159.7	92.18
2017-18	83.1	831
2016-17	N/A	N/A

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
The FTES productivity does meet the VCCS standards of productivity. The total number of FTES exceeds the required minimum of 24 students by 457.91%

Additional advising materials will be created and distributed to student services and made available for advisors throughout the institution. Purposeful and strategic scheduling of courses and course modalities will be investigated and implemented.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To increase number of program-placed students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To increase number of program-placed students

Results for Past 5 Academic Years - Graduation:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	42	50%
2020-21	28	250%
2019-20	8	N/A
2018-19	N/A*	N/A
2017-18	N/A	N/A
2016-17	N/A	N/A

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2022-21	211	17.58
2019-20	256	9.87
2018-19	233	79.23
2017-18	130	N/A
2016-17	N/A	N/A

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve program placement results: Changes to enhance recruitment were proposed, but barriers still remain with visiting area high schools and holding large scale events. Advising lists were printed and advisees were to be distributed among the full-time faculty. However, the academic advising model has not been decided upon at the college level. In lieu of a completed advising model and a return to coordinated recruitment events at the high schools, the Cinema faculty will organize and deliver group advising sessions for majors. Additionally, the Cinema faculty will continue to work with local high schools in gaining access and participating in college recruitment and employment fairs.
2. Impact of changes on current results: Alternative marketing through the NOVArts website did offer some level of recruiting materials and resulted in many inquires about the program.

3. According to current results, areas needing improvement: Both FTEs and Headcounts need to be increased and brought back to or exceed the previous levels.

4. Based on the results, new actions to improve program placement/productivity: Traditional

Narrative comparison of current results to previous year's results: There were continual increases in headcount and FTES for the past two years. There has been a marked decrease in both FTES and Headcount totals from the gains in previous years. However, there has been a significant increase in the graduation rate.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	133.9	26.06
2019-20	181.1	13.4
2018-19	159.7	92.18
2017-18	83.1	831
2016-17	N/A	N/A

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
The FTES productivity does meet the VCCS standards of productivity. The total number of FTES exceeds the required minimum of 24 students by 457.91%

recruitment methods of visiting high schools and large, public events have been a continual challenge. The discipline group is working at the campus and pathway levels to resurrect these practices and continue to raise awareness of the program for potential students. Additional advising materials will be created and distributed to student services and made available for advisors throughout the institution. Purposeful and strategic scheduling of courses and course modalities will be investigated and implemented.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Computer Science, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed primarily for students who wish to transfer to a four-year college or university to complete a baccalaureate degree in computer science. The curriculum emphasizes the study of the science of computing and the use of computing in a scientific setting.

Student Learning Outcome 1: Demonstrate techniques for problem analysis and algorithm design.

Assessment Methods

Course Name/Number:
CSC 200 – Introduction to Computer Science
Direct Measure Used: Assignment/programming project contains five problems for which students are required to find solution, design an algorithm that models the solution, using flowchart or pseudocode, implement the solution in Java, and test it with various data sets. Students are required to submit the source files in Java, along with a document containing the algorithms along with snapshots of the running programs with the various given data sets.

SLO/Rubric Criteria or Question Concepts:
Demonstrate techniques for problem analysis and algorithm design.

1.	Define the input(s) required
2.	Define the output(s) required
3.	Meaningful variable names are used
4.	Proper description of the main processing task require
5.	Create a detailed solution using flowcharts or Pseudocode
6.	Usage of appropriate control structures
7.	Choose appropriate test data
8.	Show expected results
9.	Verify the accuracy of the algorithm by hand-checking
10.	Good overall design using top-down and/or bottom-up design techniques

The SLO assessment was done using 10 criteria for which the results were collected.

Other Method (if used): None

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL		1	21
AN		6	107

Assessment Results

Semester/year data collected: Spring 2022
Target: To achieve an average of 80% competency across all students assessed.
Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	84	83
On-campus average	NA	89
NOVA Online average	NA	77

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Define the input(s) required	80	77
2. Define the output(s) required	89	93
3. Meaningful variable names are used	78	80
4. Proper description of the main processing task requires.	85	77
5. Create a detailed solution using flowcharts or Pseudocode	80	81
6. Usage of appropriate control structures	86	77
7. Choose appropriate test data	86	89
8. Show expected results	93	92
9. Verify the accuracy of the algorithm by hand-checking	78	68
10. Good overall design using top-down and/or bottom-up design techniques	85	86

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since the previous assessment to improve student learning:
There have been attempts to increase motivation for faculty members to submit the results of assessments at the end of each semester for all sections they teach. However, the communication channel has not worked properly, and there have not been any reinforcement measures in place.

2. Impact of changes on current results:
The assessment results come from a lower number of sections, and instructors did not specify the delivery method.

However, the overall results of SLO assessment are almost the same as the previous one, with a slight increase in a few criteria, and an overall result higher than the previous one.

3. According to current results, areas needing improvement:
There is a need for improvement in the process of collecting data, and there should be a mechanism of collection in which instructors are not required to take to many actions in this direction.

4. Based on current results, new actions to improve student learning:
Starting with Fall 2022, the assessment has a completely new set of SLOs, and there will be done on courses that are fully redesigned, and aligned with VCCS requirements, according to Transfer VA.

5. Next assessment of this SLO:
This SLO will not be assessed in the current format. There will be equivalent SLO based on new courses. The course equivalent with CSC 200 is CSC 221, and the assessment for the new course is scheduled for Spring 2023.

MA		1	14
LO		1	22
WO		1	11
NOVA Online		0	0
Off-Site Dual Enrollment		0	0
Total		10	175

Narrative comparison of current results to previous results:

The current results have a 1 percent increase overall, and some changes for some criteria. There is an increase of 8% for criterion 4, referring to the description of the main processing task, as well as an increase of 9% for criterion 6, regarding the use of control structures.

Also, an important increase, of 10% was registered for criterion 9, which refers to verifying the accuracy of the algorithm by hand-checking it.

Areas where students met the target:

Students met the target in all areas, with no criterion scoring under 75%, and only two scoring under 80%.

The criterion with lowest score was verifying the accuracy of the algorithm by hand-checking, where students were students were less prepared to show how they performed this action. Also, the areas with less than 80% performance were related to correct elicitation of requirements, the description of the requirements in the main method, and in using the appropriate control structures.

These issues will be addressed by including more examples in the sessions dedicated to control structures, as well as the algorithms for the application main method.

Areas where students did NOT meet the target:
None.

Student Learning Outcome 2: Write computer programs using Object-Oriented programming features

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: CSC 201 – Computer Science I **Direct Measure Used**: Assignment/programming project in which students design a class that includes attributes and the methods needed to support object oriented programming such as constructors, sets, gets, and a method to print out all attributes; illustrate the use of this associated with the current object, and demonstrate the use of OOP properties, such as abstraction, encapsulation, polymorphism, and inheritance. **SLO/Rubric Criteria or Question Concepts:** Write computer programs using	**Semester/year data collected:** Spring 2022 **Target: To** achieve an average of 80% competency across all students assessed. **Results by Modality:** Overall Average/Mean Scores	**1. Changes put in place since the previous assessment to improve student learning:** Even though the data collection was put under faculty tasks, there was no data collected for online and Dual Enrollment sections, and faculty members did not specify the section number, or the delivery method. This makes the current report weaker because it does not contain a comparison of various delivery methods.

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	88	95
On-campus average	88	96
NOVA Online average	n/a	89

Object-Oriented programming features

1.	Imports required packages
2.	Program logic is well documented
3.	Class(es) are properly defined
4.	Objects are declared and instantiated
5.	Appropriate use of constructors and/or polymorphism
6.	Appropriate use of inheritance or interfaces
7.	Functions/Methods are used appropriately with overloading or overriding, as needed
8.	The program exhibits good object-oriented programming style
	9.The program executes according to specification

Other Method (if used): None

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL		3	69
AN		3	70
MA		1	14
LO		4	73
WO		1	11
NOVA Online		0	0
Off-Site Dual Enrollment		0	0
Total		12	237

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts		Current Results Semester Year	Previous Results Semester Year
1.	Imports required packages	93	98
2.	Program logic is well documented	91	95
3.	Class(es) are properly defined	91	96
4.	Objects are declared and instantiated	91	96
5.	Appropriate use of constructors and/or polymorphism	85	96
6.	Appropriate use of inheritance or interfaces	86	92
7.	Functions/Methods are used appropriately with overloading or overriding, as needed	86	93
8.	The program exhibits good object oriented programming style	86	95
9.	The program executes according to specification	85	95

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
The results for current assessment cycle are slightly lower than past ones, but they meet the target for each criterion. The difference might come from the differences existing among the assessment item, given that each instructor chooses the program students are assessed on.

Areas where students met the target:
Students met target in all area of assessment.

Areas where students did NOT meet the target:
None

This issue will be revisited, and the assessment will be distributed in a simpler way, so faculty members can just send an email to their students.

The project used in the assessment was not unique for all sections, which may determine the level of data, pushing it up or down depending on the difficulty of the project.

2. Impact of changes on current results:
The overall results, in terms of the number of students and sections of the assessment, was similar to the previous assessment, with slightly lower results, but still all of them 85% or lower, whereas in the previous assessment, the numbers were all higher that 90%

3. According to current results, areas needing improvement:
The data collection mechanism must be improved, and there should be much more clear evidence related to the delivery method and the actual project or assessment item. These items will be implemented in the next assessment cycle which will be completely new for Computer Science.

4. Based on current results, new actions to improve student learning:
Starting Fall 2022, CSC program has a new curriculum, with a completely new set of SLOs. The next assessment will be done on courses that are fully redesigned, and aligned with VCCS requirements, according to Transfer VA.

5. Next assessment of this SLO:
This SLO will not be assessed in the current format. There will be equivalent SLO based on new courses. The course equivalent with CSC 201 is CSC 222, and the assessment for the new course is scheduled for Fall 2023.

Student Learning Outcome 3: Demonstrate critical thinking by applying appropriate data structures and Abstract Data Types (ADTs).

Assessment Methods	Assessment Results	Use of Results

Computer Science, A.S.

Course Name/Number: CSC 202 – Computer Science II

Direct Measure Used: Assignment/programming project in which students solve problems using various abstract data structures – ADTs – and implement solutions using the Java provided classes or create specific designed classes using arrays or link-based structures. Classes designed must throw Java exceptions from within an ADT and catch them within an application that uses the ADT.

SLO/Rubric Criteria or Question Concepts:
Demonstrate critical thinking by applying appropriate data structures and Abstract Data Types (ADTs).

1.	Student selects an appropriate data structure needed to solve that problem.
2.	Student selects an appropriate implementation strategy that supports the chosen data structure/ADT in an efficient manner.
3.	Student demonstrates the ability to select/write meaningful algorithms that efficiently explain the logic of the chosen data structure/ADT
4.	Student demonstrates the ability to implement their chosen algorithms into a high-level language.

Other Method (if used): None
Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL		1	20
AN		3	54
LO		4	62
WO		1	11
NOVA Online		0	0
Off-Site Dual Enrollment		0	0
Total		9	151

Semester/year data collected: Spring 2022
Target: To achieve an average of 80% competency across all students assessed.
Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	82	84

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Student selects an appropriate data structure needed to solve that problem.	77	98
2. Student selects an appropriate implementation strategy that supports the chosen data structure/ADT in an efficient manner.	93	82
3. Student demonstrates the ability to select/write meaningful algorithms that efficiently explain the logic of the chosen data structure/ADT	80	81
4. Student demonstrates the ability to implement their chosen algorithms into a high-level language.	77	84

Target Met: [ ] Yes [ ] No [x] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous results:
The overall results, in terms of the number of students and sections of the assessment, is lower than the previous assessment, except for one area. There are two criteria where students did not meet that target, and they will be the object of analysis moving forward. The overall result is 2% lower than the one recorded in the last assessment.

1. Changes put in place since the previous assessment to improve student learning:
Even though the data collection was put under faculty tasks, there was no data collected for online and Dual Enrollment sections, and faculty members did not specify the section number, or the delivery method. This makes the current report weaker because it does not contain a comparison of various delivery methods.

2. Impact of changes on current results:
There is a need for improvement in data collection, and in the way the assessment is given to students. The CSC group is currently working on creating unique assessment items that would evaluate the students in a more objective way, so that there are no differences given by the way each instructor is measuring performance.

3. According to current results, areas needing improvement:
The need of improvement is for criterion 1 and 4, with a clear increase of performance for criterion 2.

4. Based on current results, new actions to improve student learning:
Starting with Fall 2022, the assessment has a completely new set of SLOs, and there will be done on courses that are fully redesigned, and aligned with VCCS requirements, according to Transfer VA.

5. Next assessment of this SLO:
This SLO will not be assessed in the current format. There will be equivalent SLO based on new courses. The course equivalent with CSC 202 is CSC 223, and the assessment for the new course is scheduled for Spring 2024.

Computer Science, A.S.

Areas where students met the target:
Areas where students met the target are 2 and 3.

Areas where students did NOT meet the target:
The need of improvement is for criterion 1 and 4

Core Learning Outcome: **[ ] Civic Engagement** **[x] Written Communication**
Operationalized Definition: Written Communication: Document the design used to implement an Abstract Data Type (ADT)

Assessment Methods

Course Name/Number: CSC 202

Direct Measure Used: Assignment/programming: students will use written communication skills to clearly document the key components in the design and implementation of an Abstract Data Type.

CLO/Rubric Criteria or Question Concepts:

1. Document ADT selection
   Student demonstrates the ability to clearly articulate why a particular ADT is chosen and why they implemented it in with a particular implementation.
2. Document algorithms used in the implementation of the ADT
   Student demonstrates the ability write clear algorithms that can be understood by non-computer scientists
3. Document using the Unified Modeling Language (UML) classes needed to implement ADT
   Student demonstrates the ability to correctly capture class design using the UML format

Other Method (if used): None
Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL		1	24
AN		2	20
LO		1	10
NOVA Online		0	0
Off-Site Dual Enrollment		0	0
Total		3	54

Assessment Results

Semester/year data collected: Spring 2022

Target: To achieve an average of 80% competency across all students assessed.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	86	n/a
On-campus average	86	n/a

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Document ADT selection	86	
2. Document algorithms used in the implementation of the ADT	85	
3. Document using the Unified Modeling Language (UML) classes needed to implement ADT	86	

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:
This CLO has not been previously assessed

Areas where students met the target:
All areas

Areas where students did NOT meet the target: None

Use of Results

1. **Changes put in place since previous assessment to improve student learning:**
This CLO has not been previously assessed

2. **Impact of changes on current results:**
This CLO has not been previously assessed

3. **According to current results, areas needing improvement:**
The overall results meet the criteria. However, the responses should come from all delivery methods, and from more classes. Therefore, the improvement should be in the area of data collection.

4. **Based on current results, new actions to improve student learning:**
Starting in Fall 2022, all courses will be redesigned, and the activities will include actions related to writing across the curriculum, with a clear goal of improving writing communication skills for students enrolled in Computer Science.
Another action is to streamline the data collection, and include all sections, from all delivery methods.

5. **Next assessment of this CLO:**
This CLO will be assessed in Spring 2028.

Computer Science, A.S.

Program Goal on Graduation: Program graduation totals will increase by 4% every year.

Assessment Method

Short description of method(s) and/or source of data:
Graduation data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html
New data related to graduation and program placement were available in September 2022

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Program graduation totals will increase by an annual average of 4%.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	294	-0.67
2020-21	296	19.84
2019-20	247	-3.80
2018-19	257	24.15
2017-18	207	----

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
The graduation numbers are very good, in spite of a very small decrease in 2022 vs 2021 – 2 students, -0.67%. The current programs, Transfer VA and ADVANCE should bring a positive contribution to the graduation and transfer rates.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

Use of Results

1. **Changes put in place since previous assessment to improve graduation results:**
Transfer VA has been implemented in Fall 2022, and we expect to see results at the end of two academic years, which means in the cycle 2024-2025, when students that have just started the program will graduate.

2. **Impact of changes on current results:**
Results will be available in 2024-2025 analysis, as result of implementing Transfer VA and ADVANCE programs.

3. **According to current results, areas needing improvement:**
The 294 graduates in 2021-2022 represent an increase of 42.03% compared with the 207 graduates in 2017-2018. Even though the annual variation fluctuates, over the four years, the average increase of 10.51%.

4. **Based on the results, new actions to improve graduation/productivity results:**
Even though the results are very good, we thrive to improve our courses, as well as the advising process for students in Computer Science, so that they graduate in time, with good results, and they choose appropriate institutions to transfer.

5. **Next assessment of this goal:**
Assessed annually.

Program Goal on Program-Placed Students: Increase the number of students program placed in the A.S. in Computer Science.

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design,	18

Assessment Results

Target:

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	1,815	-4.97
2020-21	1,910	-2.20
2019-20	1,953	-3.93
2018-19	2,033	1.09
2017-18	2,011	----

Target Met for Headcount: [ ] Yes [x] No [ ] Partially

Use of Results

1. **Changes put in place since previous assessment to improve program placement results:**
The enrollment went down by 9.74% during last four years, which can be explained by the increase of offerings in IT and Engineering fields, which may have attracted students otherwise going to Computer Science. There are no current changes put in place to increase the overall enrollment.

2. **Impact of changes on current results:**
There were no changes put in place.

Computer Science, A.S.

Public Service Technologies	
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Current Results Improved vs. Previous Results:
[ ] Yes x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
While the percentage of students program placed in the AS Computer Science degree has decreased, it has decreased less than the overall decrease in AS degree program placements. These decreases appear to be related to the overall decrease in general college enrollment.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	1,387	-1.49
2020-21	1,408	-3.23
2019-20	1,455	-0.14
2018-19	1,457	6.43
2017-18	1,369	----

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain:

3. According to current results, areas needing improvement: N/A

4. Based on the results, new actions to improve program placement/productivity:
Given that Transfer VA has just been activated in Fall 2022, there are realistic expectation for the enrollment to increase because students have a clear path for transfer, and they will more motivated to start at NOVA with direct pathway to continue their studies in 4-year institutions.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Construction Management Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to qualify personnel in both engineering technology and management for employment in many areas of a construction firm. Job opportunities include engineering aide, construction project manager, construction supervisor, estimator, and facilities planning and supervision.

Student Learning Outcome 1: Students will communicate effectively consistent with career requirements of the construction management industry (SLO #1)

Assessment Methods

Course Name/Number: Construction Management I, BLD 101

Direct Measure Used: Project Presentation- Students are tasked with presenting an approved topic of the lectured material using the visual medium between 7-10 min.

SLO/Rubric Criteria or Question Concepts:
Students are assessed on the presentation technique and Content coverage. Each worth 100 points

1.	Presentation Technique
2.	Content Coverage

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	105
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	4	4	105

One student missed evaluation.

Assessment Results

Semester/year data collected: Fall 2021 and Spring 2022

Target: Student Average Score is minimum 75%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021 Spring 22	Previous Results Fall 2018 Spring 19
All students assessed (weighted average)	83.5	81
Synchronous hybrid (remote) average	83.5	81

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 Spring 22	Previous Results Fall 2018 Spring 19
1. Presentation Technique	84	74
2. Content Coverage	83	88

Target Met: [☑] Yes [ ] No [ ] Partially
Current Results Improved vs. Previous Results:
[☑] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: SLO was evaluated based on synchronous virtual, no in-person modality. Content coverage average decreased, presentation techniques improved.

Areas where students met the target: Students met both targets. However using virtual technology as a tool, improved presentation. Content coverage slipped slightly, due to lack of time with increased enrollment

Areas where students did NOT meet the target: N/A

Continuous Improvement

1. Changes put in place since previous assessment to improve student learning:
- Pandemic dictated the modality of subject matter presentation.

2. Impact of changes on current results:
- It generally improved results due to the use of video conferencing

3. According to current results, areas needing improvement:
- Students' engagement in the lecture presentation is critical.

4. Based on current results, new actions to improve student learning:
Implemented since Fall 22
- Requiring students' cameras to stay on while providing an additional break.
- Providing the presentation topic earlier
- Engaging students in lecture presentation through posing questions

5. Next assessment of this SLO:
- Fall 2023 Spring 2024

Construction Management Technology, A.A.S.

Student Learning Outcome 2: Students will perform surveying calculations necessary for site layout. (SLO #8

Assessment Methods

Course Name/Number: Surveying I- CIV 171

Direct Measure Used: Conducting various field Project

SLO/Rubric Criteria or Question Concepts:
Students are assessed through conducting the project

1.	Collecting Data and analyzing error
2.	Preparing Data Report

components and its completion with the proper result

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	80
NOVA Online			
Off-Site Dual Enrollment			
Total	4	4	80

Assessment Results

Semester/year data collected: Spring 2021 to Fall 2022

Target: Student Average Score is 78% or more.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2022	Previous Results Spring 2021
All students assessed (weighted average)	88%	85%
On-campus average	90%	87%

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Collecting Data and analyzing error	83	76
2. Preparing Data Report	81	78

Target Met: [**X**] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[**X**] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: There was substantial improvement in the results. Students were able to examine previous collected data and learn from it and make sense of it.

Areas where students met the target:
Data collection - Making sense of errors collected and able to adjust using various math approaches.
Areas where students did NOT meet the target:
N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning:
- Students were given additional Graphics of the projects to conduct the mathematical calculations, both algebraically and in trigonometry

2. Impact of changes on current results:
- Students were able to comprehend more clearly what was covered and explained in lecture.

3. According to current results, areas needing improvement:
- Students struggled with some problems solving including Geometry and trigonometry to correct error collected in the filed but better Algebraically

4. Based on current results, new actions to improve student learning:
Implemented since Fall 22
- Add more problem solving during the lecture portion of the class session and more examples are given to students as teams.NA

5. Next assessment of this SLO:
- Fall 2023 Spring 2024

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Students are required to demonstrate their Written Skills through their course-work assignment, to better communicate with both field as well as office personnel throughout a given project

Assessment Methods

Course Name/Number: Construction Management I, BLD 101

Direct Measure Used:

Assessment Results

Semester/year data collected: Fall 2021 and Spring 2022
Target: Student's average score above 75%
Results by Modality: Overall Average/Mean Scores

Use of Results

1. Changes put in place since previous assessment to improve student learning:
- Different course was used for evaluation

Construction Management Technology, A.A.S.

- Quiz on Chapters 4, Project Delivery Methods Questions 5-7, see attached

Students to demonstrate understanding of content and to communicate, variables influencing each delivery method.

CLO/Rubric Criteria or Question Concepts:
Students to demonstrate understanding of Different method, role of risk recognition and management in areas of delivery method such as;

- Risk Management
- Contractual & Communication protocol
- Checks and balances
- Contractor vs. Owner involvement

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	103
NOVA Online			
Off-Site Dual Enrollment			
Total	4	4	103

Three students missed evaluations.

Results by Modality	Current Results Fall 21/Spring 22	Previous Results Fall 20/Spring 21
All students assessed (weighted average)	103/106- 97%	53%
On-campus average	27/28- 96%	53%
Synchronous hybrid (remote) average	76/78- 97%	53%

Results by CLO Criteria:
78 % Average/Mean Score per criteria or
96 Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 21/Spring 22	Previous Results Fall 18/Spring 19
1. Risk Management	86/103- 83%	83%
2. Contract & Comm. protocol	83/103- 81%	79%
3. Checks & Balances	72/103- 70%	NA
4.Contractor Vs. Owner involvement	79/103- 77%	80%
5.		

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
- Written Communication was assessed in BLD 241 last time.
- Criteria/ Questions used were fewer and slightly different

Areas where students met the target: All Assessed

Areas where students did NOT meet the target: Students performed below target in one of the 4 areas of content coverage, "Checks and Balances"

- Students were given opportunity to incorporate Technical Writing tools to communicate
- Additional criteria was incorporated

2. Impact of changes on current results:
Students most certainly were able to incorporate bulleted description of the pros and cons of the subject matter through the questions asked

3. According to current results, areas needing improvement:
Understanding of the "checks and balances"

4. Based on current results, new actions to improve student learning:
Implemented since Fall 22
- Incorporate in-class discussion regarding the checks and balances in a project delivery method topic, to ensure content understanding and to verify if the lack of clear answer is communication skill short coming

5. Next assessment of this CLO:
Fall 2024/ Spring 25

Program Goal on Graduation: Improve retention and graduation rate

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** SCHEV: 9 **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** Course offering schedule • Curriculum adjustment- • Internship and career opportunities **2. Impact of changes on current results:**

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	13	-19%
2020-21	16	+33

Construction Management Technology, A.A.S.

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2019-20	12	-40%
2018-19	20	+122%
2017-18	9	----

Target Met: [**X**] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [**X**] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
Graduation rate increases every other year due to cohort registration and available course offerings schedule.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes, the average number of graduates have been above the required criteria for the past five years**.** VCCS requires 9 and this programs average has been 14 annually**.**

Increased the average number and each year for five years, over the numbers of 2017-18

3. According to current results, areas needing improvement:
- Continue to offer virtual learning modality, attracting students from across the State
- Curriculum adjustment- To improve course sequencing

4. Based on the results, new actions to improve graduation/productivity results:
- We have submitted and are expecting curriculum revisions this semester
- Engaged industry leaders and employers to incentivize certificate and degree completion

5. Next assessment of this goal: Assessed annually 2023-24

Program Goal on Program-Placed Students: To improve the number of students program placed in Construction

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., and A.A.S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: 13

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	156	-9%
2020-21	171	+23%
2019-20	139	+14%
2018-19	122	+33%
2017-18	92	----

Target Met for Headcount: [ ] Yes [ ] No [x] Partially
- Headcount average increased beyond program and college target over the 5 year period

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
- 2020-21 we experienced a surge in enrollment
- This was due to being prepared for distance and virtual teaching mode, meeting the needs during the pandemics

Use of Results

1. Changes put in place since previous assessment to improve program placement results:
Improved student advising, by engaging students early in the introductory course.

2. Impact of changes on current results:
Students are better informed about the program, course offerings and schedules.

3. According to current results, areas needing improvement:
Improve communication protocols and reach out during virtual classes to have a wider audience.

4. Based on the results, new actions to improve program placement/productivity:

To reach out to the Certificate program graduates and assist with being program placed if not already.

5. Next assessment of this goal: Assessed annually 2024-25

- Numbers have stabilized, however, this year (156/92= +70%) or the 5-year average (136/92=+48%) are both significantly higher than 2017-18

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	88.2	-15%
2020-21	104.1	+34%
2019-20	77.5	0%
2018-19	76.2	+38%
2017-18	55.4	-

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: Yes, the average number of FTEs have been above the required criteria for the past five years**.** VCCS requires 13 and this programs average has been 80.2 annually.

Student Learning Outcome Assessment Report: 2021-2022
Contract Management, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed for individuals who plan to seek employment in contract management positions and for those presently in contract management positions who seek career advancement. The program is designed to create opportunities for positions in contract management for both government agencies and private industry. Instruction includes both the theoretical concepts and the practical applications needed for future success in the contract management field. This will provide a greater understanding of acquisition, life cycle management, and contracting processes. Job opportunities include project manager, procurement analyst, contract administrator, contract specialist, contract negotiator, contract price analyst, and contract termination specialist.

Program Goal on Graduation: Improve the negative decline on the graduation numbers with an increase to 12 students

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To increase the number of graduates to 12 students per year

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	1	-80
2020-21	5	-28
2019-20	7	0
2018-19	7	75
2017-18	4	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The results indicate that the program had a decline in graduates from 2020-21 to 2021-22. Students had some difficulty finding courses as there were cancellations for the courses over the year due to low enrolled courses. The program has not been able to maintain the student enrollment thus far. The target was not met.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: The program is below the standard requirements for the VCCS Associates Degree Productivity standards. The recent 2021-22 results at 1 graduate is not meeting the minimum 12 graduates in the program. Our graduation rate is 8% of what is required, or 92% short based on the baseline 12 graduates required by VCCS.

Use of Results

1. Changes put in place since previous assessment to improve graduation results: Changes are being implemented in the 2022-23 catalog year. There is work being implemented to move Contract Management courses online to secure students that have a busy schedule and to help secure adjunct instructors with a busy schedule.

2. Impact of changes on current results: There is no impact at this moment as the changes being implemented are ongoing.

3. According to current results, areas needing improvement: NOVA Online can offer a much lower enrollment opportunity for courses that traditionally would be cancelled in the synchronous environment. Therefore, we would be able to move students along their degree path even in a low enrolled course.

4. Based on the results, new actions to improve graduation/productivity results: Offer more courses and some exit courses (exit courses will be different for each student as there are no prerequisites for 200 level courses) in the Spring 2023 term.

5. Next assessment of this goal: Assessed annually

Contract Management, A.A.S.

Program Goal on Program-Placed Students: Increase the number of students using the baseline of the VCCS standard of 18 FTE students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To increase the number of FTE students to meet the VCCS standard of 18 FTES

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	15	-6
2020-21	16	-43
2019-20	28	-13
2018-19	32	-26
2017-18	43	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The decrease in the program-placed students to 6% over the last year indicates a minimal decline compared to 2020-21.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	7.1	-18
2020-21	8.7	-40
2019-20	14.5	-22
2018-19	18.5	-19
2017-18	22.7	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain: The numbers are not where we need to be compared to the VCCS target of 18 FTES. The 2021-22 actual FTE numbers are 61% below the VCCS target number. The goal is to improve the numbers by rallying more students to register for the courses and complete the program in the two-year time frame, which can lead to more students designating full time status.

Use of Results

1. Changes put in place since previous assessment to improve program placement results: As indicated above, in 2022-23, there will be an improvement in modality offerings such as NOVA Online.

2. Impact of changes on current results: The impact of the change may see an increase in enrollment increase or possibly stop the hemorrhage of students within the program.

3. According to current results, areas needing improvement: We need to improve course offerings to solidify that students have options within any given semester to take the courses they need to graduate.

4. Based on the results, new actions to improve program placement/productivity: Changing modalities for Contract Management from a synchronous-only modality to options with NOVA Online can significantly change the enrollment by offering options to students that cannot meet at a specific time

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Criminology and Criminal Justice, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to provide a broad foundation that will prepare students to enter any of the varied fields in criminal justice or to prepare for professional advancement.

Student Learning Outcome 1: Demonstrate a basic understanding of law enforcement, the courts, and correctional systems

Assessment Methods

Course Name/Number: Survey of Criminal Justice - ADJ 100

Direct Measure Used: 15 Multiple-Choice Question SLO Quiz

SLO/Rubric Criteria or Question Concepts: The questions were based on basic understanding of law enforcement, court, and correctional concepts.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	2	26
AN	4	3	46
MA	3	3	30
LO	1	1	5
WO	3	3	39
NOVA Online	3	3	23
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**15**	**16**	**169**

Assessment Results

Semester/year data collected: Fall 2021

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results
All students assessed (weighted average)	78.2%	N/A
On-campus average	83%	N/A
Synchronous hybrid (remote) average	80%	N/A
NOVA Online average	71%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. Police	91%
2. Corrections	85%
3. Courts	77%
4. Corrections	79%
5. Corrections	82%
6. Courts	71%
7. Courts	60%
8. Courts	73%
9. Policing	79%
10. Corrections	79%
11. Corrections	71%
12. Corrections	77%
13. Policing	82%
14. Policing	79%
15. Courts	88%
Total	**78.2%**

Target Met: [ ] Yes [ ] No [X] Partially

Areas where students met the target: Students appear to excel in the policing components of the SLO quiz, with question 1 scoring the highest percentage.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not assessed since the 2017-2018 year. The Administration of Justice (ADJ) discipline recently updated the curriculum map. In previous years, one map we used contained only 9 SLOs. The writer has made suggestions on how to delineate SLO data based on majors; for instance, A.A.S. and A.S. majors. Since several courses are optional within the A.A.S. program identifying program placement of each student will be identified in the future. ADJ 100 Survey of Criminal Justice is mandated by all three degrees, but proper delineation will be needed in the future.

2. Impact of changes on current results: Although, ADJ 100 Survey of Criminal Justice has been assessed multiple times in the past the slight change in the SLO outcome description places a renewed emphasis on the three essential components of the criminal justice system.

3. According to current results, areas needing improvement: One test question involving the Supreme Court case of *Madison v. Marbury* scored the lowest on the SLO quiz. This was consistent across all modalities. The writer has suggested placing a renewed emphasis on judicial review. The landmark case helped define the powers of the executive and judicial branches. In the writer's opinion, most instructors do review this aspect within the course perhaps a specific assignment or examination question can be linked to the case to improve future student learning outcome scores involving judicial review.

4. Based on current results, new actions to improve student learning: As mentioned, ADJ 100 Survey of Criminal Justice is mandated by all three degrees, but proper delineation will be needed in the future. The writer has suggested placing a block on the top of each SLO

Areas where students did NOT meet the target: The area which students did not meet the target of 70% involved judicial review of the courts. The discipline chair has made suggestions and will discuss the outcomes among the discipline. Although each instructor does review judicial review, it will be a priority moving forward in the introductory course.

form indicating proper program placement for each student. This will be done in the future for all SLO quizzes.

5. Next assessment of this SLO: Spring 2025

Student Learning Outcome 2: Define generally, domestic and international terrorism, organized crime, classified information, and propriety information.

Assessment Methods

Course Name/Number: Terrorism and Counter-Terrorism - ADJ 234

Direct Measure Used: 15 Multiple-Choice Question SLO Quiz

SLO/Rubric Criteria or Question Concepts: The questions were directly related to international and domestic terrorism along with general concepts of terrorism/counterterrorism and classified information.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	9
MA	1	1	4
WO	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**24**

Assessment Results

Semester/year data collected: Spring 2022

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	85.2%	N/A
On-campus average	88%	N/A
Synchronous hybrid (remote) average	82%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022
1. International Terrorism	83%
2. International Terrorism	83%
3. General Concepts	79%
4. General Concepts	88%
5. General Concepts	83%
6. General Concepts	88%
7. Domestic Terrorism	96%
8. Domestic Terrorism	96%
9. Classified Information	96%
10. International Terrorism	88%
11. International Terrorism	79%
12. International Terrorism	75%
13. Classified Information	73%
14. International Terrorism	88%
15. Classified Information	83%
Total	**85.2%**

Target Met: [X] Yes [ ] No [ ] Partially

Areas where students met the target: Students clearly understood concepts around domestic terrorism.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not assessed since 2017-2018. The Administration of Justice (ADJ) discipline recently updated the curriculum map. In previous years, one map we used contained only 9 SLOs. The writer has made suggestions on how to delineate SLO data based on majors, for instance, A.A.S. and A.S. majors. Since several courses are optional within the A.A.S. program identifying program placement of each student will be a critical component in the future. A box will be placed above each SLO quiz in the future identifying every program placed student. One issue will be double majors i.e., A.S. and A.A.S. students and how they will be counted in the future. However, it should be noted there is a very small minority of students who are double majors.

2. Impact of changes on current results: This is the first time that we are using this course and the assessment method for this SLO. It is the hopes of the writer, the current benchmark data can be used as a baseline for information going forward. Using this data will allow feature assessments to properly delineate between A.S. and A.A.S. majors. As mentioned above, the writer has met multiple times with OIR representatives and believes a solid plan moving forward has been developed.

3. According to current results, areas needing improvement: Although the target score was reached within the SLO, it is the suggestion of the writer to place greater importance on issues associated with classified information. Additional test questions could focus on access to classified information. In addition, the writer will suggest speaking about classified information during multiple modules of the course.

	Specifically, questions addressing lone wolf terrorism within the United States of America. **Areas where students did NOT meet the target:** Although, all questions met the target, questions 12 and 13 scored the lowest among students. Based on the questions, additional emphasis could be placed on access to classified information and issues associated with classified information. The discipline chair will suggest specific questions on upcoming examinations be based on case studies involving classified information in order to improve scores.	**4. Based on current results, new actions to improve student learning:** Overall, the results of the SLO were successful. Perhaps the discipline will consider additional examination questions or modalities of the course in the future. The writer has suggested ADJ 234 Terrorism/Counterterrorism be available via NOVA Online in the future. **5. Next assessment of this SLO:** Spring 2025

Student Learning Outcome 3: Define generally, domestic and international terrorism, organized crime, classified information, and propriety information.

Assessment Methods

Course Name/Number: ADJ 234 Terrorism/Counterterrorism

Direct Measure Used: 1 written essay question from an examination relating to the specific SLO stated above.

SLO/Rubric Criteria or Question Concepts: The questions were directly related to international and domestic terrorism along with general concepts of terrorism/counterterrorism and classified information.

Other Method (if used): The rubric used was based on equal weighted scores involving professional writing and research. The professional writing aspect involved definitions, citing specific examples, and relating the examples to an instance of international terrorism both in the United States and abroad.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN	1	1	9
MA	1		
ME			
LO			
WO	1		
NOVA Online			
Off-Site Dual Enrollment			
Total	3	1	9

Assessment Results

Semester/year data collected: Spring 2022

Target: 70% correct score for each question/total

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	78%	N/A
On-campus average	78%	N/A
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. International Terrorism	78%	N/A
2. General Concepts	78%	N/A
Total	**78%**	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target: Students clearly understood concepts around domestic terrorism.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was not conducted in the typical 15 question multiple-choice SLO quiz due to a misunderstanding by the writer. Since ADJ 212 is not part of the Associate of Science degree the writer had to draw an SLO from the class conducted in the Spring semester. As a result, only one of three classes was assessed in this report. In the future, the writer will select 3 SLOs for the Associate of Science degree and 3 SLOs for the Applied degrees. One of the SLOs for the Applied degree will be different from other SLOs which overlap between the two degrees. In addition, the Administration of Justice (ADJ) discipline plans to develop two different curriculum maps in order to avoid issues in the future. This is the first time this type of SLO is being used but can be compared to others in the future.

2. Impact of changes on current results: This is the first time that we are using this course and the assessment method for this SLO. It is the hopes of the writer, the current benchmark data can be used as a baseline for information going forward. Using this data will allow feature assessments to properly delineate between A.S. and A.A.S. majors. As mentioned above, the writer has met multiple times with OIR representatives and believes a solid plan moving forward has been developed for proper delineation factors.

3. According to current results, areas needing improvement: Although the target score was reached by 7 out of 9 students assessed it is the suggestion of the writer to place greater importance on issues involving ethnic displacement. Clearly, additional classes and

	Specifically, questions addressing ethnic displacement and its relation to international terrorism. **Areas where students did NOT meet the target:** Students did excel in the definition of ethnic displacement and provided specific examples of the concepts relationship to current global issues surrounding international terrorism. The essay essential involved two parts (international terrorism and general concepts).	modalities will need to be assessed in the future, but the writer is confidant this will occur in coming semesters. **4. Based on current results, new actions to improve student learning:** Overall, the results of the SLO were successful. Perhaps the discipline will consider additional examination questions or modalities of the course in the future. The writer has suggested ADJ 234 Terrorism/Counterterrorism be available via NOVA Online in the future. As mentioned, this SLO was taken after completion of the course due to a misunderstanding of delineation between the two degrees. **5. Next assessment of this SLO:** Spring 2025

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Define clear written communication skills involving terrorism and homeland security.

Assessment Methods

Course Name/Number: Terrorism and Counter-Terrorism - ADJ 234

Direct Measure Used: A written essay from an examination with a rubric. The CLO and rubric questions were based on a written essay from ADJ 234 – Terrorism and Counter-Terrorism. Scores were based on a quarter scale where 100% and 75% were considered passing while 50% and 25% were considered failing. The written essay involved radicalization aspects in America and how the internet excels the radicalization process.

CLO/Rubric Criteria or Question Concepts: The rubric involved content, professional writing, research, and A.P.A. formatting. Each component was weighed at 25% for the essay. In the future, the writer will further breakdown the criteria in order to obtain average for professional writing, research, and A.P.A. formatting.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	9
MA	1	1	4
WO	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**24**

Assessment Results

Semester/year data collected: Spring 2022

Target: 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	80%	N/A
On-campus average	82%	N/A
Synchronous hybrid (remote) average	78%	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: This was the first time ADJ 234 has ever been used to assess the CLO.

Areas where students met the target: Students met all targets within the essay's rubric with an average score well above 70%. Almost all students demonstrated the use of academic databases such as, ProQuest and JSTOR as support for the information and opinion discussed within the essay.

Areas where students did NOT meet the target: Although students managed to score above the target goal, additional emphasis can be placed on professional writing in the future during 200 level courses.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time ADJ 234 Terrorism/Counterterrorism is being used as a CLO in the program.

2. Impact of changes on current results: It is the hopes to be able to compare and contrast results of the CLO in the future.

3. According to current results, areas needing improvement: The writer would recommend placing a renewed emphasis on professional writing since many students who enter homeland security, intelligence, or other related fields will need proper writing skills to excel in their position.

4. Based on current results, new actions to improve student learning: Although target goals were met the writer would suggest having a solid rubric across all modalities in the future in order to compare and contrast results.

5. Next assessment of this CLO: Spring 2025

Program Goal on Graduation: Continue to increase graduates in the A.S. program

Criminology and Criminal Justice, A.S.

Assessment Method

Short description of method(s) and/or source of data:
Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Continue to increase graduates in the A.S. program

Results for Past 3 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	164	-3.5
2020-21	170	129.7
2019-20	74	311.1
2018-19	18	--

Target Met: [ ] Yes [X] No [ ] Partially

Narrative comparison of current results to previous year's results: The program had nearly a 130% increase in graduates in the past year, with nearly 100 more graduates in 2020-21 than the previous year.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes

Use of Results

1. Changes put in place since previous assessment to improve graduation results: This is the second assessment report for the A.S. degree in Criminology and Criminal Justice. The degree fulfilled the need for the college to understand how many students were ADJ/Criminology students. As stated, the purpose for the degree remains transferability. Before the inception of the A.S. degree, students completed an A.S. in General Studies degree or an A.A.S. degree in Administration of Justice. Also, A.S. students qualify for the guaranteed admission agreement. We also updated the curriculum map for the AAS/AS. In the future, the writer plans to make additional updates to the curriculum mapping in order to display differences the A.S. degree from the A.A.S. degree.

- As of 2022, the A.S. degree in Criminology and Criminal Justice is the only one in the VCCS.
- The A.S. degree appears to be very successful because of the significant increases in graduates, program placed students, etc.
- The downside of the new degree appears to be the sudden collapse of the A.A.S. degree in Administration of Justice. The discipline is interested in the number of A.S. students who started the A.S. but don't finish the A.S. Are these students' better candidates for the A.A.S. degree or did they simply prefer to enter the workforce? The writer will attempt to analyze this trend in the future.
- Some details in the degree are changing. For example, the second math requirement is no longer mandated. The discipline will attempt to change this requirement based on student needs and determine if the change will result in higher graduation rates.
- The VCCS is currently meeting with Criminology/ADJ faculty to develop two courses (community policing and multiculturalism in policing). The final roll out and how these courses impact our A.S. and A.A.S. is not known. As of 2022, George Mason University does not have a course equivalency for the multiculturalism in policing, which will impact ADVANCE. George Mason is also concerned the program will become a policing degree rather than a well-rounded degree in criminology and criminal justice.

2. Impact of changes on current results: Graduation rates increased dramatically over the past year. There

		appears to be a large demand for this degree based on the transferability component. **3. According to current results, areas needing improvement:** ADJ/Criminology faculty have been invited to partner with the Office of Strategy, Research and Workforce Innovation to better serve our students, make connections to employers etc. **4. Based on the results, new actions to improve graduation/productivity results:** Discipline faculty will emphasize advising, internships, and writing letters of recommendation for students. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: 5% annual increase

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** 5% annual increase **Results for Past 5 Academic Years - Headcount:**	**1. Changes put in place since previous assessment to improve program placement results:** See above. **2. Impact of changes on current results:** The program continues to grow each year. There was an 8% increase over the past year, after a 42% increase the year before. The writer hopes the degree will continue to prosper and plans to market the ADVANCE component to first and second semester students. **3. According to current results, areas needing improvement:** Ensuring that students are appropriately placed into the A.S. and A.A.S. programs. **4. Based on the results, new actions to improve program placement/productivity:** The Discipline needs to discuss the results discovered since the inception of the degree and how to move forward to encourage program placement. Also, ensure that Student Services/counselors/advisors are aware of the difference between the A.S. and A.A.S. degrees to help students select the degree that best fits their needs. The discipline will attempt to create a document providing Student Services/counselors/advisors the core differences of the degrees. **5. Next assessment of this goal:** Assessed annually

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	851	-10.0
2020-21	946	8.2
2019-20	874	42.8
2018-19	612	--

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Each year since the inception of the A.S. degree, there is continuous growth.

Results for Past 3 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	587.0	-12.6
2020-21	672.0	8.3
2019-20	620.4	41.0
2018-19	439.9	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS

Criminology and Criminal Justice, A.S.

	Productivity Standards from the previous column? **Please explain:** Yes.	

Student Learning Outcome Assessment Report: 2021-2022
Dental Hygiene, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The program is designed to prepare students to serve in a dynamic and growing health profession as members of the dental health team. After successful completion of the program, the student will be eligible to take the National Board Dental Hygiene Examination and professional licensure examinations. Upon successful completion of the licensing process, the title "Registered Dental Hygienist" (R.D.H.) is awarded.

Student Learning Outcome 1: Evaluate the outcomes of treatment for determining a patient's subsequent treatment needs

Assessment Methods

Course Name/Number: Dental Hygiene IV - DNH 244

Direct Measure Used: This SLO was assessed using a Clinical Proficiency Skill Evaluation of Dental Hygiene Care. Students had to re-assess a patient previously treated and compare the data to determine changes that may have occurred. They additionally had to note any changes necessary in the treatment regimen going forward if indicated.

SLO/Rubric Criteria or Question Concepts:
Students were assessed on the following areas:

1. Identifies evaluative criteria and expected outcomes of care
2. Determines modifications to the ongoing treatment sequence or maintenance care plan
3. Interprets and summarizes the findings accurately

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME only	1	1	26
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**26**

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% of students will pass at 85% or higher

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
All students assessed (on-campus only)	Avg: 98.0% Range: 91-100%	Avg: 94.0% Range: 91-100%

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019
1. Identifies evaluative criteria and expected outcomes of care.	100%	100%
2. Determines modifications to the ongoing treatment sequence or maintenance care plan	100%	96.1%
3. Interprets and summarizes the findings accurately	85.2%	88.8%

Target Met: [X] Yes [] No [] Partially

Current Results improved vs. Previous Results:
[] Yes [] No [X] Partially [] N/A

Narrative comparison of current results to previous results: When comparing current results with those in 2019, there was improvement in Criteria 2 but a decrease in the performance on Criteria 3.

Areas where students met the target: Students met the target all areas.

Areas where students did NOT meet the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning. Reviewing the connection between periodontal status and treatment to determine if the goal has been met to strengthen the students' analytical abilities in this area.

2. Impact of changes on current results: The current results show an improvement in that criterion (#2) since the last assessment.

3. According to current results, areas needing improvement: The area of improvement needed according to the results is students being able appropriately interpret their findings.

4. Based on current results, new actions to improve student learning: Review what the data collected indicates in relation to the patient's oral health. This measure was implemented in the Spring 2022.

5. Next assessment of this SLO: Fall 2023

Dental Hygiene, A.A.S.

Student Learning Outcome 2: Evaluate and apply scientific literature based on critical analysis of research, scientific theories, and standards of care as a basis for evidence-based practice

Assessment Methods

Course Name/Number: Public Health Dental Hygiene I - DNH 226

Direct Measure Used: Article Critique Assignment – Students had to review a scientific article and critically analyze it and determine the success or challenges to the study, how they would improve it, and how they would use the knowledge learned in evidence-based practice.

SLO/Rubric Criteria or Question Concepts:
Students were assessed on the following areas:
1. How the author feels about the issue is stated
2. How the student feels about the issue is stated
3. How would students implement what they learned from this article in Dental Hygiene Practice?

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME only	1	1	26
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**26**

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% of students will pass with 85% or higher

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
All students assessed (on-campus only)	Avg. 93.9% Range 81.2-100%	Avg: 94.2% Range: 85-100%

Results by SLO Criteria:
[X] Average/Mean Score per criteria or
[] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019
1. How the author feels about the issue is stated	96.3%	96.1%
2. How the student feels about the issue is stated	100%	88.4%
3. How would students implement what they learned from this article in Dental Hygiene Practice?	96.3%	84.6%

Target Met: [X] Yes [] No [] Partially

Current Results improved vs. Previous Results:
[X] Yes [] No [] Partially [] N/A

Narrative comparison of current results to previous results: The overall target of 80% of the students scoring 85% or better was met.

Areas where students met the target: All areas evaluated target was met.

Use of Results

1. Changes put in place since previous assessment to improve student learning: Previous assessment results indicated that students needed improvement in relating what they learned from the article into clinical practice. The rubric was reviewed so that students understand that this is a component of the assignment. Also, additional lecturing on how to integrate what is learned through scientific research into clinical practice was implemented and is ongoing. These actions were implemented in Fall 2018.

2. Impact of changes on current results: Student scores improved in all 3 areas assessed.

3. According to current results, areas needing improvement: The current results indicate there is still room for improvement in criterion 1 and 3. Therefore, the efforts stated above will continue.

4. Based on current results, new actions to improve student learning: Based on current results, additional instruction on how to integrate what is learned through research and applying that to clinical practice is needed. Additional lecture time will be dedicated to evidence-based practice along with in-class activities related to this topic. As stated in the report of the last assessment, the classroom efforts will continue for improvement in this area.

5. Next assessment of this SLO: 2023-24

Student Learning Outcome 3: Assess a patient's oral health status

Assessment Methods

Course Name/Number: Dental Hygiene V - DNH 245

Direct Measure Used: Periodontal Assessment Skill Evaluations. This is a skill evaluation performed during a clinical course to assess the patients' oral health status. It entails students

Assessment Results

Semester/year data collected: Spring 2022

Target: 85% of students will pass with 85% or higher

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Use of Results

1. Changes put in place since previous assessment to improve student learning: Implementation of remediation on the proper way to use the Nabors probe to assess the furcation area as well as understanding the importance of this measurement on the patient's oral health, treatment planning, outcomes of treatment and the importance of accurate documentation.

taking multiple dental hygiene measurements such as probing depths, recession.

SLO/Rubric Criteria or Question Concepts:
Students were assessed on the following areas:

1. Records the mucogingival line on the Periodontal Chart as it appears in the mouth on facial of maxillary arch and facial and lingual of mandibular arch
2. Records furcation involvement in the Periodontal Chart using the appropriate classifications.
3. Records the presence of tooth mobility on the Periodontal Chart using the appropriate numeric classifications. (Uses the handles of the probe and mouth mirror for detection.)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME only	1	1	26
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**26**

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
All students assessed (on-campus only)	Avg.98.5% Range: 93-100	Avg: 96.5% Range: 85-100%

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020
1. Records the mucogingival line on the Periodontal Chart	100%	92.3%
2. Records furcation involvement in the Periodontal Chart	96.3%	92.3%
3. Records the presence of tooth mobility on the Periodontal Chart	100%	88.4%

Target Met: [X] Yes [] No [] Partially

Current Results improved vs. Previous Results:
[X] Yes [] No [] Partially [] N/A

Narrative comparison of current results to previous results. After reviewing the results and comparing them to 2020, there was improvement in all 3 areas**.**

Areas where students met the target: All students met the target for all 3 criteria assessed**.**

Implementation of this action took place in Fall 2018 and will remain going forward.

2. Impact of changes on current results: With the above implementation, the impact was the improvement in all three areas assessed.

3. According to current results, areas needing improvement: Criteria 2: There is still indication that some improvement is needed this area

4. Based on current results, new actions to improve student learning: Based on current results there is still the need to improve the use of the instrument utilized to measure furcation involvement. Therefore, the previous changes with remediating the students in the use of this instrument will remain ongoing. As stated previously this measure has been in place since Fall 2018.

5. Next assessment of this SLO: 2023-24 academic year

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalize your CLO here: Communicate the provision of oral health care services with diverse population groups.

Assessment Methods

Course Name/Number: Public Health Dental Hygiene II - DNH 227

Direct Measure Used: : Community Oral Health Program Presentation (Community):
Students select a target population and develop, implement and evaluate a community oral health program.

CLO/Rubric Criteria or Question Concepts:
The type of program was suitable and teaching methods appropriate for the population (for example, did the student use appropriate language and materials based on population demographics, age, educational level, etc.)
The student used appropriate visual aids to reinforce topics (Were additional resources

Assessment Results

Semester/year data collected: Spring 2022

Target: 80% of students will score 85% or higher

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
All students assessed (on-campus only)	100%	Range: 96%-100% Avg. 98.9%

Results by CLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Results Spring 2019

Use of Results

1. Changes put in place since previous assessment to improve student learning: This CLO was evaluated In 2018-2019 report. The area noted needing improvement was evaluation. This was reviewed during lectures to emphasize the importance of program evaluation.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: N/A

4. Based on current results, new actions to improve student learning: N/A

5. Next assessment of this CLO: Academic year 2023-24

available to the population to enhance learning, for example, charts, graphics, etc.) Evaluation of teaching was done at the last visit with an appropriate evaluation tool (Was the method to evaluate the presentation appropriate to determine success or needed improvement to the program presentation)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME only	1	1	27
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**27**

3.	1.The type of program was suitable and teaching methods appropriate for the population	100%	Avg. 100%
4.	2. The student used appropriate visual aids to reinforce topics	100%	Avg. 100%
5.	3. Evaluation of teaching was done at the last visit with an appropriate evaluation tool	100%	Avg. 88.25%

Target Met: [X] Yes [] No [] Partially

Current Results improved vs. Previous Results:
[X] Yes [] No [] Partially [] N/A -

Areas where students met the target: N/A

Areas where students did NOT meet the target: N/A

Program Goal on Graduation: 80% of students will graduate

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Data provided by OIR: https://www.nvcc.edu/oiess/college-planning/apers.html	**Target:** 80% of students will graduate **Results for Past 5 Academic Years:** Academic Year / Number of Graduates / Percentage Increase/ Decrease 2020-21: 33 / .08 2019-20: 25 / -.14 2018-19: 39 / .08 2017-18: 31 / -.06 2016-17: 37 / 8.8 **Target Met:** [X] Yes [] No [] Partially **Current Results improved vs. Previous Results:** [] Yes [] No [] Partially [X] N/A – see below **Narrative comparison of current results to previous year's results:** For the 2021 graduation class, the increase is related to the fact that we had a cohort of 6 at our distance site GCC to graduate. Additionally, consideration needs to be given in that every other year we were accepting 7 students at GCC which can skew the percentage of decrease/increase from year to That partnership was dissolved in 2021.	**1. Changes put in place since previous assessment to improve graduation results:** To improve student success, the department has implemented remediation procedures. When comparing the data from the past assessment periods, similar trends in the percentage of program completion rates were noted. The results indicate the Dental Hygiene program is meeting its target of 80% of the students completing the program and graduating. **2. Impact of changes on current results:** We are maintaining an 80% graduation rate. **3. According to current results, areas needing improvement:** Retention of students **4. Based on the results, new actions to improve graduation results:** Continued efforts on retention such as the continued requirement of students to meet with the retention counselor and return a report to the program director of a plan going forward to encourage student success. In addition, the recommendation of dental hygiene tutors. Implementation is ongoing and has been going on since Fall 2015.

<table>
<tr><td></td><td></td><td>5. Next assessment of this goal: Assessed annually</td></tr>
<tr><td colspan="3">Program Goal on Program-Placed Students: To have the program operating at full capacity (even number years 32, odd number years 39)</td></tr>
<tr><th>Assessment Method</th><th>Assessment Results</th><th>Use of Results</th></tr>
<tr>
<td>Short description of method(s) and/or source of data:
Data provided by OIR:
https://www.nvcc.edu/oiess/college-planning/apers.html</td>
<td>Target: To have the program operating at full capacity (even number years 32, odd number years 39)

Results for Past 5 Academic Years:
<table>
<tr><th>Academic Year</th><th>Number of Program-Placed Students</th><th>Percentage Increase/ Decrease</th></tr>
<tr><td>2020-21</td><td>69</td><td>-.04</td></tr>
<tr><td>2019-20</td><td>73</td><td>.01</td></tr>
<tr><td>2018-19</td><td>72</td><td>-.07</td></tr>
<tr><td>2017-18</td><td>79</td><td>0.7</td></tr>
<tr><td>2016-17</td><td>72</td><td>1.4</td></tr>
</table>
Target Met: [] Yes [] No [X] Partially

Current Results improved vs. Previous Results:
[] Yes [] No [X] Partially [] N/A

Narrative comparison of current results to previous year’s results: As noted above, when considering the percentage of increase/decrease this is affected by the alternating years of accepting 7 students from GCC. We no longer have a partnership with GCC, the last class graduated 2021. Therefore, the capacity for the program is to accept 32 students per admission cycle which is annually.</td>
<td>1. Changes put in place since previous assessment to improve program placement results: No changes were made for improvement, as this is a definitive number due to capacity.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Encouraging retention of program placed students.

4. Based on the results, new actions to improve program placement results: Continuing the efforts of retention practices put in place in 2018-2019. Encouraging students to utilize resources available to them such as discipline tutors, simulation lab in addition to the already required meeting with the retention counselor by midterm if having academic difficulties.

5. Next assessment of this goal: Assessed annually</td>
</tr>
</table>

Student Learning Outcome Assessment Report: 2021-2022
Diagnostic Medical Sonography, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: Abdomen/Ob/Gyn (General DMS): This curriculum is designed to prepare students to produce diagnostic images of the human body using special equipment to direct high frequency sound waves into different anatomic structures in a patient's body. The sonographer is a central member of the healthcare team and assists the radiologist in gathering diagnostic data for interpretation. NOVA's program emphasizes didactic and "hands-on" practice of sonographic techniques in a well-equipped scanning laboratory at the Medical Education Campus in Springfield, Virginia. Clinical experience is acquired at numerous area hospitals and private medical affiliates.
Students in the Diagnostic Medical Sonography degree program learn to perform an ultrasound of the Abdomen and Small Parts as well as Obstetric and Gynecologic sonography. Upon successful completion of the degree requirements, the student will be eligible to apply to take the American Registry for Diagnostic Medical Sonography (ARDMS) examination(s) leading to credentials as a Registered Diagnostic Medical Sonographer (RDMS®).
Vascular DMS: The curriculum is designed to prepare students to produce diagnostic images of the blood and blood flow. The vascular sonographer uses special equipment to direct high frequency sound waves into areas of the patient's body. The vascular sonographer is a central member of the health care team and assists the radiologist in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to apply to take the American Registry of Diagnostic Medical Sonography examinations leading to credentials as a Registered Diagnostic Medical Sonographer (RDMS®), Registered Diagnostic Cardiac Sonographer (RDCS®) and Registered Vascular Technologist (RVT®).
Echocardiography DMS: The curriculum prepares students to produce diagnostic images of the heart structures and motion to diagnose cardiovascular changes. The echocardiographer uses special equipment to direct high frequency sound waves into areas of the patient's body. The echocardiographer is a central member of the health care team and assists the radiologist in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to apply to take the American Registry of Diagnostic Medical Sonography examinations leading to credentials as a Registered Diagnostic Cardiac Sonographer (RDCS®).

Student Learning Outcome 1: Integrate patient history, current medical condition, and sonographic findings to provide accurate diagnostic information.

Assessment Methods

Course Name/Number: Clinical Education II - DMS 232

Direct Measure Used: The Final Clinical Evaluation is completed at the clinical site by the clinical instructor utilizing the online tool Trajecys (Society of Diagnostic Medical Sonography Product).

SLO/Rubric Criteria or Question Concepts:

A. Respect for patient privacy by:
   1. Respecting patient modesty
   2. Discussing patient history and findings with appropriate individual(s)
   3. Reserving medical questions for the appropriate time/place

B. Proper patient communication by:
   1. Introducing her/himself to the patient
   2. Confirming the patient's identity verbally or by nametag
   3. Confirming the type of exam in lay terms with the patient or caregiver
   4. Confirming the proper exam preparations with the patient or caregiver 5. Explaining the type of exam in lay terms with the patient or caregiver
   5. Keeping patient informed of exam progress

C. Respect for Other Medical Professionals

Assessment Results

Semester/year data collected: Fall 2021

Target: 100% of students achieved 95% or higher

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	97.5%	93.5%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1. Respect for patient privacy	100	95
2. Proper patient communication	95	90
3. Respect for Other Medical Professionals	95	90
4. Cooperation with the Clinical Site Staff	100	95
5. A constant effort to become involved	100	100
6. Dependability	95	90
7. Organization	95	90
8. Adherence to program dress code and personal cleanliness	100	95

Continuous Improvement

1. Changes put in place since previous assessment to improve student learning: DMS clinical instructors have more frequent interactions with the students regarding clinical performances. Greater emphasis on linking the didactic course material with clinical situations by the DMS faculty has improved the awareness of the clinical expectations.

2. Impact of changes on current results: The improved communication and discussion regarding real clinical situations enforce the proper reaction and behavior of the students.

3. According to current results, areas needing improvement: As a team we will move to a 100% digital method of recording clinical performance with more frequent communication. Currently only Echocardiography is 100% digital with frequent updates to students via email regarding their competencies.

4. Based on current results, new actions to improve student learning: All three concentrations will have digital documentation of their clinical performance on a regular basis.

1. Proper respect for Radiologist and Staff Physicians
2. Proper respect for Clinical Instructor(s)
3. Proper respect for Administrative Staff

D. Cooperation with the Clinical Site Staff
1. Accepting constructive criticism
2. Observing protocols, rules, and regulations

E. A constant effort to become involved by
1. Offering assistance to staff
2. Seeking responsible assignments and does so independently
3. Offers assistance with routine tasks (Emptying laundry, answering phones, paperwork, etc.)

F. Dependability by
1. Following through on assigned tasks and instructions in a timely manner
2. Regular attendance and punctuality
3. Prompt notification of absence or tardiness and/or college-approved schedule alterations

G. Organization by
1. Understanding and incorporation of constructive criticisms into daily routines
2. Understanding and assimilation of the facility examination protocols
3. Routinely contributes to the organization/maintenance of the facility

H. Adherence to program dress code and personal cleanliness by
1. Wearing the appropriate NVCC uniform
2. Having hair clean, nails short and well kept
3. Wearing an NVCC student name tag and patch

I. Seeking assistance when necessary
1. When moving difficult patients
2. In an emergency situation
3. Any situation where the student is not competent

J. Self-confidence by
1. The ability to adapt to new situations
2. Instilling confidence in patients
3. Demonstrating initiative
4. Basing decisions on clear thought

Grading Scale:
- Excellent - 100%
- Above Average - 95%
- Average - 90%
- Below Average - 85%
- Unacceptable – 0%

9. Seeking assistance when necessary	100	100
10. Self-confidence	95	90

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Areas improved were respect for patient privacy, proper patient communication, respect for other medical professionals, cooperation with the clinical site staff, dependability, organization, and self-confidence.

Areas where students met the target: All ten criteria were met at 95% to 100%.

Areas where students did NOT meet the target: None

5. Next assessment of this SLO: Fall 2022-23

Diagnostic Medical Sonography, A.A.S.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	3	3	18
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**18**

Student Learning Outcome 2: Provide high quality patient care in an ethical, legal, safe, and effective manner.

Assessment Methods

Course Name/Number: Clinical Education I/Coordinated Internship - DMS 190 (General, Vascular, and Echocardiography)

Direct Measure Used: Pre-clinical Competency – Students were evaluated on whether they were prepared to enter the clinical setting and cooperate with the rules of the clinical site and ensure patient safety.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following criteria:

Criteria	Pass	Fail
1.Patient Retrieval	Correctly greets patient, checks two identifiers	Less than two identifiers checked
2. Introduction	Properly introduces themselves as a student	Does not introduce themselves as a student
3. Duration and explanation of exam	Properly explains exams and duration	Explains exam/ or duration but not both, poor explanation
4. Equipment manipulation	Correctly starts, performs, and ends procedure using imaging system software; chooses appropriate probe and preset for the exam	Incorrect preset and/or probe selected
5. Ergonomics	Correctly adjusts sono unit monitor, keyboard and exam bed and patient	Does not adjust equipment for proper ergonomics

Assessment Results

Semester/year data collected: Fall 2021

Target: 95% of students pass the first time

Results:

- Fall 2021: Students demonstrated confidence and readiness for the clinical site with no incidents reported.
- Fall 2020 (no pre-clinical competency): One student dismissed due to failure to exhibit the necessary skills for the clinical site patient safety.

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1.Patient Retrieval	100	90
2.Introduction	90	90
3.Duration and explanation of exam	95	90
4.Equipment manipulation	100	95
5.Ergonomics	100	100
6.Use of bed rails	100	90
7.Dismissal of patient	100	90
8.Equipment cleanliness	100	100
9.Communication	95	90
10. Hand hygiene	100	95

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: 82% of the class of Fall 2022 met the target as compared to 50% of the class of Fall 2021.

Continuous Improvement

1. Changes put in place since previous assessment to improve student learning: DMS 206 (Introduction to Sonography) introduces the student to the expectations of the clinical environment.

2. Impact of changes on current results: The previous class had numerous issues with communication and the implementation of instructions by the clinical instructor at the clinical site. One student was dismissed from the DMS program due to her lack of cooperation with the clinical staff. The DMS team designed a pre-clinical competency to establish a baseline of proficiency that each student must reach prior to their attending the clinical rotation of DMS 190. The actual competency was used as an activity in DMS 190 - Clinical I.

3. According to current results, areas needing improvement: Students must be proficient in all areas of the simulation (pre-clinical competency) to be deemed ready for the clinical experience. Round one resulted in half the class not reaching the benchmark. Although the competency was explained to the students in their preclinical meeting and advised to practice at home and with classmates during the clinical scan lab time, it was evident that the group did not take this benchmark as an event requiring their attention. The students were advised to practice, and the second opportunity would be given one week later. The realization that they would not be allowed to begin their clinical affiliation until they demonstrated entry-level proficiency enhanced their new interest in practicing the skills necessary. Patient safety is a priority. The litigious nature of health care not only can impact the hospital, the student, but also NOVA.

4. Based on current results, new actions to improve student learning: Based on the experience with this class, we have enhanced the in-class simulation exercises

6. Use of bed rails	Raises bed rail for patient safety	Does not raise bedrails
7. Dismissal of patient	Releases patient and explains report process, thanks patient	Releases patient w/o giving report process and/or stating “Thank you”
8. Equipment cleanliness	Cleans equipment thoroughly, including exam table, chair and sonography system	Does not clean equipment thoroughly
9. Communication	Makes eye contact, speaks clearly, and provides clear instructions	Does not make eye contact and/or speak clearly when providing instructions.
10. Hand hygiene	Sanitizes hands before and after exam	Does not sanitize hands before and after exam

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	3	3	18
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**18**

Areas where students met the target: Target for this competency was 100% of all ten criteria. 83% of the students met the target.

Areas where students did NOT meet the target: Areas of concern are communication, duration and explanation of exam and introduction.

for the class of December 2023. This resulted in five out of twenty-eight having to repeat the competency. We also have put a greater focus on preparing and practicing with more classroom-based interactions.

5. Next assessment of this SLO: Fall 2023-24

Student Learning Outcome 3: Identify relational anatomy, proper diagnostic imaging techniques, and sonographic appearances of anatomical structures.

Assessment Methods

Course Name/Number: Echocardiography Registry Review - DMS 255

Direct Measure Used: Mock Registry Exam - The Mock Registry is formatted to simulate the ARDMS Adult Echocardiography Exam.

SLO/Rubric Criteria or Question Concepts: The Adult Echocardiography (AE) examination is three hours and contains approximately 150 multiple-choice questions that assess and measure echocardiographic skills.

Sample:

Campus/ Modality - Echocardiography	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	5
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**5**

Assessment Results

Semester/year data collected: Fall 2021

Target: 100%

Results by Modality: Overall Average/Mean Scores

Results by Modality- Echocardiography	Current Results Fall 2021 (graduation December 2021)	Previous Results Spring (COVID class delayed one semester graduation May 2021)
All students assessed (weighted average)	83%	100%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021

Continuous Improvement

1. Changes put in place since previous assessment to improve student learning: The mock echocardiography registry was given in person for the Echocardiography class of December 2021. The previous echocardiography class took the exam via zoom and lockdown browser.

2. Impact of changes on current results: The mock registry demonstrates that the graduate student is prepared to successfully pass the American Registry of Diagnostic Sonographers Adult Echocardiography specialty exam. Since graduation from a program is not adequate for the student to be hired as an echocardiographer, it is imperative that the student demonstrates their mastery of the program material. Offering the mock registry as an in-person event eliminated any opportunity for cheating. Unfortunately, one student failed to pass the mock registry offered as the final step in DMS 255.

	Mock Registry Exam- Adult Echocardiography | 83% | 100% **Target Met:** [ ] Yes [X] No [ ] Partially **Current Results Improved vs. Previous Results:**] Yes [X] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous results:** Students from the Echocardiography class of May 2021 took this exam via lockdown browser. Students from the Echocardiography class of December 2021 took this exam as a group in the classroom. **Areas where students met the target:** Everyone participated in the mock registry exam. **Areas where students did NOT meet the target:** One student in the Echocardiography class of December 2021 failed with a score below 75%.	**3. According to current results, areas needing improvement:** Stronger repercussions for failure of the mock registry. Failure of the mock registry required the student to do a written remediation to complete the course. This remediation required that the student meet with the instructor to review all incorrect answers. The student was then required to research each missed question and supply adequate documentation of why their answer was wrong and documentation supporting the correct answer. A failure with remediation would still result with the student passing the course. **4. Based on current results, new actions to improve student learning:** In 2022-23, we will implement the following for DMS 255 (Echocardiography Registry Review): 1. Students will review quizzes and tests with instructors on a regular basis. 2. Practice mock registry exams will be implemented. 3. All students must pass the mock registry exam. A student who fails the mock registry will be provided remediation and then must pass the mock registry on the second try. The student will only be awarded 75% for the second attempt which is the minimum score for passing the mock registry. (A second attempt achieving a score higher than 75% will result in the student receiving a 75% and passing the course.) **5. Next assessment of this SLO:** Fall 2023-24

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Integrate patient history, current medical condition, and sonographic findings to provide accurate diagnostic information (SLO #2)

Assessment Methods	Assessment Results	Continuous Improvement
Course Name/Number: Echocardiography II - DMS 250 **Direct Measure Used:** Students were required to complete an Echocardiographic work sheet in conjunction with the DMS 250 Scan Exam. **CLO/Rubric Criteria or Question Concepts:** 1. Did the student supply the correct patient history? 2. Did the student correctly identify the study performed? 3. Did the student correctly record the measurements from their images to the worksheet? 4. Was the recorded information accurate, clearly written, and organized? 5. Was the document clean, neat, and organized? 6. Was the document submitted with the ultrasound images as instructed in Canvas?	**Semester/year data collected:** Summer 2021 Class of Dec 2021 **Target:** 100% **Results by Modality:** Overall Average/Mean Scores **Results by Modality** | **Current Results Class of Dec 2021** | **Previous Results Class of May 2021** **All students assessed** (weighted average) | 5/5 criteria met at 100% | 3 criteria met 100% 3 criteria met at 50% **Results by CLO Criteria:** Percent of Students > target per criteria	**1. Changes put in place since previous assessment to improve student learning:** Students submit an image-based lab assignment each week. (Students submit a complete Echo timed each week with the goal of completing an echo in 45 minutes by the end of the semester.) It was noted that students failed to realize that this document required accuracy and organization. Initially, with the class of May 2021, this worksheet was required only with the final scan exam. From the submissions of the Class of May 2021, it was evident that this exercise should be incorporated weekly as part of lab submissions. The worksheet is introduced with their intro lab DMS 217C (fall-first semester) and then required additionally each week with labs submissions for DMS 150 (Echocardiography 1) and DMS 250 (Echocardiography 2)

Diagnostic Medical Sonography, A.A.S.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	5
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**5**

Results by SLO Criteria/ Question Concepts	Current Results Pass/Fail	Previous Results Pass/Fail
1. Did the student supply the correct patient history?	5	6
2. Did the student correctly identify the study performed?	5	6
3. Did the student correctly record the measurements form their images to the worksheet?	5	3
4. Was the recorded information accurate, clearly written, and organized?	5	3
5. Was the document clean, neat, and organized?	5	3
6. Was the document submitted with the ultrasound images as instructed in Canvas?	5	6

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Greater emphasis was placed on accuracy and neatness when recording numeric information on echocardiographic worksheets. This was achieved by adding this as a weekly requirement for submission with image-based labs.

Areas where students met the target: All areas of the criteria were met by the Class of December 2021.

2. Impact of changes on current results: Echocardiography students now understand how impactful accuracy on a worksheet can be for the patient's final diagnosis. During the didactic class lecture, students are exposed to clinical situations and outcomes that have been affected by insufficient attention to detail and recording of information.

3. According to current results, areas needing improvement: The desired effect has been achieved by including this exercise as part of the weekly lab submission.

4. Based on current results, new actions to improve student learning: We will continue to emphasize that attention to detail and accurate recording of information directly impacts patient outcomes.

5. Next assessment of this CLO: 2024

Program Goal on Graduation: Successful completion of the specific specialty exam offered by the American Registry of Diagnostic Medical Sonographers (ARDMS). General DMS students will complete the examination and receive the credential RDMS. Vascular DMS students will complete the examination and receive the credential RVT. Echocardiographic DMS students will complete the examination and receive the credential RDCS.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** NOVA DMS Program, DMS Vascular Specialization and DMS Echocardiographic Specialization will graduate the following: • General Specialization (Advanced Abdomen, OB/Gyn) 100% • Vascular Specialization: 100% (6 initial students/one student was given the opportunity to move into the Echocardiography Specialization one week into classes) • Echocardiography specialization: 100% (6 initial students/ one student dropped out after one week due to childcare issues and a vascular student took that vacant spot)	**1. Changes put in place since previous assessment to improve graduation results:** NOVA DMS program achieved full accreditation May 2022. Students from accredited OB/Gyn, Advanced Abdomen, Vascular, and Adult Echocardiographic programs may apply and take the final part of the registry exam 60 days prior to graduation. **2. Impact of changes on current results:** It is now possible for NOVA DMS students to graduate fully registered as a RDMS (Registered Diagnostic Medical Sonographer), RVT (Registered Vascular Technologist), or RDCS (Registered Diagnostic Cardiac Sonographer).

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design,	12

Public Service Technologies	
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates			Percentage Increase/ Decrease		
	G	V	C	G	V	C
2020-21 Class of Dec 21	8/14= 57%	5/5= 100 %	5/6 =83 %	-28.7	+17	-17
2019-20 COVID Class May 2021 Extra Semester	12/14= 85.7%	5/6	6/6	-7.1	No cha nge	100 %
2018-19	13/14= 92.8%	5/6	N/A	14.3	N/A	N/A
2017-18	11/14= 78.5%	N/A	N/A	-14	N/A	N/A
2016-17	13/14=92. 85%	N/A	N/A	0	N/A	N/A

*G -DMS General Tract- parent degree
V -DMS Vascular Tract
C-DMS Cardiac (ECHO)Tract

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes

3. According to current results, areas needing improvement: None

4. Based on the results, new actions to improve graduation/productivity results: The DMS program will adjust our application requirements for May 2024. DMS 100 (Introduction to Sonography as a Profession) was discontinued in 2016. Offered in place of DMS100 (Introduction to Sonography as a Profession, 1 credit, 7-week course) was a "Prospective Student Meeting" offered as a two-hour session two times each semester. The documented attrition to the program increased because students do not understand the profession of Sonography, nor do they understand the commitment to the intense curriculum. The following are just a sampling of statements from students leaving the program: 1. "I didn't realize how much work this is." 2. "I don't like touching patients." 3. "I am afraid of catching a disease." 4. "The class work is too hard." 5. "I don't like driving to the clinical site." 6. "The program takes too much time from my children." 7. "My children are forced to eat frozen dinners." 8. "I don't like scanning." 9. "I can't see myself working like this."

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To enroll the cap for each program

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design,	18

Assessment Results

Target: DMS General (Advanced Abdomen & Ob/Gyn)
DMS Echocardiography
DMS Vascular Technology

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2016-17	2017-18	2018-19	2019-20	2020-21	% Change
DMS, A.A.S.	14	14	14	14	14	0
Echo, A.A.S.	0	0	0	6	8	20
Vascular, A.A.S.	6	6	6	6	6	0

Use of Results

1. Changes put in place since previous assessment to improve program placement results: Admission criteria did not include TEAS testing until May 2022. The addition of the TEAS test requirement post COVID reduced the number in the applicant pool. We historically have accepted 12 for the DMS (Advanced Abdomen & OB/Gyn), 6 for the Vascular concentration, and 8 for the Echocardiography concentration. (The first echo class, May 2019, had 6 students accepted. We increased the number to 8 for the class accepted in May 2020. Our applicant pool was approximately 110 for May 2019 and 66 for May 2020. Additionally, we are moving forward with prerequisite changes to improve the quality of the students accepted. Better students enhance the willingness of

Diagnostic Medical Sonography, A.A.S.

Public Service Technologies	
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target Met for Headcount: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [N/A

Narrative comparison of current results to previous year's results: Enrollment in the general track decreased over the past year but increased for the Vascular track and remained the same for Echo.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-21	20.1	4.7
2019-20	19.2	-12.7
2018-19	22.0	4.3
2017-18	21.1	-8.7
2016-17	23.1	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes

clinical sites to accept our students. Student performance is improved when the student selection criteria is designed for the selection of the student who is best equipped to successfully complete the program requirements.

2. Impact of changes on current results: The DMS program may only increase the number of students depending on the number of clinical sites available. It is not unusual for sites to decline taking students because of staffing issues due to the shortages of sonographers in all types.

3. According to current results, areas needing improvement: We are constantly working to increase the number of clinical sites. Having more clinical sites will allow us to increase the number of students. There are several ultrasound programs in the metro area. Those in MD do come over to VA for clinical placements. For example, INOVA, as an organization, accepts students from schools in Ohio and Florida who pay to have their students at INOVA. Our program does not compensate clinical sites monetarily. We do offer 6 CMEs to the clinical instructors and have developed a program offered once a year that provides an additional 4 CMEs. It would be beneficial for the NOVA President to encourage local organizations like INOVA to accept more NOVA students for clinical internship**.**

4. Based on the results, new actions to improve program placement/productivity: 1. New affiliation contracts with area medical organizations. 2. Greater involvement of NOVA with the local medical organizations to place a priority on training local individuals to fill open positions.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Driver Education Instructor, C.S.C.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The Driver Education Career Studies Certificate program is designed for students who wish to become qualified teachers of driver education or maintain qualifications in the state of Virginia.

Student Learning Outcome 1: Students will be able to create a competent **behind the wheel** lesson plan for Driver Education students under the age of 19.

Assessment Methods

Course Name/Number: Instructional Principles of Drivers Education- EDU 214

Direct Measure Used: Using the Seven Day Lesson Plan Assignment students will create a seven-day plan for behind the wheel instruction. The purpose of this plan is for students to get experience creating a plan that they will use in the workforce.

SLO/Rubric Criteria or Question Concepts:

SLO Criteria/Question Concepts	
1.	Objectives
2.	Standards of Learning/New Skills Being Taught
3.	Introduction/Plan of the Day
4.	Map Route
5.	Driver Evaluation (On-Going/Formative Assessment)
6.	Evaluation for the Observer in the car
7.	Conclusion

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA only- Fall 2021	1	1	13
MA only- Spring 2022	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	24

Assessment Results

Semester/year data collected: Fall 2021 and Spring 2022

Target: 90% of the students will get a 100% on this assignment.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year- Fall 2021	Current Results Semester Year- Spring 2022	Previous Results Semester Year
On-campus average	100%	90%	Not Available

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year- Fall 2021	Current Results Semester Year- Spring 2022	Previous Results Semester Year
1. Objectives	100%	90%	N/A
2. Standards of Learning/New Skills Being Taught	100%	90%	N/A
3. Introduction/Plan of the Day	100%	90%	N/A
4. Map Route	100%	90%	N/A
5. Driver Evaluation (On-Going/Formative Assessment)	100%	90%	N/A
6. Evaluation for the Observer in the car	100%	90%	N/A
7. Conclusion	100%	90%	N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: This student learning outcome has been assessed since 2011-2012 which is why we decided to assess it to see if we needed to make any changes to our current assignment or teaching methods. It is our hope that assessing this SLO in Fall 2021 and Spring 2022 will give us some guidance as to whether the college is helping students to be more prepared in lesson planning for the behind the wheel classes.

2. Impact of changes on current results: Since this SLO has not been tested in over 10 years there are no impact on changes to the current results.

3. According to current results, areas needing improvement: According to the current results no improvements need to be made at this time. We achieved a 100% pass rating for this outcome in Fall 2021 and a 90% pass rating for this outcome in Spring 2022.

4. Based on current results, new actions to improve student learning: Based on the current results the instruction leading up to the students creating this seven-day lesson plan appears to be educational and helpful in aiding the planning process. The professor's modeling and samples given are also an asset to this objective.

Of the 11 students in the Spring 2022 semester, 10%, meaning 1 student, did not fully complete this assignment. That is why there is only a 90% pass rating. In the Fall of 2023, the teacher will make sure that students know the importance of this objective and how it will help them in their future career as a driver's education instructor. The instructor will model going over the objective of each day's lesson, so the students see what we mean by stating the objective. These objectives will also be written on Canvas, so the students see it at the beginning of each module.

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: It is not possible to compare this learning objective to previous results as this SLO has not been assessed since 2011-2012.

Areas where students met the target: Students met the target in all areas for the Fall 2021 and Spring 2022 semesters, respectively.

Areas where students did NOT meet the target: There were no areas where a student did not meet the target in Fall 2021 or Spring 2022.

5. Next assessment of this SLO: Since this SLO has not been assessed in ten years, it will be assessed again in Spring 2023.

Student Learning Outcome 2: Students will distinguish VA driving rules and laws that are necessary to teach Drivers Education in Virginia using the VADETS final exam.

Assessment Methods

Course Name/Number: Driver Task Analysis- EDU 114

Direct Measure Used: Demonstration of driver's education content using the Virginia Association of Driver Education and Traffic Safety (VADETS) final exam.

SLO/Rubric Criteria or Question Concepts: Students must demonstrate knowledge of the content below with 85% accuracy

Module 1	Licensing Responsibilities
Module 2	Preparing to Operate a Vehicle
Module 3	Important Functions and Relationships of Visual Perception and Driving
Module 4	Using a Space Management System While Interacting with Traffic
Module 5	Navigating Roadways
Module 6	Sharing the Roadway with Others
Module 7	Personal Factors
Module 8	Alcohol
Module 9	Changing weather and conditions of visibility
Module 10	Vehicle Systems & Handling Heavy Vehicles
Module 11	Driver Responsibilities: Making Informed Choices

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA only	1	1	13
NOVA Online			

Assessment Results

Semester/year data collected: Fall 2021

Target: All students must achieve an 85% passing rate on this assessment.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
On-campus average	92% passed on the first attempt 8% passed on the second attempt	86% passed on 1st attempt 14% passed on 2nd attempt

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Modules	Fall 2021		Spring 2021	
	# of students who passed (N=13)		# of students who passed (N=15)	
	1st attempt	2nd attempt	1st attempt	2nd attempt
1.	12	1	13	2
2.	12	1	13	2
3.	12	1	13	2
4.	12	1	13	2
5.	12	1	13	2
6.	12	1	13	2

Use of Results

1. Changes put in place since previous assessment to improve student learning: In Fall 2016, the instructor started breaking the modules down into smaller lessons so that the material was easier to grasp. On top of that, each student is also required to complete the VADETS workbook which asks students to review the module PowerPoints and lessons to answer these questions. Since students struggled a bit on the first attempt the instructor has also added in extra review sessions during class so that all students are prepared and can ask questions. The instructor has also shown students the testing format and given them better testing taking strategies going into the final exam.

2. Impact of changes on current results: Based on the current results the changes that were put into place have helped the students succeed in passing on the first attempt. The extra review sessions and study materials have been beneficial to student success rates. The instructor showing the students the test format has also allowed students to know what to expect on test day and how to prepare their test taking time, so they are not rushed during the exam.

3. According to current results, areas needing improvement: Some areas needing improvement though, are getting all students to pass with 85% or higher on the first attempt. For the 2022-23 academic year, the instructor will continue to break up the modules into smaller lessons as well as having students complete

Off-Site Dual Enrollment			
Total	1	1	13

7.	12	1	13	2
8.	12	1	13	2
9.	12	1	13	2
10.	12	1	13	2
11.	12	1	13	2

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Previously it took 14% of students the second attempt to pass this exam, during this current assessment cycle it only took 8% of students a second attempt to pass the exam. Overall, between the current and previous results we have had a 100% pass rating on this VADETS final exam.

Areas where students met the target: All students met the target of getting an 85% of higher on the VADETS final exam, however it did take one student a second attempt to complete this target.

Areas where students did NOT meet the target: While we did not have any students NOT meet the target, we would really like to see all students meet the target on the first attempt instead of needing a second attempt to do so.

the workbook for extra review and practice. The instructor will also continue to provide a review session in class as well as preparing study materials for students to use on their own at home as well as showing them the test format so they can prepare.

4. Based on current results, new actions to improve student learning: New actions the instructor will put into practice include showing the students a previous final exam so that they can review similar material, see how questions are worded, how many questions there are and how to prepare for the final short answer questions. This will be implemented starting Fall 2023. Students will also be given a practice exam in class, so they are familiar with the wording and how much time they must complete the exam, as it is not uncommon for students to run out of time completing the exam and thus not passing.

5. Next assessment of this SLO: This SLO will be assessed again in Fall 2023 and Spring 2024.

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication

Operationalized Definition: Students will be able to create a competent **classroom** lesson plan for Driver Education students under the age of 19.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Driver Task Analysis- EDU 114

Direct Measure Used: Creation and presentation of a lesson. Students were required to bring all the materials to the lesson, submit the lesson plan and components on Canvas, and provide an extra hard copy for the instructor.

CLO/Rubric Criteria or Question Concepts:

Students were assessed on the following criteria:

SLO Criteria
A. He/she brought all the materials, submitted the lesson plan and components on Canvas and provided an extra hard copy for the instructor.
B. He/she adhered to the time limit. 30 mins. MAX.

Semester/year data collected: Spring 2022

Target: All students must achieve a minimum of 80 out of 100 points. Our goal is to have 90% of the students pass this objective with 80%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results-Fall 2020
On-campus average	100%	100%

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

1. Changes put in place since previous assessment to improve student learning: In previous years we started having students create mini lesson plans that would help them create the formal lesson plan. This activity really helped those students in the class who have not received any formal lesson plan writing education. Having students observe a sample lesson from faculty has also greatly improved students' success as they have a professionally trained model to show them just how to give this lesson. This activity and the demonstration from the professional faculty member is a great way to provide students with professional readiness in the field of driver's education.

In the previous SLO assessment, students struggled with adhering to the time limit, having the objective stated, engaging students in active learning, understanding the

	1. Time: _____
C.	The objective was stated and posted at the beginning, and students were clear on what they would be learning.
D.	The lesson plan followed the Department of Education (DOE) curriculum and slides/content were from the DOE.
E.	He/she made sure to check for understanding during the lesson.
F.	ALL students were engaged in active learning (hands on and involved in lesson).
G.	Directions for the activities were specific and clear to the students
H.	The activities were appropriate for the high school (HS) age level.
I.	He/she understands content and could communicate clearly with the class.
J.	The visuals were professional and used proper English.
K.	He/she provided learning activities for students of all abilities (differentiated learning).
L.	He/she included a SEPARATE formative assessment.
M.	The closure reinforced the objectives of the lesson.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA only	1	1	11
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	11

Criterion	Current Results Spring 2022	Previous Results Spring 2020
A.	100%	100%
B.	91%	97%
C.	91%	93%
D.	100%	100%
E.	100%	100%
F.	100%	93%
G.	100%	100%
H.	100%	100%
I.	91%	93%
J.	100%	100%
K.	100%	100%
L.	100%	90%
M.	91%	97%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The results show that we have improved greatly since the 2020 year. Overall, the students are doing much better with this learning outcome then they have in the past. If you look at the average of the scores from the previous year, overall, they are about 97% and the average from this past year is 97%. This shows that our instructors' adjustments last year of breaking the main lesson into smaller mini lessons seems to be working, but we need to do a better job improving certain areas of the lesson plan.

Areas where students met the target: Based on the chart above, it appears that students are excelling in all areas of this outcome. The breaking of the lesson into smaller mini lessons has proven to be beneficial.

Areas where students did NOT meet the target: Given that 100% of the students passed every element of this outcome with a 91%-100%, there are no areas that students did not meet the target.

content, including a separate formative assessment, and closing the lesson while reinforcing those objectives. These do not appear to be areas of weakness anymore as the instructor has really made sure to demonstrate proper lesson plan delivery through numerous examples in class. It is these added examples and the extra time in class to work on the lesson plans that has really helped students succeed on this outcome.

2. Impact of changes on current results: Two years ago, we changed the percentage to 90% of students will pass with an 80% or higher instead of the 85% that it was originally. As you can see from the results, we continue to accomplish this goal. We will continue to keep it at 90%, but if students continue to excel, we may move it to 95% of students will pass with an 85% or better for the next assessment phase.

3. According to current results, areas needing improvement: Based on the current results, it is apparent that students are still struggling with adhering to the time limit, stating the objective, understanding the content and the closure of the lesson.

4. Based on current results, new actions to improve student learning: Currently students are back to learning in person and delivering their lessons in the classroom instead of virtually. This change has allowed the instructor to be more hands in helping students prepare for the lessons ahead of time, however students are still struggling with adhering to the time limit. So, the instructor will go back to displaying a large clock at the back of the classroom letting the student know how long they have taken so far in the lesson. The instructor will also prompt the student if they are missing a certain part of the lesson, during the lesson, to see if they just missed it or if they know what it is that they should have completed. For example, when the student starts the lesson if they did not address the learning objective, the teacher will ask the student what is the objective of your lesson? This will hint to the student that they either forgot this or they went too quickly to start and did not address that specific aspect of the lesson.

5. Next assessment of this CLO: This CLO will be assessed again in Fall 2023 and Spring 2024.

Program Goal on Graduation: Improve program graduation totals

Assessment Method	Assessment Results	Use of Results

Driver Education Instructor, C.S.C.

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

Target: At least 50% of those who enroll in the Driver Education Certificate courses will graduate.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage
2021-2022	12/24	50% total
2020-2021	17/78	22% total
2019-2020	9/52	17% total
2018-2019	6/47	13% total
2017-2018	10/42	24% total

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Compared to previous years we have successfully hit the goal of achieving a 50% graduation rate. Of the 24 students who were enrolled in the program in Fall 2021 and Spring 2022, twelve of them graduated. In the previous year our graduation rate was only 22%, so we have seen a 28% increase in those graduating.

1. Changes put in place since previous assessment to improve graduation results: In 2019, it was brought to the program's attention that if students do not complete a transcript evaluation form, then their transcript may never actually be evaluated, and the ENG 111 class may not actually be satisfied. Students are now given the link to submit a transcript evaluation upon submitting their official transcript to the Program Head. The program is also working with the instructor to have students apply to graduate from this program before the end of EDU 114; in fact, the Program Head supplies the instructor with the link/directions on how to apply to graduate that they post in an announcement.

2. Impact of changes on current results: Since requiring students to submit official transcripts in 2017, graduation rates have increased to 50%, up from 22% last year. This is the first year we have hit the goal of 50% graduation rate.

3. According to current results, areas needing improvement: Because of this, we continue to make sure students get their transcripts evaluated and are walked through the graduation application process in EDU 114 so that these rates will continue to rise.

4. Based on the results, new actions to improve graduation/productivity results: Have students complete the Transfer Credit Evaluation Form 125-049E and apply for graduation before the end of EDU 114 class. This action will continue to be implemented and the Program Head will send out reminders via email as well to ensure that these actions are completed. These reminders will be sent out at the beginning of EDU 114 and then again near the end of EDU 114 when I am requesting them to apply for graduation.

5. Next assessment of this goal: Assessed annually.

Program Goal on Program-Placed Students: To increase number of program-placed students

Assessment Method	Assessment Results	Use of Results

Driver Education Instructor, C.S.C.

Short description of method(s) and/or source of data: NOVA OIR Number of Program Placed Students and Specialization reports.

Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

.

Target: To increase the amount of program placed students. It is the departments' goal to have at least 25% of students in the program placed into a job utilizing their certificate.

Results for Past 5 Academic Years:

Academic Year	Number of Program Placed Students	Percentage Increase/ Decrease
Fall 2021	15	-75%
Fall 2020	59	293.3
Fall 2019	15	-6.2
Fall 2018	16	0.0
Fall 2017	16	100.0

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Our placement has increased dramatically over the past few years. We offered some extra sections of EDU 114 and 214 during the pandemic, which allowed more students to take these courses and in essence be placed. All together our placement percentage increased by nearly 300% during the Fall 2020. In Fall 2021, we had an 115% placement rate for the number of students registered for the course. We had 13 students registered and according to the data we placed 15 into the job market. While this percentage is lower than the previous year, we are still seeing a 100% placement rate which is good.

1. Changes put in place since previous assessment to improve program placement results: This program has seen a big increase in placement. The program head is now submitting a list of all students who should be placed in the Driver Education program to Student Services and that appears to be helping these numbers.

2. Impact of changes on current results: It appears that our placement rate has some substantial fluctuations. Currently, we have a -75% placement which may not appear very good, but it if you look at the number of students placed in 2019 it is the same. It is hard to look at the data from 2020 as we offered a total of three sections each semester that year to accommodate the need for online education during COVID. The offering of our courses online boosted enrollment and placement rates significantly. Currently, we are back to offering only one section a semester as we have transitioned back to face to face classes only.

3. According to current results, areas needing improvement: Areas that need improvement include increasing enrollment to try to get more students like we had in Fall 2020. When the pandemic hit, and our classes were forced online we had a huge increase in enrollment. Currently, the program is working with the Virginia Department of Education to discuss ways to offer EDU 114 online so that we can increase the number of sections of this course we offer, which will in turn increase placement numbers.

4. Based on the results, new actions to improve program placement/productivity: Based on these results, we will continue to inform Student Services of which students are enrolled in Driver Education and let students know to select Driver Education when applying to NOVA.

5. Next assessment of this goal: Assessed annually.

Student Learning Outcome Assessment Report: 2021-2022
Engineering, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to prepare the student to transfer into a baccalaureate degree program in engineering fields such as mechanical engineering, civil engineering, chemical engineering, aeronautical engineering, and naval architecture/marine engineering.

Student Learning Outcome 1: Student will demonstrate the ability to design algorithms in solving engineering problems.

Assessment Methods

Course Name/Number: Engineering Design - EGR 122

Direct Measure Used: Programming Assignments
EGR 122:
Assignment 2 - Programming using if-then-else and case structures
Assignment 3 - Programming with loop controls, generating tables and plots

SLO/Rubric Criteria or Question Concepts:
(Rubric attached)

Sample:
EGR 122

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	N/A	N/A	N/A
AN	2	2	44
MA	1	1	22
ME	N/A	N/A	N/A
LO	N/A	N/A	N/A
WO	N/A	N/A	N/A
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	3	3	66

Assessment Results

Semester/year data collected: Fall 2021

Target: 60%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Summer 2020
All students assessed (weighted average)	75%	78%
On-campus average	75%	N/A
Synchronous hybrid (remote) average	75%	78%

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Summer 2020
1. Programming using if-then-else and case structures	73%	78%
2. Programming with loop controls, generating tables and plots	77%	78%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Use of Results

1. Changes put in place since previous assessment to improve student learning:
In the previous assessment, it was recommended to continue the use of examples and assignments from math, physics, and engineering courses from the AS Engineering degree. Students will be able to apply the computer programming knowledge and skills acquired when working on their assignments in various engineering and engineering related courses. Also, the instructors should discuss the development of flowchart and pseudocode algorithms in solving engineering problems as part of computer programming.

2. Impact of changes on current results:
Although the recommendations did not improve the assessment results, only slight declines were seen in both SLO Criteria/Question Concepts 1 and 2. These may be attributed to the different sets of students. The results were more than 10% higher than the target.

3. According to current results, areas needing improvement:
SLO Criteria/Question Concepts 1 results declined more than the other Criteria/Question Concepts. Instructors will need to identify whether the student have adequate time to complete the assignment, or the students have difficulty in understanding the use of logical operators. Additional data will need to be collected.

4. Based on current results, new actions to improve student learning:
The results were identical for students in both modalities, in-person and virtual. The recommendation to assign programming assignments that use math, physics, and engineering concepts from the AS Engineering courses will be continued. This will encourage students to utilize computer programming as part of their engineering education. It is also recommended that EGR 122

	In SLO Criteria/Concept Question 1: Programming using if-then-else and case structures the result declined 5% from the previous assessment results. While in the SLO Criteria/Concept Question 2, Programming with loop controls, generating tables and plots the decline was 1%. **Areas where students did NOT meet the target:** N/A	instructors discuss additional computer programming applications beyond the typical engineering courses applications and examples. The Engineering Pathway Chair and the EGR 122 course instructors will be responsible for implementing the recommendations before the next assessment. The recommendations will be implemented in the Spring Semester 2023. **5. Next assessment of this SLO:** Fall 2023

Student Learning Outcome 2: Student will apply and demonstrate engineering problem solving methodology.

Assessment Methods

Course Name/Number: Thermodynamics for Engineering – EGR 248

SLO/Rubric Criteria or Question Concepts:

1. Determine the physical laws and acquire data from the different thermodynamic tables

2. Use interpolation to specify data for a given condition

3.Solve the problem accurately and completely.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	N/A	N/A	N/A
AN	1	1	12
MA	N/A	N/A	N/A
ME	N/A	N/A	N/A
LO	N/A	N/A	N/A
WO	N/A	N/A	N/A
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	12

Assessment Results

Semester/year data collected: Fall 2021

Target: 60%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	66%	76%
Synchronous hybrid (remote) average	66%	76%

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

EGR 248 Thermodynamics for Engineering

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1. Determine the physical laws and acquire data from the different thermodynamic tables	83%	89%
2. Use interpolation to specify data for a given condition	67%	78%
3. Solve the problem accurately and completely.	50%	61%

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning:
The following are the recommendations motivated by the previous results:

- Illustrate using several examples, the use of a step-by-step approach in problem solving. This often simplifies problem solving.
- When assumptions are made while solving engineering problems, they must be reasonable and justifiable.
- Always check for reasonableness. The results obtained from an engineering analysis must be checked for reasonableness.

2. Impact of changes on current results:
The changes did not yield a positive result. The decline in SLO Criteria/Question Concepts 2 contributed to the decline of SLO Criteria/Question Concepts 3, which requires the student to solve the problem accurately and completely. Improving the result in SLO Criteria/Question Concepts 2 may therefore improve the success rate of SLO Criteria/Question Concepts 3.

3. According to current results, areas needing improvement:
Two main areas of concern are the finding of data from the different thermodynamic tables and interpolation of data. When data found from the table is correctly interpolated to obtain the exact data for the requirements of the test, an increase in the success rate will be commensurate.

4. Based on current results, new actions to improve student learning:

Narrative comparison of current results to previous results: All SLO Criteria/Question Concepts showed a decline from previous results. SLO Criteria/Question Concept 1 has changed -6% from previous results. SLO Criteria/Question Concept 2 has changed -11% from previous results. SLO Criteria/Question Concept 3 has changed -11% from previous results.

Areas where students met the target: SLO Criteria/Question Concept 1 and 2 met the target at 83% and 67%, respectively.

Areas where students did NOT meet the target: SLO Criteria/Question Concept 3 did not meet the target.

To solve the problem accurately and completely, the student will need to acquire correct data. This requires finding the appropriate values from the different thermodynamic tables and applying interpolation or extrapolation.

It is recommended that the instructor will:

- Provide additional lectures on acquiring data from various tables
- Add exercises and lectures on interpolation and extrapolation
- Provide additional examples of problems with interpolation or extrapolation.

The Engineering Pathway Chair and the EGR 248 course instructors will be responsible for implementing the recommendations before the next assessment. The recommendations will be implemented in the Fall Semester 2022.

5. Next assessment of this SLO:
Fall 2022 – This SLO will be used to operationalize CLO – Scientific Literacy.

Student Learning Outcome 3: Student will demonstrate knowledge of mechanics of deformable bodies.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Mechanics of Materials – EGR 246

Direct Measure Used: Final Exam Problem 3

SLO/Rubric Criteria or Question Concepts:
In Problem 3 of the EGR 246 Final Exam students are required to:

- Identify all individual stresses.
- Calculate the state of stress.
- Draw the Mohr circle or calculate related quantities (e.g., save, R).
- Calculated principal stresses and maximum shearing stresses.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	24
AN	1	1	14
MA	1	1	7

Semester/year data collected: Spring 2022

Target: 60%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
All students assessed (weighted average)	32%	49%
Synchronous hybrid (remote) average	32%	N/A

* Partially delivered remotely

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020

1. Changes put in place since previous assessment to improve student learning:
The following are the recommended since the previous assessment: Continue to use the revised SLO Criteria/Question Concepts to acquire more data for comparison and analyses. Using the same assessment instrument, analyze the effects of the change in course delivery from traditional in-person classes to remote synchronous lectures and exams. Lessons learned in the remote delivery that contribute to improvements in student learning outcomes will be introduced and applied to the traditional in-person class course delivery when the course delivery returns to normal.

2. Impact of changes on current results:
The improvement initiative showed declines in all the SLO Criteria/Question Concepts. SLO Criteria/Question Concepts 2 and 4 declined more than 30%.

3. According to current results, areas needing improvement:

ME	N/A	N/A	N/A
LO	N/A	N/A	N/A
WO	N/A	N/A	N/A
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	3	3	45

1. Number of students who correctly identified all individual stresses.	45%	50%
2. Number of students who correctly calculated the state of stress.	16%	50%
3. Number of students who correctly drew the Mohr circle or calculated related quantities (e.g., save, R).	55%	50%
4. Number of students who correctly calculated the principal stresses and maximum shearing stress.	11%	44%
Average	**32%**	**49%**

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: Only SLO Criteria/Question Concept 3 showed an improvement (a 5% increase from previous results). SLO Criteria/Question Concept 1 has a change of -5% from previous results. SLO Criteria/Question Concept 2 has a change of -34% from previous results. SLO Criteria/Question Concept 3 has a change of -33% from previous results.

Areas where students met the target: None

Areas where students did NOT meet the target: All SLO Criteria/Question Concept did not meet the target.

In this assessment cycle of EGR 246, the instructors observed the following:

- Students seem to struggle with determining if the section was in tension or compression for the bending stress.
- Error when calculating an individual stress at a point. For example, calculated sigma due to bending, but about the wrong cross-sectional axis, yielding a maximum sigma value as opposed to zero.
- Difficulty in calculating the principal stresses and maximum shearing stress due to the incorrect value of all the individual stresses.
- Sign errors due to not consistently following conventions.

4. Based on current results, new actions to improve student learning:
Additional data will need to be acquired to determine the effectiveness of the assessment instrument. It needs to be determined whether the assessment instrument aligns with the course lectures and discussions. One observation was the sample class size was small and may have contributed to lower outcomes.

After additional data is acquired in the next assessment cycle, EGR 246 instructors and EGR Pathways Chair will meet to revise the assessment instrument. It may be necessary to assess whether the students are able to determinate the various types of stress (compression and tension) first, before calculating combined stresses.

The Engineering Pathway Chair and the EGR 246 course instructors will be responsible for implementing the recommendations before the next assessment. The recommendations will be implemented in the Fall Semester 2022.

5. Next assessment of this SLO: Fall 2022

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalized Definition: Student will demonstrate their knowledge of engineers' professional responsibility and ethics.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Engineering Design - EGR 122 **Direct Measure Used**: Ethics Questionnaire (5 Questions from NSPE (National Society of Professional Engineers) Ethics Review Questions. (3 Questions on	**Semester/year data collected:** Spring 2022 **Target:** 75% **Results by Modality:** Overall Average/Mean Scores	**1. Changes put in place since previous assessment to improve student learning:** The following are changes that were implemented:

Fundamental Canons and 2 Questions from Rules of Practice)

CLO/Rubric Criteria or Question Concepts:
(Rubric attached):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	N/A	N/A	N/A
AN	2	2	49
MA	N/A	N/A	N/A
ME	N/A	N/A	N/A
LO	1	1	30
WO	N/A	N/A	N/A
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	3	3	79

Results by Modality	Current Results Semester Year Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)	87%	92%
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	87%	92%
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
1. Fundamental Cannons	87%	95%
2. Rules of Practice	87%	89%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The current result showed a decline of 8% in Fundamental Cannons and a 2% decline in Rules of Practice. However, in both SLO Criteria/Question Concepts the result exceeded the target by 12%

Areas where students met the target: In both SLO Criteria/Question Concepts: Fundamental Cannons and Rules of Practice, the students met the target.

Areas where students did NOT meet the target: N/A

- Lectures will incorporate engineering ethics discussions throughout the engineering design cycle.
- The latest incidents in which engineering ethics were breached were incorporated to emphasize to students that engineering ethics are required throughout the practice of engineering and are not just historical incidents studied in textbooks.
- Including current events pertaining to the lapse of engineering ethics provided an understanding of the civic engagement and moral values required in the degree program.

2. Impact of changes on current results:
There was a slight decline in both SLO Criteria/Question Concepts. Even with these declines, the results were 12% above the target, and they showed that the students were able to demonstrate their knowledge of engineering ethics, both in the Fundamental Cannons and Rules of Practice.

3. According to current results, areas needing improvement:
In this assessment cycle the SLO was operationalized for the Core Learning Outcomes of Civic Engagement. Throughout the course, engineering ethics is discussed and applied. Aside from an entire lecture that is dedicated to ethics in design, students are required to complete a group project focused on improving our daily life. EGR 122 students are also made aware that their design will influence social, environmental, or economic aspects of our lives. They should examine the ethical implications of their design choices and their civic responsibilities.

This approach of combining ethics lectures with the direct practice of ethics in engineering design will be continued. Further, additional current events that affect society will be discussed in the context of engineering design and analysis.

4. Based on current results, new actions to improve student learning:
Given the current results, the prior recommendations maintained a high success rate above the target in both SLO criteria. They will therefore be continued and assessed to identify any additional room for improvement. Further, since EGR 122 is delivered in two

		modalities, an attempt to determine the success rate of both modalities will be carried out. The Engineering Pathway Chair and the course instructors will be responsible for implementing the recommendations in Spring 2023. **5. Next assessment of this CLO:** This SLO will be assessed in the next CLO assessment of Civic Engagement.

Program Goal on Graduation: To encourage students to complete their A.S. degree in Engineering

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Program graduation totals will increase by 5 percent.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates (Parent Program)	Number of Graduates (Electrical Engineering Specialization)	Total Number of Graduates	Percentage Increase/ Decrease
2020-21	214	2	216	5%
2019-20	197	8	205	12%
2018-19	160	23	183	-3%
2017-18	139	49	188	9%
2016-17	121	51	172	----

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

The previous year's results had a 12% increase while the current year's result shows a 5% increase.

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column?
Yes.

Use of Results

1. Changes put in place since previous assessment to improve graduation results:
The following are the changes cited in the last year's report:

- Engineering faculty will continue their efforts to ensure that students have effective advising and transfer information sessions.
- Transfer sessions will be communicated to all Engineering students through Canvas and emails.
- Engineering transfer information and updates will be communicated to Career and Transfer counselors.

2. Impact of changes on current results:
The results showed a 7% decline from the previous year; however, the graduation rate met the target of 5%. With the decline in the number of program-placed students, it is anticipated that the decline will begin to show with the number of graduates.

3. According to current results, areas needing improvement:
The current result shows that the program percentage increase in number of graduates met the target even with a 7% decline from the previous year. Maintaining and improving access to engineering courses will be a key factor in maintaining the stated level of graduation rate. This improvement initiative will be implemented in the Fall Semester 2022.

4. Based on the results, new actions to improve graduation/productivity results:
The engineering courses have been reviewed and revised through the state-wide initiative TransferVA. Transfer Virginia is an initiative that informs the students

Please explain:
For institutions with 5,000 or more students the required number of graduates for a Transfer degree program (A.A., A.S., A.A.&S.) is 17. The Engineering AS program has 216, with an increase of 5% from the previous year.

of various courses requirements of the two-year community college and the 4-year degree requirements of the senior institutions in Virginia. Providing this transfer information early in the student's community college education and their corresponding pathways to the senior institutions will provide a seamless transfer experience. By eliminating courses that are not transferable to a student's engineering discipline and senior institution of choice, these discipline-specific pathways will improve graduation rates.

Selecting the combination of engineering elective courses that is required in an engineering major of a specific senior institution will be important in improving graduation rate and time to degree completion.

Early engagement of the engineering faculty advisor to assist students in their course selection is recommended.

Engineering course scheduling will also play an important role in improving the graduation rate. It is recommended to have a college-wide schedule to ensure access.

The Engineering Pathway Chair will coordinate with the engineering faculty every semester, to ensure that courses are available.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To increase the number of program-placed students

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Assessment Results

Target: Program placed students will increase by 5 percent.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students (Parent Program)	Number of Program-Placed Students (Electrical Engineering Specialization)	Total Number of Program-Placed Students	Percentage Increase/ Decrease
2020-21	1510	16	1526	-7%
2019-20	1611	33	1644	-9%

Use of Results

1. Changes put in place since previous assessment to improve program placement results:
It was recommended to improve access through delivering some engineering courses virtually once the college returns to normal operations. Students should have options to take classes without travelling to different campuses when the College resumes its normal operations. Also, faculty should determine the effectiveness of their course when delivered virtually.

2. Impact of changes on current results:
The recommendation did not yield a positive result in increasing the No. of Program-Placed Students. However, improving access by adding virtual course delivery improved the No. of Graduates.

3. According to current results, areas needing improvement:

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2018-19	1717	80	1797	1%
2017-18	1542	235	1777	-7%
2016-17	1510	402	1912	----

Percent of Graduates to Program Placed Students:

Year	No. of Program Placed Students (a)	No. of Graduates (b)	No. of Graduates / No. of Program-Placed Students (b/a)
2021	1,526	216	14.2%
2020	1,644	205	12.5%
2019	1,797	183	10.2%
2018	1,777	188	10.6%
2017	1,912	172	9.0%
2016	2,021	162	8.0%

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

The previous year's results showed a 9% decrease in the number of program-placed students while the current year's results show a 7% decrease and a 2% increase from the prior year. The ratio of graduates and program placed students increased from 12.5% to 14.2%. While the number of program-placed students decreased, more students completed their degree.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed Students FTES	Number of Program-Placed Students FTES (Electrical Engineering Specialization)	Total Number of Program-Placed Students FTES	Percentage Increase/ Decrease

The No. of Program-Placed Students needs improvement, and the percentage of No. of Graduates/No. of Program-Placed Students needs to be tracked. Additionally, the target for the No. of Graduates/No. of Program-Placed Students will need to be established. This improvement initiative will be implemented in the Fall Semester 2022.

4. Based on the results, new actions to improve program placement/productivity:
One of the expectations coming out of the pandemic was a decline in the number of students attending community college. With this reality, the goal of increasing the No. of Program-Placed Students should be reviewed for relevance. The Engineering program will continue to track the ratio of the No. of Graduates to the No. of Program-Placed Students to determine if the program is providing access to courses that students need to graduate.

Further, a study of course schedules and access will be done under the NSF S-Stem Grant NOVA CORE (Community of Rising Engineers). The study will review the course offerings and capacity to ensure students are able to complete their degree efficiently. This will also include a review of course modalities.

As part of the NSF grant, engineering faculty will also focus on improving diversity and access to engineering education at NOVA by providing scholarships for several years.

The Engineering Pathway Chair and the NSF NOVA CORE PI will work together to promote the program and help improve the No. of Program-Placed Students.

5. Next assessment of this goal: Assessed annually

2020-21	1109.0	7.2	1116.2	-7%
2019-20	1187.1	15.7	1202.8	-10%
2018-19	1295.0	40.7	1335.7	2%
2017-18	1149.7	153.9	1303.6	-6%
2016-17	1104.1	279.3	1383.4	----

For Associate-Degree Granting Programs only (N/A for Certificates):

Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column?

Yes.

Please explain: For institutions with 5,000 or more students the required number of FTES for a Transfer degree program (A.A., A.S., A.A.&S.) is 24. The Engineering, AS program has 1116.2, even with a decline of 7% from the previous year.

Student Learning Outcome Assessment Report: 2021-2022
General Studies, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This program is a flexible associate degree. For students who plan to transfer, the degree can parallel the first two years of a four-year Bachelor of Science program if they choose courses that match the transfer institution's requirements. For those students who do not plan to transfer, the degree allows them to structure a program to suit their needs using accumulated credits from a variety of formal and experiential sources.

Student Learning Outcome 1: Students will demonstrate effective communication in writing, which will support Professional Readiness in a career setting. This assessment was used to evaluate both Written Communication and Professional Readiness.

Assessment Methods

Course Name/Number: HIS 112 (History of World Civilization post-1500 CE)

Direct Measure Used: A formal essay on any topic with a consistent rubric.

CLO/Rubric Criteria or Question Concepts:
Skills Assessed:

Thesis, Historical Analysis, Supporting Evidence, Understanding Audience, Organization, Clarity, Grammar/Spelling/Mechanics

Scoring:

- Score of 3 = Student fully demonstrated the skill.
- Score of 2 = Student somewhat demonstrated the skill.
- Score of 1 = Student struggled to demonstrate the skill.
- Score of 0 = Student did not demonstrate the skill at all.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	3	3	53
AN	3	3	78
MA	7	0	0
ME	0	0	0
LO	3	1	30
WO	5	3	36
NOVA Online	2	1	19

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will average a score of at least 2.0 in all writing categories.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Results 2018-2019*
All students assessed (weighted average)	2.01	N/A
On-campus average	2.05	N/A
Synchronous hybrid (remote) average	1.98	N/A
NOVA Online average	2.1	N/A
Dual Enrollment average	N/A	N/A

*Even if you used a different method/class/etc. Please include the assessment results from your 2017-2018 results and discuss them below. If you assessed the same CLO as you did in 2017-2018.

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by CLO Criteria/ Question Concepts	Current Results Semester Year	Results 2018-2019
1. Thesis	1.86	49%
2. Historical Analysis	1.92	N/A
3. Supporting Evidence	1.85	38%
4. Understanding Audience	2.05	N/A
5. Organization	2.01	N/A
6. Clarity	2.11	N/A
7. Grammar, Spelling, Mechanics	1.92	46%

Target Met: [ ] Yes [ ] No [X] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning:
In syllabus statements and at first class meetings, students were informed that history is a writing-intensive discipline beginning in Fall 2022.

2. Impact of changes on current results:
It does not seem as though there was much impact. There are no prerequisites to any history course, so any student can enroll and choose to heed or ignore the information provided.

3. According to current results, areas needing improvement:
Students struggled to write arguments and defend those arguments with evidence.

4. Based on current results, new actions to improve student learning:
There are new tools and technologies available to assist students in the writing process. Beginning in Fall 2022, a group of faculty is trialing one tool, Packback, in Canvas to see if it improves student writing.

5. Next assessment of this CLO: Spring 2025

Off-Site Dual Enrollment	2	0	0
Total	**25**	**11**	**216**

:

Current Results improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
While Written Communication was assessed in 2018-2019, the results are difficult to compare, as the rubric and target are not the same. Previously, we looked at a student's whole writing sample for evaluation, and now we have a more detailed rubric which evaluates individual writing concepts. Also, the current data set records the scores of over double the number of students from the previous assessment.

Areas where students met the target:
Students met the target for Understanding Audience, Organization, and Clarity.

Areas where students did NOT meet the target:
Student did not meet the target for Thesis, Historical Analysis, Supporting Evidence, and Grammar, Spelling and Mechanics.

Student Learning Outcome 2: Using a rubric, students' ability to write a scientific lab report with correct spelling, punctuation, and grammar will be measured. Students will discuss the results collected from an experiment in a chemistry laboratory by writing a report to support their experimental data. The criteria assessed are listed in the Assessment Methods below.

Assessment Methods

Course Name/Number: General Chemistry II (CHM 112)

Direct Measure Used: Introduction, Experimental Procedure, Recorded Data, Discussion and Conclusion from a Formal Laboratory Report in course CHM 112 was used for this assessment. Four-criteria rubric with sub-categories, were created and provided to all faculty teaching CHM 112 via CANVAS LMS. Faculty used this rubric to assess the formal laboratory report written by the CHM 112 students. Completion of the CANVAS rubric by the faculty resulted in automatic submission of the assessment data for evaluation.

Rubric Criteria or Question Concepts: Assessment Categories include:

1: Conceptual Understanding

e. The objectives of the experiment are described clearly
f. Demonstrated an understanding of the scientific concepts and terms of the experiment within the introduction

Assessment Results

Semester/year data collected: Spring 2022
Target

1. Overall average (weighted) and individual modality average is set to 80%
2. Average score for each criterion is set to 80%.
3. 80% of the students to achieve a total score of 80% or more.
4. To increase the number of sections participating in the evaluation to 70% for the results to be meaningful

Table 2: Results – Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Spring 2019	Current Results Spring 2022
All students assessed (weighted average)	89.6%	89.58%
On-campus average	82.1%	87.92%
NOVA Online average	96.0%	91.18%
Dual Enrollment average	90.8%	96.04%

Use of Results

1. Changes put in place since previous assessment to improve student learning and assessment:
Written Communication was assessed in the current delivery method using rubric via CANVAS LMS for the first time in Spring 2022 resulting in 92.9% of the sections offered participating in the assessment. The previous delivery method (hand-graded formal lab reports) resulted in low faculty participation (only 26.6% of 112 sections reporting data) and potentially subjective scoring. Clear breakdown of rubric and setting the expectation with the faculty and hence the students resulted in a much higher participation and scores.

Since faculty and campus participation in past assessments has been low, actions were taken to improve involvement in college-wide evaluations:

i. The steering committee took a hands-on approach in reaching out to all full-time and adjunct faculty teaching CHM 112. Mandatory participation in the assessment was stressed repeatedly to all faculty teaching CHM 112 by steering committee members, discipline chair and associate deans, as well as the subject dean. The Chair

g. Discussion is meaningful and derived from data tables and calculated results, including percent error.
h. Conclusions summarize the paper and states whether the objectives were met.

2. Math writing comprehension / Writing mathematically
c. Appropriate formulas written, applied, and calculated correctly
d. Proper use of significant figures (and scientific notation)

3. Spelling, Capitalization, Punctuation and Grammar
- Spelling, Capitalization, Punctuation and Grammar

4. Report format has appropriate sections
- Report contains required sections with proper headings

Rubric provided via google Document link:
https://docs.google.com/document/d/1ezi84KvUyyOadSE4DLsoCBtqYAIbncUm/edit?usp=sharing&ouid=104432048940892634106&rtpof=true&sd=true

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	43
AN	8	7	99
MA	3	3	30
LO	2	2	25
WO	3	3	43
Online	3	3	38
Off-Site Dual Enrollment	5	4	52
Total	28	26	330

Table 3: Results by CLO Criteria
[✓] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criterion/ Question Concepts	Spring 2019	Current Results Spring 2022
1. Conceptual Understanding	N/A	90.50%
2. Math writing comprehension / Writing mathematically	N/A	83.48%
3. Spelling, Capitalization, Punctuation and Grammar	91.3%	95.98%
4. Report format has appropriate sections	85.3%	92.00%

Targets Met: [✓] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[✓] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
The Written Communication CLO Assessment was last administered in Spring 2019. Spring 2019 assessment had three criteria while Spring 2022 saw an expanded set of criteria as seen in column 1, Assessment Methods.

Spring 2019 Criteria #1, '*Student writes the report using good spelling, punctuation, and grammar'* and Spring 2022 Criteria #3 are comparable. Spring 2022 saw an average of 95.98% which is well above the 80% expectation, and it is also higher than 2019 percent which was 91.3%

Spring 2019 Criteria #2 '*Student's report follows the rubric and contains the appropriate sections.*.' is comparable to 2022 criteria #4. Spring 2022 saw an average of 92.00% whereas Spring 2019 was 85.3%. Spring 2022 saw a significant improvement in the results compared to 2019.

Spring 2019 Criteria #3 '*The purpose of the experiment is well explained. Scientific concepts are well explained. Discussion/ Conclusions are supported by the experimental evidence. All scientific terms are used accurately and appropriately throughout'* was dissected into a criteria with sub-categories to expand the assessment and can be found under Spring 2022 criteria #1. The broad category

sent multiple reminders of the assessment, and the importance of collecting data and sharing the data with the steering committee was emphasized via multiple emails and individual campus MSTB/Chemistry meetings.
ii. Recognizing the time and effort of faculty to administer and collect the data, the steering committee updated the assessment and delivery method by providing a standardized rubric that could be launched through Canvas to all CHM 112 courses by respective course instructors. Scoring was simplified and unambiguous. A word document of how to write a formal lab report was shared with all faculty by the discipline chair and were asked to share with students. The students were also provided with the rubric to emphasize the importance of the key components of formal lab report.

2. Impact of changes on current results:
Target 4 results demonstrate the positive impact of college-wide participation. As a result of the concerted effort to improve participation in these college-wide assessments, 92.9% (26/28) of all sections of CHM 112 submitted results, as opposed to a 26.6% participation rate in 2019. The sample population of students assessed has increased dramatically, and the method of delivery no longer includes subjective grading.

All modalities between Spring 2019 and Spring 2022 saw an improvement, except NOVA online. However, in Spring 2019, only 1 out of 2 NOVA online section participated with 19 students, while in Spring 2022, 3 out of 3 NOVA online sections participated totaling 62 students. The drop in the NOVA online average from 2019 to 2022 could be justified due to sample size.

3. According to current results, areas needing improvement:
Although all criteria saw a score above the target 80% value, criteria 2 (Math writing comprehension / Writing mathematically) could be improved as the score was 83.48%

4. Based on current results, new actions to improve student learning:
CHM 112 instructors' college-wide will be given the results of this assessment and feedback from the discipline chair during Fall 2023 Discipline group meeting, emphasizing the need to reinforce with student the skills of data analysis by

	used in Spring 2019 saw an average of 81.2%. In Spring 2022, criteria #1 which assessed conceptual understanding fared well (90.50%), which was above the 80% expectation. Spring 2022 criteria #2 was not assessed in 2019 and was added to Spring 2022 to enrich the assessment. Although Spring 2022 criteria #2. *Math writing comprehension / Writing mathematically* was lowest of the 4 criteria assessed in 2022, it was still above the targeted 80% score. **NOTE:** All Laboratory sessions were back to in-person format for Spring 0222, after COVID, Spring 2019 assessment was also in-person and are comparable. **Areas where students met the target:** **Target 1. Overall, all modalities** exceeded Target 1, (see **Table 2**) with all students assessed averaging 89.6%, which is 9.6% above target 80%. When comparing data from Spring 2019 and Spring 2022, the All student assessed scored the same average, 89.6%. However, an increase in performance is noticed from 2019 to 2022 for on-campus (from 82.1% to 87.9%) and Dual Enrollment (90.8% to 96.0%). NOVA online saw a small dip in the average (96.0% to 91.5%). However, in Spring 2019, only 1 out of 2 NOVA online sections participated, while in Spring 2022, 3 out of 3 NOVA online sections participated. The drop in the NOVA online average could be due to lab of sample size in Spring 2019. **Target 2.** Average student scores for each of the four criteria were also above target of 80% - see **Table 3**. Criteria 1, 3, and 4 exceeded the target 80% by scoring above 90% (90.50%, 95.58% and 92.00% respectively). Criteria 2. Math writing comprehension / Writing mathematically had also scored above target 80% (83.48%), however found to be the lowest of all criteria. This criterion required students to demonstrate *Appropriate formulas written, applied, and calculated correctly* and *Proper use of significant figures (and scientific notation).* Although expectations of 80% proficiency were exceeded by 3.48%, the students' conceptual recognition was significantly better than interpreting and presenting mathematically.	writing, applying, and calculating correctly as well as using correct number of significant figures when reporting data. Instructors will be encouraged to incorporate additional experiential learning by emphasizing this criterion within data analysis of other laboratory experiments conducted within the semester. **5. Next assessment of this SLO:** Spring 2025

Target 3 requires 80% of the students to achieve a total score of 80% or more. Spring 2022 data showed that 82.7% students earned greater than 80% on their entire assessment.

Target 4 indicates that the number of sections participating in the evaluation should be minimum of 70% for the results to be meaningful. This target was achieved with leaps and bounds. In 2019, 17 out of 64 sections participated (26.6%). Although the number of sections offered in Spring 2022 decreased overall, the number of sections participated relative to the number of sections offered increased. 26 out of 28 CHM 112 sections participated (92.9%). In Spring 2019, the total number of students assessed were 291 while in Spring 2022, it was 330 students. This is a tremendous increase due to actions taken after the 2019 report. See *Impact of changes on current results* under *Use of Results* sections

Student Learning Outcome 3: Students will be able to develop, convey, and exchange ideas in writing, as appropriate to a given context and audience.

Assessment Methods

Course Name/Number: Principles of Macroeconomics, ECO 201

Direct Measure Used: Short-answer questions (attached)

CLO/Rubric Criteria or Question Concepts:

1. Three functions of money with personal example

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	5	139
AN	12	7	97
MA	5	5	102
ME	0	0	0
LO	8	1	25
WO	5	4	110
NOVA Online	13	3	65
Off-Site Dual Enrollment	0	0	0
Total	**51**	**25**	**538**

:

Assessment Results

Semester/year data collected: Spring 2022

Target: 75% of students will score 75% or better on the assignment and on each component

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Spring 2021
All students assessed (weighted average)	81.97%
On-campus average	75.74%
Synchronous hybrid (remote) average	83.68%
NOVA Online average	86.15%
Dual Enrollment average	NA

*

1. Demographics	

Target Met: [x] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results: [ ] Yes [ ] No [ ] Partially x[ ] N/A

Narrative comparison of current results to previous results: This CLO has not been tested since 2018 (the first year I have data for). The Economics Discipline, starting in

Use of Results

1. Changes put in place since previous assessment to improve student learning: This was the first time the ECO discipline has tested Written Communication as a CLO. In our other course (ECO 202), we tested our SLO related to written communication in Fall 2021 (see above). The questions were different and asked students to write about different content areas. .

2. Impact of changes on current results: NA

3. According to current results, areas needing improvement: Students did well on this assignment in all modalities but there were significant concerns from faculty about assessing written communication – some professors felt that this was outside of our expertise. The students did well on the content of the assignment and most professors graded that and placed most of the weight on the content. Faculty were not willing to give good scores for well-written incorrect responses or poor scores for poorly written but correct responses. As a result, the data was inconsistent across sections. We continue to see improved participation from some campuses but continue to struggle with others and have seen drop off from one campus.

4. Based on current results, new actions to improve student learning: We did not understand that we were not required to test Written Communication (we tested Civic Engagement last time around). It was too late in our

	2018, has been testing different CLOs each year. We have never tested the same one twice. **Areas where students met the target:** Students in all modalities met the target. **Areas where students did NOT meet the target: None**	process to change to Civic Engagement when we learned this (the assessments were already in the NOL courses). Many of our faculty do not regularly assign written assignments and there were significant concerns – especially in the CV and NOL sections – that students wee not providing their own answers, even though the assignment tried to thwart cheating by asking for a personal example. In some cases, students reported the SAME personal example. Since the introduction of ChatGPT, the discipline chair put our CLO assessment question used in Spring 2022 into the AI and the result was an excellent response. We even asked for a "humorous" example and ChatGPT produced an A+ result. This experience, coupled with the hesitancy of the faculty and the inconsistency (subjectivity) in grading, the discipline will not be testing the CLO again unless forced to. **5. Next assessment of this CLO:** Hopefully, never.

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Philosophy SLO used to operationalize this CLO "Construct philosophical arguments which deal with relevant situations."

Assessment Methods

Course Name/Number: Introduction to Philosophy (PHI 101); Logic (PHI 111); Ethics (PHI 220); Biomedical Ethics (PHI 227)

Direct Measure Used: Writing assignment

CLO/Rubric Criteria or Question Concepts: Writing assignments were evaluated at four levels of achievement across three criteria: 1) Explanation 2) Criticism/Defense 3) Objections

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	8	0	0
AN	11	6	146
MA	4	0	0
ME	0	0	0
LO	12	4	118
WO	4	0	0
NOVA Online	6	0	0
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**45**	**10**	**264**

Assessment Results

Semester/year data collected: Spring 2022

Target: 75% of students scoring at the third level or better for each of the rubric criteria

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Results 2017-2018*
All students assessed (weighted average)	83%	N/A
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

*Even if you used a different method/class/etc. Please include the assessment results from your 2017-2018 results and discuss them below. If you assessed the same CLO as you did in 2017-2018.

Results by CLO Criteria:

[ ] Average/Mean Score per criteria or

[X] Percent of Students > target per criteria

Results by CLO Criteria/ Question Concepts	Current Results Semester Year	Results 2017-2018
1. Explanation		
2. Criticism/Defense		

Use of Results

1. Changes put in place since previous assessment to improve student learning: N/A

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: More PHI faculty, particularly adjuncts need to report.

4. Based on current results, new actions to improve student learning: Majority of students did well and our assessment average was well above our target. Improvements could be made in the "criticism/defense" criteria by providing students with more examples.

5. Next assessment of this CLO: Not sure.

:

3. Objections		

Target Met: [X] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target: Most students met the target of scoring at a level three or better for each of the three criteria.

Areas where students did NOT meet the target: Some students did well on the assessment but did not score at or above a level three for all of the criteria.

Program Goal on Graduation: Increase graduation rate by ensuring appropriate placement into the program

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Increase graduation rate from the previous year

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	861	-29.1
2020-21	1,215	-9.6
2019-20	1,344	-4.7
2018-19	1,411	-1.3
2017-18	1,429	----

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The total number of A.S. General Studies graduates decreased from the previous year. The decrease was likely due to the after-effects of the COVID pandemic and may also be the result of students being more appropriately placed in other degree programs that are more aligned with their career interests.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the

Use of Results

1. Changes put in place since previous assessment to improve graduation results: Academic Advisors received continued instruction on what populations of students the A.S. General Studies are intended for to ensure that the programs are the best fit for students placed into them.

2. Impact of changes on current results: The total number of A.S. General Studies graduates decreased from the previous year, most likely due to increased placement of students in more specialized degree programs that align with students' career interests and the effects of the COVID pandemic.

3. According to current results, areas needing improvement: To better educate advisors regarding appropriate placement and fully utilize this degree, we need to regularly and strategically gather information about who is using the degree and why, so we can continue to design programs that are structured to encourage graduation (by tailoring requirements to the needs of its various populations). New student onboarding initiatives and career exploration tools through VCCS will likely improve quality placement into the A.S. General Studies program.

4. Based on the results, new actions to improve graduation/productivity results:

1. Define "quality placement" as: "intent to complete the program" and "a member of one of the target

previous column? Please explain: Yes, the program meets VCCS Productivity Standards.

categories of student" (i.e., non-traditional credit sources, undeclared, or pursuing an interdisciplinary career/transfer program). Continue to ensure "quality placements" into the program.
2. Evaluate how many students in General Studies are in more than one program.
3. Analyze whether A.S. General Studies students are transferring without completing a degree. Compare these results to other NOVA degrees.
4. Complete a targeted communication to A.S. General Studies students who are close to graduation to cite the benefit of completing a A.S. General Studies degree and encourage them to apply for graduation.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Increase percentage of quality placements as defined by students' intention to graduate from the program and reflect the best fit of the program for their career and transfer goals.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Increase quality program placement from previous year

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	3,274	-35.8
2020-21	5,101	-31.3
2019-20	7,421	-22.0
2018-19	9,511	-9.4
2017-18	10,493	----

Target Met for Headcount: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The number of students placed into the A.S. General Studies program decreased.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	1,854.5	-37.3
2020-21	2,957.5	-31.9
2019-20	4,342.9	-25.5
2018-19	5,825.8	-10.0
2017-18	6,471.7	----

Use of Results

1. Changes put in place since previous assessment to improve program placement results: Ongoing training was provided to Advisors on the purpose of the General Studies program and proper placement of students into the program in 2021-22.

2. Impact of changes on current results: The continued education of Advisors and the effects of the COVID pandemic likely contributed to a reduction in the number of students placed into the program. This is not necessarily a negative outcome, if the effect is higher quality placement of students into the program as defined by intention to graduate with the program and a good fit between the requirements of the program and the transfer and career goals of the students placed into it.

3. According to current results, areas needing improvement: Ongoing analysis of the population of students selecting the General Studies, A.S. to continuously improve Advisor training, create new programs as needed, and keep the General Studies degree tailored to fit its target populations.

4. Based on the results, new actions to improve program placement/productivity:
1. Analyze instances of students placed into multiple programs each Spring, to determine the purpose of those placements (i.e., stackable credentials, errors when making program changes, needing second

General Studies, A.S.

	<u>For Associate-Degree Granting Programs only (N/A for Certificates)</u>: Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes, the program meets VCCS Productivity Standards.	program due to poor fit with other program, needing second program due to career/transfer needs). 2. Revising the degree purpose statement to more specifically reference the intended target populations. **3.** Continue exploring the addition of a program-specific capstone course tailored to the needs of students and aligned with the Student Learning Outcomes for the program, including exploring whether this is the best option for our students. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
General Studies: Health Sciences Specialization, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The academic foundation in this degree will allow students to continue their education by applying to a competitive program at the Medical Education Campus or prepare for entry to a variety of allied health or health sciences baccalaureate programs. Students should consult an academic advisor in selecting electives to this curriculum.

Student Learning Outcome 1: *Students will demonstrate a fundamental knowledge of medical terms related to human anatomy and medical diagnoses.*

Assessment Methods

Course Name/Number: Medical Terminology I - HIM 111

Direct Measure Used: Questions from the NOL HIM 111 course exam 4 was used as the primary measure to demonstrate a student's fundamental knowledge of medical terms and relate them to human anatomy and medical conditions.

SLO/Rubric Criteria or Question Concepts: On the NOL HIM 111 exam 4, the results of how students answered the following questions were used to demonstrate the students' understanding of medical terms and how they relate to human anatomy and medical conditions.

- Question 1. Related to edema
- Question 2. Referring to hemophilia
- Question 3. Related to the arthroplasty
- Question 4. Related to polycythemia vera
- Question 5. Related to pernicious anemia
- Question 6. Related to neutrophil
- Question 7. Related to albumin
- Question 8. Related to thrombocytopenia

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MEC only	0	0	0
NOVA Online	11	11	220
Off-Site Dual Enrollment	7	0	0
Total	**18**	**11**	**220**

Number of students assessed for each question varied as a test bank was used in this assessment.

Assessment Results

Semester/year data collected: Fall 2021

Target: 90% of students will be able to effectively demonstrate their knowledge of medical terms related to human anatomy and medical diagnoses as assessed through 8 questions from the NOL HIM 111 exam 4.

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results
1. Question 1	86.7%	N/A
2. Question 2	86.4%	N/A
3. Question 3	97.3%	N/A
4. Question 4	92.5%	N/A
5. Question 5	96.1%	N/A
6. Question 6	95.2%	N/A
7. Question 7	98.0%	N/A
8. Question 8	97.8%	N/A

Target Met: [] Yes [ ] No [X] Partially

Narrative comparison of current results to previous results: The General Studies, Health Sciences Specialization A.S. degree pathway is relatively new, launching in Fall 2019. Therefore, this SLO was never specifically reviewed based on the questions identified in exam 4 in the HIM NOL courses.

Areas where students met the target: The percentage of students taking the NOL HIM 111 exam 4 scored greater than the target of 90% on 6 out of 8 questions listed above.

Areas where students did NOT meet the target: As reflected in the table above, in Fall 2021, of the students who completed exam 4 in the NOL HIM 111 courses, the target was not met in 2 of the 8 questions specific to terms related to edema and hemophilia. Additional review of these topics will be implemented.

Use of Results

1. Changes put in place since previous assessment to improve student learning: Since the General Studies, Health Sciences Specialization A.S. degree is relatively new, beginning in Fall 2019, this SLO using these medical terms was assessed for the first time. Data from this assessment will serve as a benchmark for future assessments.

2. Impact of changes on current results: N/A - This SLO using these medical terms was assessed for the first time.

3. According to current results, areas needing improvement: Based on the current results, the target was partially met. Overall, students were able to apply their knowledge of medical terms related to human anatomy and medical diagnoses. However, students demonstrated difficulty in understanding medical terminology as related to edema and hemophilia. The recommendation is to review the course content in HIM 111 related to these terms to ensure that the content is adequately being provided and covered.

4. Based on current results, new actions to improve student learning: Based on the current results, the target outcome was partially met. The recommendation is to review the course content aforementioned and weave these terms into a discussion board forum as well to reinforce these terms. This will be implemented in Fall 2023

5. Next assessment of this SLO: This SLO will be reassessed in AY 2023-2024.

General Studies: Health Sciences Specialization, A.S.

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Students will demonstrate, through written communication, the ability to convey and exchange medical terms and concepts based on a clinical case study.

Assessment Methods

Course Name/Number: Medical Terminology - HIM 111

Direct Measure Used: NOL HIM 111 discussion board 3: MRI Report was used as the primary measure.

CLO/Rubric Criteria or Question Concepts:

- Question 1: What is an MRI?
- Question 2a: Combining forms of regions of the body imaged: myel/o
- Question 2b: Combining forms of regions of the body imaged: encephala/o
- Question 3: What is brain parenchyma?
- Question 4: From the report, what is the likely diagnosis? Explain why?

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MEC only	0	0	0
NOVA Online	12	12	261**
Off-Site Dual Enrollment	4	0	0
Total	**16**	**12**	**261**

***Of the 261 students who were enrolled in the course, only 210 of the students completed discussion board #3. The data analyzed will be based on the 210 who completed the assignment.

Assessment Results

Semester/year data collected: Spring 2022

Target: 80% of students will be able to demonstrate, through written communication via a discussion board, their ability to convey and exchange medical terms and concepts based on an MRI report (discussion board 3).

Results by CLO Criteria: Percent of Students > target per criteria

Results by CLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results
1. What is an MRI?	99.9%	N/A
2a. Combining forms of regions of the body imaged: myel/o	79%	N/A
2b. Combining forms of regions of the body imaged: encephala/o	80%	
3. What is brain parenchyma?	96.6%	N/A
4.From the report, what is the likely diagnosis? Explain why?	96.2%	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Narrative comparison of current results to previous results: Since the General Studies, Health Sciences Specialization A.S. degree pathways is relatively new, launching in Fall 2019, there are no previous results to do a comparison with the current data for this CLO.

Areas where students met the target: In the discussion board assignment, 4 out of 5 of the questions were consistently answered correctly and the target was met. On questions 1 and 3 respectively, students were able to correctly define, through written communication, what a MRI is and provide the definition of brain parenchyma. In question 4, the students were required to analyze the concepts of the case to identify the correct medical diagnosis and explain their rationale in the discussion board. Further, students in question 2b were able to use the information provided to identify the medical term combining form of the brain, encephala/o, when reviewing the MRI case study.

Areas where students did NOT meet the target: In the discussion board assignment, 1 out of 5 of the questions were not consistently answered correctly and the target was

Use of Results

1. Changes put in place since previous assessment to improve student learning: Since the General Studies, Health Sciences Specialization A.S. degree is relatively new, beginning in Fall 2019, this written communication CLO was assessed for the first time. Data from this assessment will serve as a benchmark for future assessments. The General Studies, Health Sciences Specialization degree pathway was created to ensure that students interested in a career in health would have an option to prepare to either enter a competitive AAS degree program at the Medical Education Campus at NOVA or a transfer degree program at a partner four-year university.

2. Impact of changes on current results: N/A - This CLO was assessed for the first time.

3. According to current results, areas needing improvement: Based on the current results, written communication was more challenging when they had to apply their learning to the case rather than simply write definitions. Areas needing improvement include students' written communication and analysis skills related to combining forms of medical terms. Additionally, a continued emphasis on the consistent use of the grading rubric in this course is recommended as noted through this assessment process.

4. Based on current results, new actions to improve student learning: Overall, it is recommended that students are provided with more detailed and consistent feedback with the discussion board forums, particularly when writing the proper combining forms of medical terms based on a case study provided. This will be implemented in Fall 2023

5. Next assessment of this CLO: This CLO will be reassessed in AY 2024-2025.

	not met. In question 2a, the students demonstrated difficulty using the information in the case to identify the medical term combining form of spinal cord, "myel/o" when reviewing the MRI case study.	

Program Goal on Graduation: The number of graduates of the General Studies, Health Sciences Specialization degree pathway will double over this academic year

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** The number of graduates of the General Studies, Health Sciences Specialization degree pathway will double. **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** There continues to be an increase in the number of graduates in 2021-22. There was a 116% increase in AY 2021-22. **2. Impact of changes on current results:** The number of graduates more than doubled from AY 2020-21. This demonstrates that this degree pathway is popular and high in demand. Since this program is relatively new, the interest in the program continues to increase, resulting in greater graduates and enrolled students. **3. According to current results, areas needing improvement:** Continued efforts and focus on academic advisement to ensure efficient academic progression is recommended. Once the college-wide advising model, including faculty, is published, efforts to ensure that the students in this pathway are connected with a faculty advisor will be necessary. **4. Based on the results, new actions to improve graduation/productivity results:** Once the new college-wide advising model is implemented, the Associate Dean of Health Sciences will hold information sessions for assigned faculty advisors to this degree pathway. Ensuring that these faculty advisors are equipped with the most current information about the degree program and related pathways will be vital in assisting students to efficiently meet the graduation requirements of this degree pathway. **5. Next assessment of this goal:** Assessed annually

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Graduates	Percentage Increase
2021-22	288	116
2020-21	133	432
2019-20	25	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Given the data above, there continues to be an increase from AY 2020-21 to AY 2021-22 in the number of graduates from the General Studies, Health Sciences Specialization A.S. degree program.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: The 2021-2022 graduation total surpasses the VCCS Productivity Standard with 288 graduates of the General Studies, Health Sciences Specialization degree pathway.

Program Goal on Program-Placed Students: There will be 2,000 program-placed students, including 1,000 program-placed FTEs in the General Studies, Health Sciences Specialization degree pathway by the end of AY 2021-2022.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target:** 2,000 students will be program-placed in the General Studies, Health Sciences Specialization degree pathway by the end of AY 2021-2022 and there will be 1,000 program-placed FTEs in the degree pathway.	**1. Changes put in place since previous assessment to improve program placement results:** Since the last assessment period, marketing efforts in collaboration with Student Success.

General Studies: Health Sciences Specialization, A.S.

Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 2 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase
2021-22	3720	24%
2020-21	3,006	255%
2019-20	845	N/A

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The General Studies, Health Sciences Specialization program has proven to be a very popular pathway for students since its inception. There continues to be an increase in the number of students program placed as evident from the AY 2021-22 as noted in the table above. The target was to have 2,000 program-placed students in the pathway, but in 2021-2022, there were 3,720 program placed students, far exceeding the target.

Results for Past 2 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase
2021-22	2204.6	15.8%
2020-21	1,903.6	347%
2019-20	547.6	N/A

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-2022 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: The 2021-2022 FTE total surpasses the VCCS Productivity Standard with 2204.6 FTES in the General Studies, Health Sciences Specialization degree pathway, demonstrating that there is great student interest in health sciences career opportunities.

Additionally, virtual counselors in Student Success were specifically assigned to students interested in this pathway. Efforts were designed to guide students interested or enrolled in this program of study. These measures were implemented in 2020-2021.

2. Impact of changes on current results: As shown through the data, the enrollment in the General Studies, Health Sciences Specialization increased by 24% over the last academic year. Ongoing marketing efforts and virtual advising have helped to improve student enrollment in this degree program. Additionally, the contextual factor of the COVID-19 pandemic emphasized the importance and need of healthcare workers, which also may have increased students' desire to pursue this degree pathway.

3. According to current results, areas needing improvement: Based on the data, continued marketing efforts and virtual advising seem to be tremendously helping the enrollment in the General Studies, Health Sciences degree. These efforts are recommended to continue.

4. Based on the results, new actions to improve program placement/productivity: Program placement and productivity related to the General Studies, Health Sciences Specialization is very high compared to the standards. Continued marketing and advising efforts are recommended to support incoming and current students in this degree pathway.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Graphic Design, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed for individuals who seek full-time employment in the graphic design field. Job opportunities include graphic designer, art director, illustrator, production artist, package designer and web content developer, among others in the graphic design marketplace. Graphic Design Interactive Design Specialization AAS: The curriculum is designed for individuals who seek full-time employment in the communication design profession. Upon completion, an individual would be prepared to work in the field of web-based interactive design including multimedia techniques specific to the web. Job opportunities include web designer, UX designer, web content developer and motion graphic designer, among others in the graphic design marketplace.

Student Learning Outcome 1: To research, formulate visual and written concepts and solve visual ideas. *(GD SLO #1)*

Assessment Methods

Course Name/Number: Intro to Graphic Skills, ART 140

Direct Measure Used: Students in ART 140, Introduction to Graphic Skills, were evaluated on the development and production of a postage stamp. The instructor evaluated each project based on investigation and research, interpretation and analysis, formulate ideas and concepts.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:
1. Investigation/Research (5 points)
2. Interpretation/Analysis (5 points)
3. Formulate Ideas and Concepts (5 points)

Total = 15 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	5	5	93
LO	6	6	97
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	11	11	190

Assessment Results

Semester/year data collected: Fall 2021

Target: The target was to have more students above the average level, which would be in the 75% range = C

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2018
All students assessed (weighted average)	12.35 (82%)	19.58 (78%)
On-campus average	12.6 (84%)	19.58 (78%)
Synchronous hybrid (remote) average	12.2 (81%)	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2018
1. Investigation/Research	4.14 (82%)	4.08 (81%)
2. Interpretation/Analysis	3.41 (68%)	3.41 (68%)
3. Formulate Ideas and Concepts	3.91 (78%)	3.91 (78%)

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: We met our achievement goal. The Fall 2021 result indicates the overall average score was in the Excellent and Good range in each of the domains listed above indicating that 82% of the students were

Use of Results

1. Changes put in place since previous assessment to improve student learning: Virtual learning was implemented due to the COVID-19 pandemic, because of this change in instructional delivery more students are interested in virtual classes.

2. Impact of changes on current results: The addition of more virtual classes has shown a marked increase in the number of students being assessed.

3. According to current results, areas needing improvement: The student's ability to achieve a higher score in Interpretation/Analysis.

4. Based on current results, new actions to improve student learning: More time given during the initial analysis of the project at hand to improve the students to interpret and analyze the overall problem before moving into the formulation of their ideas and concepts.

5. Next assessment of this SLO: Fall 2023

successful integrating the material. While 82% of the students scored in the Average or above range, the domain on which students scored the lowest was Interpretation/Analysis, with 68%. The results are interesting in that there is no change positive or negative since the last assessment.

Areas where students met the target:
Investigation/Research, and Formulate Ideas and Concepts met the overall target.

Areas where students did NOT meet the target:
Interpretation/Analysis was below the 75% target.

Student Learning Outcome 2: To design visual concepts based on set criteria. *(GD SLO #5)*

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Intro to Graphic Skills, ART 140

Direct Measure Used: Students in ART 140, Introduction to Graphic Skills, were evaluated on the development and production of a poster and presentation about a graphic artist chosen from a set list provided by the instructor. The instructor evaluated each project based on research/writing and documentation, concept and design, technical execution, presentation and critique and review.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

1. Research/Writing and Documentation (5 points)
2. Concept and Design (5 points)
3. Technical Execution (5 points)
4. Presentation and Critique and Review (5 points)

Total = 20 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	5	5	90
LO	6	6	102
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	11	11	192

Semester/year data collected: Fall 2021

Target: The target was to have more students above the average level, which would be in the 75% range = C

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2017
All students assessed (weighted average)	16.3 (81%)	21.85 (87%)
On-campus average	12.6 (84%)	21.85 (87%)
Synchronous hybrid (remote) average	12.2 (82%)	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2017
1. Research/Writing and Documentation	4.03 (80%)	4.55 (91%)
2. Concept and Design	4.07 (81%)	4.4 (88%)
3. Technical Execution	4.0 (80%)	4.1 (82%)
4. Presentation and Critique and Review	4.07 (81%)	9.1* (91%)

**note when the rubrics were revised this was changed from a total of 10 points to 5 points.*

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

1. Changes put in place since previous assessment to improve student learning: The revision of the rubric to equalize the point values across the board rather than having one criterion weighted to heavily against the other measurements.

2. Impact of changes on current results: The addition of more virtual classes has shown a marked increase in the number of students being assessed.

3. According to current results, areas needing improvement: Although within the accepted target it would appear that more technical execution should be addressed.

4. Based on current results, new actions to improve student learning: Technical execution was a difficult thing to teach virtually over the course of the pandemic. Now that more classes meet in person the importance of technical execution needs to be addressed with more time given for review of the students' working knowledge as well as habits.

5. Next assessment of this SLO: Looking over our 3-year projection for our SLOs and that we have a total of 10 (plus the 2 CLOs) it will be sometime after Spring 2024.

Narrative comparison of current results to previous results: We met our achievement goal. The Fall 2021 result indicates the overall average score was in the Excellent and Good range in each of the domains listed above indicating that 81% of the students were successful integrating the material. Please note that though this looks like a decline since the previous results 87% the previous assessment was of 9 students versus the 192 students that were assessed this time.

Areas where students met the target: All areas.

Areas where students did NOT meet the target: None.

Student Learning Outcome 3: To consider and apply technical and conceptual expertise in the creation of visual concepts. *(GD SLO #7)*

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Graphic Design 1, ART 217

Direct Measure Used: Students in ART 217, Graphic Design 1, were evaluated on the design and development of a logo/logotype/wordmark. The instructor evaluated each project based on research/analysis, concept/ideation, and technical proficiency.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

1. Research/Analysis (5 points)
2. Concept/Ideation (5 points)
3. Technical Proficiency (5 points)

Total = 15 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
LO	1	1	23
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	37

Semester/year data collected: Spring 2022

Target: The target was to have more students above the average level, which would be in the 75% range = C

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2016
All students assessed (weighted average)	13.49 (89%)	19.81 (99%)
On-campus average	13.49 (89%)	19.81 (99%)

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2016
1. Research/Analysis	4.1 (82%)	4.09 (81%)
2. Concept/Ideation	4.75 (95%)	3.9 (78%)
3. Technical Proficiency	4.6 (92%)	3.6 (72%)
4. Final*	N/A*	8.18 (81%)

**note when the rubrics were revised this removed as it was deemed overly generic.*

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: We met our achievement goal. The Spring 2022 result indicates the overall average score was in the

1. Changes put in place since previous assessment to improve student learning: The revision of the rubric to equalize the point values across the board rather than having one criterion weighted to heavily against the other measurements.

2. Impact of changes on current results: The addition of more virtual classes has shown a marked increase in the number of students being assessed.

3. According to current results, areas needing improvement: The student's ability to achieve a higher score in Research/Analysis.

4. Based on current results, new actions to improve student learning: More time given during the initial analysis and research of the project at hand to improve the students to interpret and analyze the overall problem before moving into conceptualization and ideation of their project, as well as their technical proficiency.

5. Next assessment of this SLO: Looking over our 3-year projection for our SLOs and that we have a total of 10 (plus the 2 CLOs) it will be sometime after Spring 2024.

	Excellent and Good range in each of the domains listed above indicating that 89% of the students were successful integrating the material. Please note that though this looks like a decline since the previous results 99% the previous assessment was of 11 students versus the 37 students that were assessed this time. **Areas where students met the target:** All areas. **Areas where students did NOT meet the target:** None.	

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: Students to demonstrate the ability to evaluate evidence carefully and apply reasoning to decide what to believe and how to act.

Assessment Methods

Course Name/Number: Graphic Design 1, ART 217

Direct Measure Used: Students in ART 217, Graphic Design 1, were evaluated on the design and development of a brochure intended for the public with information and facts of the COVID-19 virus. The instructor evaluated each project based on the student's ability to identify and gather evidence, interpretation and analysis of the evidence, and to formulate new solutions based on the evidence.

CLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

1. Identifies & Gathers Evidence (5 points)
2. Interpretation/Analysis (5 points)
3. Formulate New Solutions Based on Evidence (5 points)

Total = 15 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
LO	1	1	23
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	37

Assessment Results

Semester/year data collected: Spring 2022

Target: The target was to have more students above the average level, which would be in the 75% range = C

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	12.765 (85%)	N/A*
On-campus average	12.765 (85%)	N/A*

**note this CLO has not been assessed in a previous year.*

Results by CLO Criteria:

[X] Average/Mean Score per criteria or

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results
1. Identifies & Gathers Evidence	4.21 (84%)	N/A*
2. Interpretation/Analysis	4.12 (82%)	N/A*
3. Formulate New Solutions Based on Evidence.	4.435(88%)	N/A*

**note this CLO has not been assessed in a previous year.*

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A. This CLO has not been assessed in a previous year.

Use of Results

1. Changes put in place since previous assessment to improve student learning: None since this CLO has not be previously assessed.

2. Impact of changes on current results: Too early to tell?

3. According to current results, areas needing improvement: The student's ability to achieve a higher score in Interpretation/Analysis.

4. Based on current results, new actions to improve student learning: More time given during the initial analysis of the project at hand to improve the students to interpret and analyze the overall problem before moving into the formulation of their solutions based on the evidence acquired.

5. Next assessment of this CLO: Spring 2026

Graphic Design, A.A.S.

Areas where students met the target: All areas.

Areas where students did NOT meet the target: None.

Program Goal on Graduation: Increase graduation rates

Assessment Method

Short description of method(s) and/or source of data: Graduation totals: Number of graduates Graphic Design AAS, Graphic Design Interactive Design Specialization, Multimedia Design Certificate and Web Design Specialist Certificate (the latter 2 certificates have been removed, and classes associated with only them are being phased out to the program).

Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To encourage students to complete an AAS degree in Graphic Design and Interactive Design

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	46	34%
2020-21	30	-36%
2019-20	41	29%
2018-19	29	3%
2017-18	28	----

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Graphic Design, A.A.S.	**21**	**22**	**28**	**24**	**33**	**23**
Graphic Design Interactive Design Special.	**7**	**7**	**13**	**6**	**13**	**5**
Media Design Certificate*	**3**	**4**	**0**	**5**	**2**	**4**
Web Design Specialist Cert.*	**5**	**4**	**5**	**2**	**3**	**1**

***Programs discontinued in Fall 2020

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Graduation rates increased by 65% for the Graphic Design AAS in the past year. This increase may also be the result of more offerings in virtual classes making it possible for more students to graduate by completing their necessary classes remotely.

Use of Results

1. Changes put in place since previous assessment to improve graduation results: The Multimedia Design Certificate and Web Design Specialist Certificate Programs have been discontinued. The Curriculum Committee has approved the discontinuances. The certificates are no longer offered as of Fall 2020. Both the Graphic Design degree and the Graphic Design Interactive Design Specialization degree have been changed. In order to keep the degrees within the necessary credit differences, two original elective courses were changed to necessary courses for each degree. The Graphic Design degree was assigned ART 268 and ART 281, while the Interactive Design Specialization was assigned ART 203 and ART 270.

2. Impact of changes on current results: The issue and changes with degrees delayed graduation for some students and may have been the cause of some students not getting their second degree. The companion transfer degree (AFA Visual Arts) has increased graduation rates. The Statement, "For students double majoring in both the Graphic Design and Graphic Design Interactive Specialization A.A.S. degrees, there must be a total of 25% difference in ART credits between the degrees" was added to both degrees. These changes were implemented in Fall 2020 along with the removal of the Multimedia Design Certificate and the Web Design Specialist Certificate.

3. According to current results, areas needing improvement: Continued advising for all degrees: Graphic Design AAS, Interactive Design AAS, and Visual Arts AFA.

4. Based on the results, new actions to improve graduation/productivity results: The Loudoun and Alexandria campuses will continue to coordinate class offerings to ensure course availability in an academic year in order to ensure that students can complete their degree. Faculty advisors will go over the student's progress report. The AFA in Visual Arts data must be separated into Graphic Design, Fine Arts and Photography. Continued advising for all degrees: Graphic

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes

Design AAS, Interactive Design AAS, and Visual Arts AFA.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: To increase the number of program-placed students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Program placement rates will increase by 5 percent

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	372	15%
2020-21	315	12%
2019-20	276	9%
2018-19	250	36%
2017-18	159	----

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Graphic Design, A.A.S.	**124**	**200**	**223**	**241**	**265**	**9**
Graphic Design Interactive Design Special.	**35**	**50**	**53**	**74**	**107**	**30**
Media Design Certificate*	**16**	**13**	**16**	**13**	**5**	**N/A**
Web Design Specialist Cert.*	**7**	**9**	**9**	**5**	**1**	**N/A**

***Programs discontinued in Fall 2020

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: There was an 9% increase for the Graphic Design AAS program, and a 30% increase for the Interactive Design Specialization.

Results for Past 5 Academic Years - FTES:

Use of Results

1. Changes put in place since previous assessment to improve program placement results: All faculty have made a concerted effort to make sure students in our classes are aware of the Graphic Design degree, Interactive Design degree, and AFA in Visual Arts degree. Faculty have program placed students in first-year courses in degrees and certificates: ART 140, ART 135, ART 141, ART 130, ART 203, and ART 116.

2. Impact of changes on current results: With all faculty working to either program place students (full-time faculty) or refer students to full-time faculty for placement, we have seen a significant increase in program placements.

3. According to current results, areas needing improvement: The Graphic Design Discipline needs to continue to be proactive in program placement. Data from Visual Arts AFA needs to be separated and added to program placement numbers.

4. Based on the results, new actions to improve program placement/productivity: Data from Visual Arts AFA must be separated and added to program placement numbers. The Graphic Design Discipline needs to reinforce the change in the name of the program, changes in both AAS degrees, discontinuance of Multimedia Design Certificate and Web Design Certificate, and requirements of the program with the Advising department and First-Year Advising. The Discipline needs to continue to promote the Graphic Design AAS, Interactive Design AAS, and Visual Arts AFA.

5. Next assessment of this goal: Assessed annually

Graphic Design, A.A.S.

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	219.1	10%
2020-21	195.7	13%
2019-20	169.8	12%
2018-19	149.2	36%
2017-18	94.4	----

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
Yes

Student Learning Outcome Assessment Report: 2021-2022
Horticulture Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: Purpose: The curriculum is designed to prepare students for full-time employment within the field of commercial horticulture as well as for those presently working who seek further knowledge and advancement. Graduates of the program are prepared for managerial/supervisory level positions in areas which include landscape design and installation, grounds maintenance, floristry, greenhouse and nursery management, garden center operation, and sales and marketing in related industries. Students in this program have an opportunity to gain career-related work experience through Cooperative Education or an internship in their area of emphasis.

Student Learning Outcome 1: Correctly identify parts of a plant under microscope or as a sample

Assessment Methods

Course Name/Number: Horticultural Botany – HRT 127

Direct Measure Used: Students should successfully complete a comprehensive Final Exam at the end of the semester. Success is a score of 70% or higher out of 100%. There were 68 total questions of which 25 were lab practical questions. The questions all involved correctly identifying parts of plants, while the lab practical exam involved identification of items on display as actual samples, microscope images, or models that were seen previously in lab.

SLO/Rubric Criteria or Question Concepts: Students performance on the exam overall was analyzed and also compared with their performance on the 25 lab practical questions. A sample exam is provided.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	21
Total	1		

Assessment Results

Semester/year data collected: Fall 2021

Target: A target success rate was 70% or more of the students who took the exam achieving a 70% or better on the exam.

Results:

- Of the students who took the exam, 94.4% of the students achieved the target score or better.
- 5.9% of the students that took the exam did not meet the target.
- 3 additional students did not take the exam and were not used in the assessment.
- Of all students in the class (including the no shows for the final exam): 81% achieved the target score and only 19% did not achieve the target either by not taking the exam or by scoring below 70%

Grades were as follows (number of students):

- 90-100%: 11
- 80-89%: 3
- 70-79%: 3
- 60-69%: 1
- <59%: 0
- Withdrawn/No Show: 3

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2018
All students assessed (weighted average)	88%	84.6%
On-campus average	88%	84.6%

Results by SLO Criteria: Number of students who received the following final grade percentages on the exam.

Use of Results

1. Changes put in place since previous assessment to improve student learning:
After the Fall 2018 assessment, for Fall of 2019 and Fall 2021, two practice lab practical exams (for 0 points) were given in review ahead of these actual midterm exams. There has been further refinement to give the details and emphasis on the practice lab practical exams (done as review). For Fall 2019 refinements of the actual lab worksheets and procedures was undertaken to further direct the lab learning outcomes. Additionally in Fall 2019, two additional lab practical exams were added to make sure that the students were comfortable with the exam format and how the laboratory information related to the exams. This included giving two lab practical exams at 5-6 week intervals coupled with the midterm exams to better familiarize students with the laboratory materials and microscope images and plant samples.

2. Impact of changes on current results: There is evidence that the improvements and changes made as outlined above has allowed for an improvement to overall scores on lab practical exams, and on exam scores overall.

3. According to current results, areas needing improvement: The lab practical portion of the exam is still the single largest source of point reductions. Specifically, exam questions which require identification of parts of plant using models, microscope images and samples of actual plant material were the largest areas needing improvement. An additional problem area is the students that drop/ no show for the final exam, these students do not typically pass the class either.

4. Based on current results, new actions to improve student learning: Additional review techniques with the lab worksheets should be implemented on a weekly

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. 90-100%	11	7
2. 80-89%	3	3
3. 70-79%	3	5
4. 60-69%	1	0
5. 50-59%	0	1
6. Below 50%	0	0
7. No Show	3	4
8.		

Results by SLO Criteria:

[x] Average/Mean Score per criteria

Subscores:

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. Mean Scores Exam	88%	N/A
2. Mean Scores Lab Practical	82%	N/A
3. Difference	-6%	N/A

83.3% of students who took the exam missed a higher percentage of points on the lab practical portion of the exam (15 Students), while only 16.7% of students (3 students) did better on the lab practical portion of the exam. On average students scored 6% lower on the lab practical portion of the exam as compared to the exam overall with some scoring significantly lower on this portion. Students achieved a mean score of 82% on the lab practical versus a mean of 88% on the exam as a whole.

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: In Fall of 2021 of the students that took the exam 94.4% achieved the target score while only 5.6% did not achieve the target. In the class as a whole 81% basis, and emphasis on the importance of the lab activities is also recommended. The practice lab practical exams should be made more extensive, longer and more detailed, and a third practice lab practical exam should be given before the final exam in review. These practice practical quizzes and review techniques will hopefully improve the overall success rate. Retention ideas will be explored to retain students who may be heading towards a no show/ withdrawal from the class.

5. Next assessment of this SLO:
This SLO has been assessed in both the 2018-19 and the 2021-22 academic years. The target has been met for both assessment periods and improved from the previous year's results. The class in which this SLO is best assessed is only a Fall semester class, so it seems reasonable to assess this next in the 2023-24 year.

still achieved the target score. Previously in Fall 2018 of the students that took the exam, 93.5% achieved the target score or better, in the class as a whole 75% of the students achieved the score.

Areas where students met the target: Most students met the target in all areas and did notably better in meeting the target on questions identifying parts of a plant based on a representative image (drawing or model photo) or based on written questions.

Areas where students did NOT meet the target: As a whole most students met the target in all areas, however of the students who either did not meet the target, or who came close to not meeting the target (scores in the 60-79% range), all missed significantly more in the lab practical section of the exam. These 4 students missed an average of -10.5% more on the lab practical section of the exam than on the exam as a whole. Lab practical questions involve identifying parts of a plant using a model, microscope image, or sample plant material.

Student Learning Outcome 2: Neatly draw and correctly label a landscape plan

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: HRT 231 Planting Design I

Direct Measure Used: Final Project: Students were given an assigned design scenario for a take home final drawing project. Each drawing is graded in four areas: Completion and Following Directions, Demonstration of Design and Drawing Skills, Presentation Skill, Clarity and Engagement, and Participation in Constructive Critique.

SLO/Rubric Criteria or Question Concepts:
A Rubric is provided: 'Final Presentation Grading Rubric – Dec 7 2021'

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	20
Total	1	1	20

Semester/year data collected: Fall 2021

Target: A target success rate was more than 70% of the class achieving a 80% or better on the project.

Results:
- 95% of the students achieved the target score or better.
- 5% of the students did not meet the target.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Fall 2018
All students assessed (weighted average)	95%	89.8%
On-campus average	95%	89.8%

Results by SLO Criteria: Number of students who received the following final grade percentages on the final project

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018

1. Changes put in place since previous assessment to improve student learning: This is a relatively new SLO which was rewritten in Spring 2016 and has only been assessed two previous times: in Fall 2017 and Fall 2018. The course was taught by a different instructor in each of these semesters, including in Fall 2021. The most recent instructor implemented a very clear rubric for these scores and had numerous practice projects throughout the semester which accustomed students to this process and gave them ample opportunity to develop their drawing and design skills.

2. Impact of changes on current results: Even though the rubric changed from 2017-2018, and again in 2021 the scores and overall target seems to have improved in each of these assessment periods. The more detailed rubric of 2021 seems to have allowed for an increase in competency demonstration by students, especially of the drawing, presentation, and rubric following subcategories of the assessment. Ample practice throughout the semester seems to have helped with students in achieving the target through practice.

3. According to current results, areas needing improvement: None of the subscores indicated an area

1.	90-100%	16	6
2.	80-89%	3	5
3.	70-79%	1	2
4.	60-69%	0	0
5.	50-59%	0	0
6.	Below 50%	0	0
7.	No Show	0	2

Target Met: [x] Yes [ ] No [ ] Partially

Subscores: The point reductions were given to students in the four following categories (see Rubric):
Rubric Completion and Directions, Design and Drawing, Presentation, Participation and Critique
The mean percentage that students received in each category is as follows:

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. Rubric Completion and Directions	94%	N/A
2. Design and Drawing	97%	N/A
3. Presentation	100%	N/A
4. Participation and Critique	89%	N/A

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The target was met both in this assessment period and in the previous assessment period in Fall 2018. There were different instructors and different rubrics used in each of these semesters, so a direct comparison is challenging. Overall scores improved as did the completion rate for the class (zero no shows in Fall 2021). The subscores are also difficult to compare due to the different rubrics but the area of most point reduction in this period was Participation/Critique. In previous results the major point reductions were in 'Drawing Scope' and 'Quality.' This indicates that drawing, which is the central aspect of this SLO, has better results under this current assessment.

which needed significant improvement, however, the main rubric criteria which had some students not achieving the target (with three students or 15% of the class scoring less than 80% on this category), was 'Participation and Critique'

4. Based on current results, new actions to improve student learning: The current instructor will work with the program head to further refine the requirements of 'Participation and Critique' and will rewrite the rubric with more details. Additional practice in participation and critique will be encouraged through mid-semester projects to better familiarize students with this subcategory. This will facilitate the learning of these components of landscape plan presentation and better prepare students for their final project. To be implemented in Fall 2023.

5. Next assessment of this SLO: This SLO has been assessed in Fall 2018 and Fall 2021, which was too infrequent. Even though the target was met it is reasonable to bring this SLO into a more frequent assessment cycle and re-assess and evaluate again in the Fall of 2023.

	Areas where students met the target: The target was met overall for this class, and additionally all of the subscores still met the target criteria as well. **Areas where students did NOT meet the target:** Students on average met the target in all areas. However, there is room for improvement in the 'Participation and Critique' category of this assessment. Three students (15%) did not meet the target criteria for this subcategory. The field of design is dynamic and interactive and so this is an important area to focus on in the future.	

Student Learning Outcome 3: Diagnose plant problems and recommend proper controls.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Plant Pest Management – HRT 207 **Direct Measure Used**: Students should successfully complete a comprehensive Final Exam at the end of the semester consisting of an array of different types of questions. **SLO/Rubric Criteria or Question Concepts:** The exam consisted of numerous questions (74 total) and all involved diagnosing plant problems (insect pests, animal pests, plant pathogens, abiotic disorders), and recommending proper controls. Most questions were multiple choice or true/false, with 2 of the questions being multi-part, multi-point, complex scenario questions. The subcategories we will be looking at include performance on 32 multiple choice questions, and performance on 2 scenario/ diagnosis questions. A sample exam is provided. **Sample:**	**Semester/year data collected:** Spring 2022 **Target:** A target success rate was 70% or more of the students who took the exam achieving a 70% or better on the exam. **Results:** • Of the students who took the exam, 80% of the students achieved the target score or better. • 20% of the students that took the exam did not meet the target. Grades were as follows (number of students): • 90-100%: 5 • 80-89%: 4 • 70-79%: 7 • 60-69%: 3 • <59%: 1 • Withdrawn/No Show: 0 **Results by Modality:** Percentage of Students Meeting Target (scoring 70% or higher)	**1. Changes put in place since previous assessment to improve student learning:** The primary change put in place since this course was last assessed was the moving of the course back to an on campus and in person format from a synchronous remote format (in Fall 2020 due to COVID-19 restrictions). The nature of the material of this course is such that students seem to really benefit from it being taught in an in-person, laboratory setting as was the original design and intention. An additional change was that based on previous results the instructor implemented more clear labs which specifically identified and went over the scenario type diagnosis questions, in a very similar manner as would be on the exam. **2. Impact of changes on current results:** Overall, the outcomes from the current assessment were much improved from the previous results when the target was not met and only 67% of students scored a 70% or higher on the final exam. The current results indicated 80% of students scored a 70% or higher. The teaching of this course in a primarily remote format had exposed the challenges in this learning outcome for certain students, especially in the more applied material. The return to an in-person, interactive laboratory setting seemed to have a notable benefit to the overall outcomes of students meeting the target. The addition of the scenario practice labs may have somewhat improved overall scores to meet the target. **3. According to current results, areas needing improvement:** The practical, lab based, scenario portion of the exam has results that are notable with students on

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	20
Total	1	1	20

Results by Modality	Current Results Spring 2022	Previous Results Fall 2020
All students assessed (weighted average)	80%	67%
On-campus average	80%	N/A
Synchronous hybrid (remote) average	N/A	67%

Results by SLO Criteria: Number of students who received the following final grade percentages on the exam

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2020
1. 90-100%	5	4
2. 80-89%	4	3
3. 70-79%	7	5
4. 60-69%	3	2
5. 50-59%	0	1
6. Below 50%	1	3
7. No Show	0	2

Subscores: The final exam consisted of mostly multiple choice, true/false, or fill in the blanks. Additionally, there were 32 questions that were assessed as a subscore category using scantron data. There were also two long questions with multiple parts/ multiple points, based upon scenarios with specific plant and pest species with symptoms, which were also assessed as a subscore category. See table below. Overall, the students scored on average 6% higher than their overall final exam scores on the multiple choice/ scantron section of the exam. Students also scored on average 11% lower than their overall final exam scores on the scenario questions. Overall, these complex scenario questions contributed a larger percentage of lost points on the exam.

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2020
1. Overall Mean Exam Score	77%	N/A
2. Mean Multiple Choice/Scantron Score	83%	N/A
3. Mean Scenario Question Score	66%	N/A

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

average scoring a lower overall percentage (-11%) of points versus the exam as a whole. The exam questions which require complex diagnosis of plant pathogens/ diseases was the largest area needing improvement. The addition of the scenario practice labs may have helped with these types of questions, but they were still the main source of reduced exam points. Conversely, the multiple choice questions showed a higher overall percentage (+6%) of points scored as compared to the exam as a whole; this indicates that there is even more room for improvement on the scenario questions and also the sight ID questions (which were not analyzed for this report). Students could possibly improve their overall scores to better match those of the multiple choice section, by improving all of the other question type results.

4. Based on current results, new actions to improve student learning: Based on the previous results from Fall 2020, it was proposed to look at the course content summary and explore options to reduce the overall scope of the course material (which are really two separate subjects; plant diseases and insect pests). This process was begun and the proposal to add a second course to the degree program (Training for Commercial Pesticide Application) was discussed at the most recent advisory committee meeting in May 2022. However, the current results are much improved and indicate that the course as it is currently designed can be effective at achieving this student learning outcome. However, there is considerable room for improvement in the non-multiple choice type questions, and especially the scenario type questions. The instructor will continue to explore better incorporating lab content and diagnosis material with the lecture and practice material that students use to study. In addition to the scenario practice labs implemented by the instructor in Spring 2022, the program head proposes that the instructor implement practice 'lab practical' quizzes to help students review and practice with this material.

5. Next assessment of this SLO: This SLO has been assessed in the 2019-20, 2020-21 and now the 2021-22 academic years. However, the fact that the target was only just recently met overall and was not met in all areas indicates that continuous and active assessment is needed. The course has been moved to Spring semester and so we propose that this SLO is included again in the

	Narrative comparison of current results to previous results: The target has been met in this most recent assessment, while in the previous results from Fall 2020 the target was not met with only 67% of students scoring 70% or higher on the final exam. In Fall 2019 the target was met and 78.3% of students met the target, so we are back to a similar level as before, albeit at a slightly improved percentage achieving the target. In Fall of 2020 this course was taught as a synchronous remote class due to COVID-19 restrictions and it seems that the subject did not easily convey in that format and seriously impacted the student learning outcomes. **Areas where students met the target:** Students met the target overall but when broken into subscores students did significantly better on multiple choice type questions answered on a scantron. **Areas where students did NOT meet the target:** Overall students did meet the target but when broken down into subscores, the complex scenario type questions had a mean score of 66% which would not have met the target by itself. In actuality 10 out of 20 students (50%) did not score 70% or higher on these complex scenario questions individually so this area is one where students did not meet the target.	2022-23 assessment year and be fully reassessed in Spring 2023.

Core Learning Outcome: [x] Civic Engagement [ ] Written Communication

Operationalized Definition: This was operationalized with a Bioregional Quiz assessment assignment and a follow up activity. Students were assessed in their proficiency in civic knowledge on the following topics: weather patterns, water supply, waste and utilities, food systems, plants and animals of the bioregion, human and cultural history, transportation and community planning and more and then were required to research and present on their findings to the class as a whole.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Site Analysis – HRT 230 **Direct Measure Used**: Bioregional Quiz assignment. This assignment is a multi-week self-assessment (of bioregional and civic knowledge) with a follow up research and presentation component. This 'Quiz' is given in lab time without preparation and students answer as many questions as they knew without preparation, they then turn in these questions with the reported number of questions they could successfully answer. The 'Quiz' is then passed back out, and research is undertaken in two parts over a few weeks; first students are grouped with their closest regional neighbors and are allowed to share the knowledge they have and amend this 'Quiz' worksheet. Second, students then individually take these questions home, research	**Semester/year data collected:** Spring 2022 **Target:** A target success rate was 75% of the class achieving a score of 80% or better ultimately on this 'Quiz' at the completion of the assignment. **Results:** • 100% of the students achieved the target score (80% or better) on the ultimate assessment of the assignment. This was compared to 0% who achieved a score of 80% or better on the initial self-assessment. Grades were as follows (number of students): • 90-100%: 12 • 80-89%: 1	**1. Changes put in place since previous assessment to improve student learning:** Not applicable. **2. Impact of changes on current results:** Not applicable **3. According to current results, areas needing improvement:** Initially 0% of students achieved the target, although after completion of the assignment 100% of students did meet the target. Many of these questions engage with somewhat common aspects of daily and civic life in our region and students are surprised by how little they know on these initial assessments. This motivates them to discuss and research to achieve full proficiency by the assignment's completion. The area needing improvement might be that the other courses in

answers to all the questions and then return to share their findings with their groups. Students in their groups then present these findings to the class as a whole.

CLO/Rubric Criteria or Question Concepts:
A wide range of civic, ecological, weather, and resource based questions are on this 'Quiz.' These include questions on weather patterns, water supply, waste and utilities, food systems, plants and animals of the bioregion, human and cultural history, transportation and community planning and more. See included example.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	13
Total	1	1	13

- 70-79%: 0
- 60-69%: 0
- <59%: 0
- Withdrawn/No Show: 0

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	96%	N/A
On-campus average	96%	N/A

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results
1. Initial Scores on Self-Assessment	42%	N/A
2. Ultimate Scores on Assignment completion	96%	N/A
3. Improvement	+54%	N/A

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: This CLO has not been assessed previously by the current program head.

Areas where students met the target: Students met the target (100% of students, with a mean score of 96%) ultimately on the assignment after group discussions and research activities. Students had to engage and research numerous aspects of civic life in their town or neighborhood to achieve these results including; local history, water, power and other utility systems, waste management, transportation and regional planning, weather patterns, and local natural and ecological history.

Areas where students did NOT meet the target:
Initially, no students met the target (0% of students, with a mean score of 42%) on the first in class self-assessment attempt on this 'Quiz' assignment. However, our program could better address some of these civic and bioregional topics in earlier sequenced courses in the program.

4. Based on current results, new actions to improve student learning: These results indicate that the initial civic and bioregional knowledge proficiency is quite low. This was a relatively small class and is a class that is only required for the Landscape Design AAS majors and not the Horticulture Technology AAS majors in the program. Both the initial self-assessment showing such low proficiency and the high percentage of the class (100%) of students ultimately reaching proficiency indicates the need to include a similar assignment/ project in some of the more introductory classes in the program such as HRT 100 (Introduction to Horticulture). The program head will discuss these findings and the assignment with other faculty in the Horticulture program with a proposal for the inclusion of similar material or assignments in other courses.

5. Next assessment of this CLO: If assessed on a two-year cycle, this CLO will be assessed again in the 2023-2024 academic year, specifically in the HRT 230 Site Analysis course in Spring 2024.

Horticulture Technology, A.A.S.

students did meet the target after the completion of the assignment.

Program Goal on Graduation: Increase annual program graduation rates

Assessment Method

Short description of method(s) and/or source of data: Graduation rates as recorded by OIR in a report titled: *College Graduates by Specialization and Award Type – 2017-18 to 2021-22*
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: To consistently achieve and maintain VCCS Associate Degree Productivity Standards

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	7	-50
2020-21	14	250
2019-20	4	-20
2018-19	5	-38
2017-18	8	100

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Horticulture Technology Parent degree	5	4	1	7	6	-14%
Landscape Design Specialization	3	1	3	7	1	-86%

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The Horticulture program graduation rates tend to fluctuate. Although the trends tend to correlate to FTES and student enrollment our most recent graduation rates had been growing compared to past academic years. Hopefully the recent increase in enrollment in 2021-22 will result in a corresponding increase in graduation in the coming years. Although our graduation rate declined in 2021-2022 it did so in a similar rate as in the past, but also after following a fairly high graduation rate year (in 2020-21), indicating that the program graduation rates may be stabilizing. The

Use of Results

1. Changes put in place since previous assessment to improve graduation results: Our program has had some infrequently offered courses that have served as an impediment to graduation. These courses were historically low enrolled, advanced courses that were infrequently offered. In the 2019-20 academic year, three of these courses were removed from the degree program requirements and were either replaced with a course in another discipline or another HRT course which has not had problems being offered regularly. This seemed to increase graduation rates in 2021-22 but these current results indicate that there is more to consider in addition to these program revisions. Faculty members began to implement a much more rigorous advising process. These program advisors sought out additional training, and the development of additional advising documents which the program head wrote up and distributed in the academic year 2021-22. This 'Quick Guide' is included for reference with this report.

2. Impact of changes on current results: Graduation rates declined by 50% in the most recent assessment period. It seems that the previous changes to the program curriculum had less of a long-lasting positive impact on graduation rates for both the program overall, the parent degree, and especially the landscape design specialization. Although the graduation rates still decreased, the overall FTES had also decreased from 2018-2020, since students take 2-3 years to graduate it seems likely that we are seeing the graduations rates that are correspondingly low from those lower FTES years. We hope that our additional advising work will allow for these students to graduate even if our overall student population was not increasing. Current trends in FTES are much improved so hopefully that will result in increasing graduation rates going forward.

3. According to current results, areas needing improvement: There needs to be a course sequencing plan written up to allow students to better plan their graduation timeline. Additionally, our advising will be more marketed and directed at students to encourage their meeting with advisors. If we in fact had 3-4 more graduates this year than shown, their delay until summer

	graduation rates of 2021-22 are higher than all but two of the last 6 years. Also, there were a number of Summer 2022 graduates who were not included in this data. **<u>For Associate-Degree Granting Programs only (N/A for Certificates):</u>** **Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:** No, the VCCS productivity goals for A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies is 12 graduates. However, there were 3-4 students who either had their graduation form approval delayed until Summer 2022, or who had to file in Summer 2022 due to course completion. This would have increased our total graduates much closer to the goal of 12. I am not sure when these Summer graduates are counted, but they do not appear to be included in the data that I have from OIR. HRT did surpass the productivity goals in 2020-21.	2022 graduation could have been improved with better advising. Also, there has been a significant recent increase in enrollment of program placed students and FTES, so the retention and matriculation of those students should be prioritized to keep graduation rates improving. We need to find a way to reach and maintain the VCCS productivity standards for our program. **4. Based on the results, new actions to improve graduation/productivity results:** The program head will write up, update, and distribute a course sequencing map for all students similar to the Advising Quick Guide. This map will also be made available on the HRT program website. All faculty will market and encourage the advising process on a regular basis. Faculty will try to use the new Navigate system to better advise students. Faculty continue to encourage students to complete their degrees on a regular basis in all classes and throughout all semesters. The failure to maintain the improved graduation rates (from 2020-21) in the academic programs will be discussed and reassessed at the Advisory Committee meetings in Fall 2022 and Spring 2023. Potential curriculum changes will be proposed at these meetings to address these issues. Other impediments to graduation will continue to be addressed, including issues with transfer credit, course substitutions, course scheduling/ timing and other issues. These actions will be implemented in 2022-23 and the 2023-24 academic years. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: Increase the number of program-placed students

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placed rates as recorded by OIR in reports entitled *FTES Enrollment of Program Placed Students by Major/Specialization and Award Type: Fall 2017 through Fall 2021* and *Enrollment Headcount of Program Placed students by Major/Specialization and Award Type: Fall 2018 through Fall 2021*. https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards **Degree Program** / **FTES Requirement**	**Target:** FTES and number of program-placed students in each degree/certificate will increase by 2 to 5% **Results for Past 5 Academic Years – Headcount – Parent Degree and Specialization combined:** **Academic Year** / **Number of Program-Placed Students** / **Percentage Increase/ Decrease** 2021-22: 101 / 25 2020-21: 81 / 14 2019-20: 71 / 13 2018-19: 63 / -6 2017-18: 67 / 0	**1. Changes put in place since previous assessment to improve program placement results:** Our Advisory Committee has met regularly from Fall 2019 through Spring 2022 to address these issues directly. The faculty continued to promote the program/curriculum through local and national professional organizations and look at new areas of interest for courses including Arboriculture. Current faculty, including adjunct faculty, focused on increasing the promotion of the program off campus to professional organizations, industry groups, and also to local high schools including the new Academies of Loudoun. The Horticulture Technology Program was also redesigned for the Fall 2020-21 academic year, and this may have had a direct effect on student placement. Finally, the COVID-19 pandemic and ongoing climate

Horticulture Technology, A.A.S.

	(for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Horticulture Technology Parent degree	37	30	38	46	69	50
Landscape Design Specialization	30	33	33	35	32	-8.6

Target Met for Headcount: [x] Yes [ ] No [x] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The results are overall improving from the previous assessments. The overall program placed students increased by +25% to 101 students, last year the increase was +14% overall to 81 students. The parent degree was the source of the increase in program placed students as it alone increased by 50% to 69 students. The rate of increase in the parent degree program continues and has increased at a much higher rate (+50%) as compared to last year's result (+21%). However, the Landscape Design specialization actually decreased from 35 to 32 students (-8.6%) as compared to an increase from 33 to 35 last year (+6%). So, this specialization did not meet the target in program placed students, though it is essentially flat from the last 5 years (ranging from 30-35 over that time). Additionally, as shown below, the FTES did increase in both the parent degree and this Landscape Design specialization.

Results for Past 5 Academic Years - FTES:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Horticulture Technology Parent degree	19.3	17.2	15.7	27.1	38.5	42

crisis may have fostered and increase in interest from students in horticulture. The courses in Horticulture at NOVA were offered in a wide range of formats to facilitate effective instruction in the pandemic.

2. Impact of changes on current results: There has been a notable and significant increase in both program-placed students and FTES over the last three assessment years. In particular, this assessment year has shown meeting and exceeding the target in program placed students in both the parent degree (+50%) and overall (+25%). The Landscape Design Specialization did not increase in program placed students (-8.6%) but is generally flat over the last few years. The parent degree increased in FTES by +42.5% and the Landscape Design Specialization increased in FTES by +5%, so overall the target was met in both degrees for FTES. There was also an overall increase (+28%) in FTES for both programs combined.

3. According to current results, areas needing improvement: We need to focus on the Landscape Design AAS, which is borderline on the productivity standards of FTES on its own. It did have an increase in FTES this year, but the program placed students actually decreased. We need to seek out more full time, degree pursuing students in the Landscape Design Specialization specifically. We also need to continue to attract, and importantly, retain new students in our classes and both of our degree programs. Retention and advising should be prioritized to keep this current and all future groups of students satisfied and efficiently progressing through the program. We are need of students who will graduate with our AAS degrees, and so recruiting students from industry and local high schools continues to be our top priority.

4. Based on the results, new actions to improve program placement/productivity: We want to continue to develop outreach channels to local high school students and to potential students who are already working in our industry. Deliberate high school outreach will continue to be a priority, especially as we come off the limitations from the COVID-19 pandemic. We want to continue to grow our industry ties, expand on our very active job, internship and scholarship boards, including online. We also want to explore the development of career studies certificates with our Advisory Committee

	Landscape Design Specialization: 14.2 | 17.8 | 14.7 | 16.3 | 17.1 | 5 **For Associate-Degree Granting Programs only (N/A for Certificates):** Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes, the VCCS productivity goals for A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies is an FTES of 18. The Horticulture Technology A.A.S parent degree program at NOVA had an FTES of 38.5 in the 2021-22 academic year. The Landscape Design Specialization is very close to an FTES of 18 with a current FTES of 17.1. The total FTES for the whole program is 55.6 which far exceeds the productivity standards for VCCS.	which will have as an explicit goal the attraction of new students who may already work in industry, who can come into the program and graduate with an employable certificate within one year. We need to focus on the Landscape Design Specialization and the recruitment, retention, graduation and job placement pathways for these students specifically. Our reorganized Advisory Committee will meet again in Fall 2022 and Spring 2023 and address this Landscape Design issue directly. We still think that local high school students and an industry-oriented focus are our best source of new students. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Information System Technology A.A.S

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed for those who seek employment in the field of information technology, for those who are presently in that field and who wish to increase their knowledge and update their skills, and for those who must augment their abilities in other fields with knowledge and skills in information technology.

Student Learning Outcome 1: [Ability to define memory types and allocation methods]

Assessment Methods

Course Name/Number: ITE 221 Personal Computer Hardware and OS Architecture ...

Direct Measure Used: Students were provided Assessment during their proctored Final Exam.
1)Operating System
2)Windows Environment
3)Memory Types
4)) Computer Programs
5)Volatile Memory
SLO/Rubric Criteria or Question Concepts:

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	2	2	21
MA	2	2	46
	0	0	0
LO	1	1	20
WO	1	1	20
NOVA Online	0	0	0
Off-Site Dual Enrollment	4	4	61
Total	10	10	229

Assessment Results

Semester/year data collected: Fall 2021

Target: 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	229	NA
On-campus average	6	0
Synchronous hybrid (remote) average	0	0
NOVA Online average	0	0
Dual Enrollment average	4	0

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Operating System	86%	NA
2. Windows Environment	86.31%	NA
3. Memory Types	79.76%	NA
4.Computer Programs	86.90%	NA
5.Volatile Memory	90.48%	NA

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

Use of Results

1. Changes put in place since previous assessment to improve student learning: NA

2. Impact of changes on current results:
No changes are in the plan for the time being-we will continue with the process to improve the amount od data collected
3. According to current results, areas needing improvement: N/A

4. Based on current results, new actions to improve student learning:
Currently, it is too soon to determine needed improvements. We will continue to collect data and make a determination after the spring 2023.

5. Next assessment of this SLO:
Spring 2023

Information System Technology A.A.S

Areas where students met the target: ALL

Areas where students did NOT meet the target:

Student Learning Outcome 2: Be able to define OSI reference Model and layers

Assessment Methods

Course Name/Number: ITN 257

Direct Measure Used: Students assigned to complete questions during proctored Final Exam

SLO/Rubric Criteria or Question Concepts:

1) AWS economical
2) Ability to launch and terminate instances.
3) AWS shared responsibility
4) Virtual network within AWS?
5) Maintain physical hardware

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	11
MA	1		
LO	1	1	5
WO	1		
NOVA Online	1	0	
Off-Site Dual Enrollment			
Total	5	2	16

Assessment Results

Semester/year data collected: Spring 2022

Target:70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	28	NA
On-campus average	25	NA
Synchronous hybrid (remote) average	0	NA
NOVA Online average	0	NA
Dual Enrollment average	0	NA

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. AWS economical	16	NA
2. Ability to launch and terminate instances	9	NA
3. AWS shared responsibility.	13	NA
4. Virtual network within AWS?	14	NA
5. Maintain physical hardware.	10	NA

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially x[ ] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Use of Results

1. Changes put in place since previous assessment to improve student learning:
Methods of presentation have been added to the course along with labs to better match current course content summary

2. Impact of changes on current results:
Based on the results, Improvements are reflected in key networking concepts such as network layer and Internet protocol suite, commonly known as TCP/IP

3. According to current results, areas needing improvement: Understanding the Functions of each layer of the OSI model. The division is in the process of ensuring that all classes covering this learning outcome are accounted for in the reports. Our goal is to **have more** sections involved in providing timely feedback for reports.

4. Based on current results, new actions to improve student learning:
All IET faculty have been requested to post an announcement in Canvas at the mid-session point to encourage students to check their grades and seek help

5.Next assessment of this SLO:
Spring 2023

Information System Technology A.A.S

Areas where students did NOT meet the target:

Program Goal on Program-Placed Students: Increase the number of program placed students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Semester/year data collected: 2021-22

Target: 70%

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	69	-3
2020-21	72	-3
2019-20	67	10
2018-19	57	1
2017-18	56	na

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
IT Tech support	**28**	**28**	**34**	**44**	**71**	**27 %**
Cloud Computing	**NA**	**NA**	**NA**	**5%**	**29 %**	**24 %**
Cyber Security	**95**	**116**	**128**	**135**	**152**	**27 %**
Web Application	**35**	**34**	**38**	**52**	**67**	**15 %**

Target Met for Headcount: [ ] Yes [ ] No [x] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
The program continues to strive to remain current and prepare students for transfer and employment. The goal of the division is to reach 100 % compliance in obtaining feedback to ensure outputs are Specific, measurable achievable, relevant and time-based, SMART

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the

Use of Results

1. Changes implemented since the previous assessment to improve program placement results: We have created formatting to ensure all instructors can provide SMART evaluations to their students. We have created midterm assessments to increase students' overall persistence. We continue to employ lab techs who can support instructors and students with difficult topics

2. Impact of changes on current results:
We have seen improvement in results and continue striving for full compliance from all our instructors.

3. According to current results, areas needing improvement: Our greatest need is data collection and reporting.

4. Based on the results, new actions to improve program placement/productivity: We are continuing to work toward more SMART goals and assessment

5. Next assessment of this goal: Assessed annually

Information System Technology A.A.S

	VCCS Productivity Standards from the previous column? Please explain:	

Student Learning Outcome Assessment Report: 2021-2022
Information Technology, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in information technology.

Student Learning Outcome 1: Able to define the OSI reference model and layers

Assessment Methods

Course Name/Number: ITN 100-Introduction to Telecommunications

Direct Measure Used: Students provided questions as part of proctored Final Exam.

SLO/Rubric Criteria or Question Concepts:
1)Layers of the OSI Model
2)Routing Messages
3)Physical Layer
4)Transport Layer
5)None OSI Function
6)Packets

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	4	4	58
AN	3	1	23
MA	3	1	12
LO	2	0	16
WO	2	0	0
NOVA Online	6	2	39
Total	14	8	148

Assessment Results

Semester/year data collected: Spring 2022

Target:70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	148	NA
On-campus average	5	NA
Synchronous hybrid (remote) average	3	NA
NOVA Online average	2	NA
Dual Enrollment average	0	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Layers of the OSI Model	84.96%	
2. Routing Messages	84.96%	
3. Physical Layer	91.5%	
4. Transport Layer	80.53%	
5. None OSI Function	78.57%	
6. Packets	912.92%	

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:

Areas where students met the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning:
Updated slides and labs to match current course content summary

2. Impact of changes on current results:
Improve concepts for TCP-IP and students ability to express change.

3. According to current results, areas needing improvement:
The goal is to have more participation in the SLO process, with data collected in timely format to be reflected in the reporting process.

4. Based on current results, new actions to improve student learning: Add additional hands-on lab with more problem-solving exercises and post midterm grade for better transparency, and opportunities for student to persist beyond Midterm.

5. Next assessment of this SLO:
Spring 2023 the next assessment on this SLO will be assessed

Areas where students did NOT meet the target: N/A

Student Learning Outcome 2: Ability to define Cloud Networking Security in depth

Assessment Methods

Course Name/Number: ITN 257 Cloud Computing Infrastructure

Direct Measure Used: Students provided questions as part of their proctored Final Exam

SLO/Rubric Criteria or Question Concepts:
1)AWS
2)AWS Service
3)AWS Software Solutions
4)AWS Networking
5)AWS shared responsibility
Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	1	1	11
MA	1	0	0
LO	1	1	5
WO	1	0	
NOVA Online	1	0	
Dual Enrollment			
Total	5	2	16

Assessment Results

Semester/year data collected: Spring 2022

Target:70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	28	NA
On-campus average	25	NA
Synchronous hybrid (remote) average	0	NA
NOVA Online average	0	NA
Dual Enrollment average	0	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. AWS	16	NA
2. AWS Service	9	NA
3. AWS Software Solutions	13	NA
4. AWS Networking	14	NA
5. AWS shared responsibility	10	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Areas where students did NOT meet the target:

Use of Results

1. Changes put in place since previous assessment to improve student learning: Implement AWS cloud materials

2. Impact of changes on current results: Students provided up-to-date course content.

3. According to current results, areas needing improvement: Students need more support in Subnetting and network segmentation.

4. Based on current results, new actions to improve student learning: More focus on AWS VPC and networking contents.

5. Next assessment of this SLO: Spring 2023

Student Learning Outcome 3: Able to design problems using procedural and object-oriented design, and implement, sequences, select and loop structures withing the design solution

Information Technology, A.S.

Assessment Methods

Course Name/Number: ITE 221 Personal Computer Hardware and OS Architecture

Direct Measure Used: Students provided questions during proctored Final Exam

SLO/Rubric Criteria or Question Concepts:

1) Computer Program
2) Computer Operating System
3) Memory Types
4) Operating System
5) Volatile Memory
6)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN	2	2	21
MA	2	2	46
	0	0	0
LO	1	1	20
WO	1	1	20
NOVA Online	0	0	0
Off-Site Dual Enrollment	4	4	61
Total	10	10	229

Assessment Results

Semester/year data collected: Spring 2022

Target:70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	229	NA
On-campus average	6	NA
Synchronous hybrid (remote) average	0	NA
NOVA Online average	0	NA
Dual Enrollment average	47	NA

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Computer Program	86%	NA
2. Computer Operating System	86.31%	NA
3. Memory Types	79.76%	NA
4. Operating System	86.90%	NA
5. Volatile-Memory	90.48%	NA

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Areas where students did NOT meet the target:

Use of Results

1. Changes put in place since previous assessment to improve student learning:
Midterm Assessment has been added.

2. Impact of changes on current results:
NA

3. According to current results, areas needing improvement:
Our goal is to have all sections assessed and proper timely feedback provided.

4. Based on current results, new actions to improve student learning:
More timely assessments earlier in the term

5. Next assessment of this SLO:
Spring 2023

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalized Definition: Students participated in their own company observation, and evaluation of Risk Assessment

Assessment Methods

Course Name/Number: ITN 267

Assessment Results

Semester/year data collected: Spring 2022

Target: 70%

Use of Results

1. Changes put in place since previous assessment to improve student learning: Discussions are

Information Technology, A.S.

Direct Measure Used: Students participated in their own company observation, and evaluation of Risk Assessment

CLO/Rubric Criteria or Question Concepts: This work was completed in the public and assessment measures were completed based on students presentations

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
WO	1	1	23
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	23

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	23	NA
On-campus average	23	NA
Synchronous hybrid (remote) average	0	NA
NOVA Online average	0	NA
Dual Enrollment average	0	NA

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Ability to identify Risk	75%	NA
2. Ability to engage with public	69%	NA
3. Ability to identify threats	71%	NA
4. Ability to identify Assets	85%	NA
5. Ability to discuss findings	78%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Areas where students did NOT meet the target:

being made to find ways to implement this process across all campuses.

2. Impact of changes on current results:
NA
3. According to current results, areas needing improvement: NA

4. Based on current results, new actions to improve student learning: The procedures will need to be written to capture the SWOT for this activity

5. Next assessment of this CLO:

Fall 2023

Student Learning Outcome Assessment Report: 2021-2022
Interior Design, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The Interior Design program provides quality education to prepare students for entry level employment in the interior design field or to transfer to an accredited university for further education. The curriculum provides a foundation education covering a broad range of topics in interior design, art history, furniture history, and basic design. Computer aided drafting, rendering and business practices round out the curriculum. Career opportunities exist in a diverse array of fields including retail marketing, residential design, commercial design, space planning, kitchen and bath design and design support for designers specializing in these fields. The curriculum can be completed in two years; however, students may enroll on a part-time basis. There are no entry requirements, but many Interior Design courses have prerequisites to ensure that students are properly prepared for advanced coursework.

Student Learning Outcome 1: Students will practice business management including estimating, marketing, business structures and ethics as they relate to the field of interior design.

Assessment Methods

Course Name/Number: IDS 225 Business Procedures

Direct Measure Used: Specific questions from the Midterm and Final Tests

SLO/Rubric Criteria or Question Concepts:

- Contract Elements: questions 38, 40, 41, 42, 43 from midterm and 13, 14, 18 from final
- Business Formations: question 9 from final
- Project Phases: questions 4, 5, 6, 17 from final
- Marketing: questions 21, 22, 23, 24, 25, 26, 31, 51 from final
- Presentations: questions 33, 34 from final
- Ethics: questions 26, 27, 28, 29 from midterm
- Resume: questions 12, 17, 18, 19, 22, 23, 24, 25 from midterm

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO-Remote Sync.	1	1	17
NOVA Online	N/A		
Off-Site Dual Enrollment	N/A		
Total			

Assessment Results

Semester/year data collected: Spring 2022

Target: 75% of students will score 75% or better on each area being evaluated

Results by Modality: Overall Average/Mean Scores
The average shown here is a summation of the averages of all the areas being evaluated, not the averages on the given test.

Results by Modality	Current Results Spring 2022	Previous Results Spring 2017
Synchronous hybrid (remote) average	81%	Not evaluated previously

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2017
1. Contract (16 pt)	88%	33%
2. Bus. Formation (2 pt)	56%	52%
3. Phases (8 pt)	94%	71%
4. Marketing (14 pt)	88%	100%
5. Presentation (4 pt)	86%	81%
6. Ethics	94%	NA
7. Resume	94%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: IDS 225 Business Procedures for this semester was taught synchronous remotely by a new instructor. This modality may have contributed to the success of students for this SLO. Additional material has been evaluated here including Ethics and Resume. The new instructor has spent much more time with the topic of contracts and project phasing and that has allowed students to test better in these areas. In other areas the results are fairly similar, either up or down a few percentage points.

2. Impact of changes on current results: Several areas have improved significantly since the previous assessment including Contract (improved from 33% to 88% successful), Phases (improved from 71% to 94%), and Presentation (improved from 81% to 86%).

3. According to current results, areas needing improvement: Students still have a hard time identifying the different types of businesses that can be formed and the legal issues surrounding them.

4. Based on current results, new actions to improve student learning: Faculty will focus more attention on the definition of different business formats and provide more examples as to the legal issues related to each. Supplemental quiz questions on this topic would also benefit students. These elements will be added in Fall 2023.

5. Next assessment of this SLO: Spring 2025

Interior Design, A.A.S.

Narrative comparison of current results to previous results: Students met the target overall with a success rate of 88% in all areas being evaluated.

Areas where students met the target: Specific areas in which students were successful included Contract, Phases, Marketing, Presentation, Ethics and Resume.

Areas where students did NOT meet the target: Specific areas in which students did not meet the target include Business Formation and Specifications.

Student Learning Outcome 2: Students will produce design projects utilizing basic color theory.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: IDS 100 Theory and Technique of Interior Design

Direct Measure Used: In three class sections, different elements were used to assess students, but all assessed students' understanding of color and color schemes. One section had a quiz on which 23 of the 70 questions were on color, but no project so the quiz was evaluated. The two others had tests with a couple of questions related to color and a color project. For these, the project only was evaluated. In this way we can look at a variety of course delivery methods as well as assignments to see if any of those may affect student learning about this topic. This methodology does not really compare to the previous assessment, but the overall data from that evaluation is included here for information.

SLO/Rubric Criteria or Question Concepts:
Section 01 – Remote Synchronous – Quiz 3 (only color)
Section 02 – Remote Synchronous – Project
Section 03 – In Person – Project

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME			
LO – In Person	1	1	15
LO-Remote Sync.	2	2	30
WO			
NOVA Online			
Off-Site Dual Enrollment			

Semester/year data collected: Spring 2022

Target: Students will achieve 75% or better on the color assignment or quiz.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Fall 2018
On-campus average	95%	
Synchronous hybrid (remote) average	91%	79%

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2018
1. Section 01 – Remote – Quiz	91%	NA
2. Section 02 – Remote - Project	91%	NA
3. Section 03 – In Person- Project	95%	79%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Though the assignments varied, all three

1. Changes put in place since previous assessment to improve student learning: Since the last assessment of this SLO extra emphasis has been placed on color and the development of color schemes for interiors by way of project work. COVID happened, and that derailed some of our efforts in that direction, making virtual work the primary method of class delivery, so some hands on experience has been lost over the past year. Nevertheless, students did show a greater understanding of the various color schemes and color theory than on the previous assessment.

2. Impact of changes on current results: Student taking quizzes did very well, with an average of 91% on a color only quiz (23 questions). Students doing projects where they had to develop different color schemes were also successful, with the remote class having a success rate of 91% and the in-person class having a slightly better success rate of 95%. It is interesting that both the remote classes has equal success, though in different assignment types.

3. According to current results, areas needing improvement: Students that were not successful on the project did not appear to understand the requirements of the assignment and were more likely to do poorly because they did not follow instructions. Analysis of specific questions on the quiz showed that the questions that were answered incorrectly were related to very complicated color schemes or elements of color psychology. This analysis is further complicated by the fact that the instructor used a question pool (helpful to keep students from cheating), but not all students

Total			

sections met the target of 75%, and exceeded the previous assessment results of 79%.

Areas where students met the target: Students met the target on the project assignment and the quiz.

Areas where students did NOT meet the target: Projects were reviewed by the faculty conducting this assessment and it was noted that students that did not meet the target in the classes where the project was evaluated clearly did not understand the assignment.

answered the same questions so individual analysis is not possible.

4. Based on current results, new actions to improve student learning: The program head will discuss some options with the faculty teaching IDS 100 Theory and Technique of Interior Design with these particular goals related to color exercises:

- Instructors teaching IDS 100 will incorporate both a quiz and a project related to color in the future.
- All projects will use a specific rubric with multiple grading points to allow students to see where they went right or wrong on the assignment.
- Color projects will include color wheels prepared by the student rather than one that is copied from the internet. Color wheels should be marked with the color schemes for the assignment. In person classes can use the paint samples in the IDS Materials Library, online classes should use paint colors from the major paint manufacturers so that students can feel that they are selecting real colors for their projects.

5. Next assessment of this SLO: Spring 2025

Student Learning Outcome 3: Students will recognize and identify major styles furniture and be able to explain their significance in relation to the design of the present day.

Assessment Methods

Course Name/Number: IDS 109 Styles of Furniture

Direct Measure Used: Test 3: Styles of Furniture. Students were assessed on their knowledge of the following topics related to furniture:

- Art Nouveau
- Art Deco
- Mid-Century
- Post Modern
- Studio Furniture

SLO/Rubric Criteria or Question Concepts: Test 3 attached with specific questions evaluated highlighted in yellow.

Sample:

Campus/ Modality	Total # of	#	# Students Assessed

Assessment Results

Semester/year data collected: Spring 2022

Target: 75% of students will receive 80% or better on the test. In addition, 80% of students will be able to correctly answer some targeted questions on key furniture pieces, styles and designers.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Fall 2018
All students assessed (weighted average)	82.3%	93%
On-campus average	82.3%	93%

Use of Results

1. Changes put in place since previous assessment to improve student learning: In the previous assessment, it was suggested that additional visual aids be given to students to help with their understanding of the material. Each week, a pop quiz for furniture identification has been included to aid in remembering the furniture studied the week before. These quizzes can be used to help study for tests. In addition, in-class vocabulary associated with images is being used to help with recognition.

2. Impact of changes on current results: The changes did not affect the outcome significantly.

3. According to current results, areas needing improvement: Recognition of key pieces of classic furniture is critical for students and needs to be addressed for the next assessment.

Interior Design, A.A.S.

	Sections Offered	Sections Assessed	
LO	1	1	17
NOVA Online	N/A		
Off-Site Dual Enrollment	N/A		
Total			

Of the 17 students, 9 of them (53%) achieved 80% or better on Test 3. This was 12% below the target. The average score overall for the test was 82.3%.

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2018
1. Q9 Art Nouveau	94%	100%
2. Q10 Art Deco	82%	85%
3. Q11 Weiner Werkstatte	88%	95%
4. Q 12 Destijl	94%	100%
5. Q 13 Red Blue Chair	88%	100%
6. Q14 Breuer	94%	95%
7. Q20 Mies Van Der Rohe	94%	85%
8. Q21 Barcelona	88%	100%
9. Tulip Chair	71%	New question
10. Saarinen	94%	New question
11. Eames	53%	70%
12. Lounge	53%	55%
13. Essay	88%	85%

Eleven of the seventeen students could identify 80% or more of these key pieces of furniture. This equates to a total of 65% of students in the course; this is under the target of 80% of students by 15%.

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Overall student grades declined over the previous assessment; however, the average was skewed by one or two very low scores. Scores on the targeted questions were similar to the previous assessment. The average score on the essay portion of the test was similar, improving by 3 percentage points over the previous assessment.

Areas where students met the target: Students did not meet either the target for overall test score or on the individual questions.

4. Based on current results, new actions to improve student learning: Because visual aids for this class are so important, prior to each test a Study Aids module will be added in Canvas with copies of the pop quizzes, furniture worksheets and other visual aids that can help students to study and remember the hundreds of pieces of furniture that they see.

5. Next assessment of this SLO: Fall 2024

Interior Design, A.A.S.

Areas where students did NOT meet the target:
Students did not meet the target on either the overall test score or the individual questions.

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication

Operationalized Definition: Based on the instructions for the IDEC student competition, students will design a live/work project for a Navajo textile designer and partner seeking a sustainable living environment that includes the recycling of trucking containers into the live/work space. Students will research the Navajo people and their textile making traditions as well as domiciles created from trucking containers, develop a client and concept statement based on their findings, and produce a design for the live/work space.

Assessment Methods

Course Name/Number: IDS 221 Commercial Design I

Direct Measure Used: Design Project

CLO/Rubric Criteria or Question Concepts: Project and project components of Research, Client and Concept. In this assignment, students were to design a live/work space for a Navajo couple in New Mexico utilizing three recycled shipping containers. The focus on this project was research into the reuse of shipping containers and elements of sustainability and the research into the Navajo themselves as a unique people that have their own specific language and belief systems as well as design elements specific to the nation.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME			
LO – in person	1	1	16
WO			
NOVA Online			
Off-Site Dual Enrollment			
Total			

Assessment Results

Semester/year data collected: Fall 2021

Target: 75% of students will achieve 75% or better on the project. In addition, 75% of students will achieve 80% or better on individual rubric items including Project Research (Navajo, container reuse, location, live/work), Client Profile (information about the couple and their desired lifestyle), and Concept Statement (reflects in words the direction of the project and creates a verbal image of the design intent).

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results
All students assessed (weighted average)	87.31%	NA
On-campus average	87.31%	NA
Synchronous hybrid (remote) average		NA
NOVA Online average		NA
Dual Enrollment average		NA

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results
1. Research	80%	NA
2. Client	80%	NA
3. Concept	90%	NA

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is the first time this CLO has been assessed. The purpose of the assignment was to have

Use of Results

1. Changes put in place since previous assessment to improve student learning: NA, this is the first time this CLO has been evaluated.

2. Impact of changes on current results: NA

3. According to current results, areas needing improvement: Students need to learn better research techniques so that they can translate that into a good understanding of their clients. A good understanding of a client will then allow them to develop a well-designed project.

4. Based on current results, new actions to improve student learning: For future projects (this one will not be repeated as it was a design competition), students and faculty will develop a specific list of questions to help guide the research portion of a design project. Because much of this material was written, students will prepare and revise their statements prior to development of their projects.

5. Next assessment of this CLO: Fall 2027

	students research three things new to them: the Navajo as a client, New Mexico, and shipping-containers as a work-live situation. Armed with that information they would then design the shipping containers as a place for the client to live and work. On this project, 12 of the 16 students (75%) achieved better than 75% on the project. For each of the categories assessed in the rubric: Research: 9 of 16 received 4 out of 5 or better (56%) Client: 10 out of 16 received 4 or better (62.5%) Concept: 14 out of 16 received 4 or better (87.5%) **Areas where students met the target:** Students met the target overall on the project score and on one out of three of the rubric items (Concept). **Areas where students did NOT meet the target:** Students did not meet the target on two of the rubric items (Research and Client).	

Program Goal on Graduation: The Interior Design program will increase graduation rates 5% over the total for the previous year

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards **Degree Program** / **Required Number of Graduates (for Institutions with 5,000 or more students)** Transfer (A.A., A.S., A.A.&S.) — 17 A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies — 12 A.A.S. in Engineering, Mechanical, and Industrial Technologies — 9 A.A.S. in Health Technologies — 7 Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.	**Target:** Graduation rates will improve by 5% over the previous year. **Results for Past 5 Academic Years:** **Academic Year** / **Number of Graduates** / **Percentage Increase/ Decrease** 2021-22 — 27 — -18 2020-21 — 33 — 65 2019-20 — 20 — 18 2018-19 — 17 — 13 2017-18 — 15 — 25 **Target Met:** [ ] Yes [X] No [ ] Partially **Current Results Improved vs. Previous Results:** [ ] Yes [X] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** In the current year, the graduation rate decreased by 18% over the previous year. While this seems significant, last year's high of 33 graduates was anomalous and did not follow the trend from the previous years. In addition, last year's graduation rate was the highest in over 20 years for the Interior Design program and was a result of a captive audience of house bound students.	**1. Changes put in place since previous assessment to improve graduation results:** Since the last assessment, courses have ceased to be fully remotely delivered, and this has impacted the number of students able to participate in the Interior Design program. Students that could take classes at any time now have ot negotiate their jobs and other obligations in order to fit school into their schedules. The massive increase in graduation from the previous year will not be revisited in the coming years. **2. Impact of changes on current results:** Graduation rates continue to increase incrementally (excepting the "Covid year" of 2020-21) in line with the increase in enrollment. The peak of stay-at-home students is past, so it is likely that graduation will increase in line with enrollment. **3. According to current results, areas needing improvement:** No areas are targeted for improvement for the coming year. **4. Based on the results, new actions to improve graduation/productivity results:** No new actions will be put in place, but faculty will continue to monitor graduation rates and follow up with degree progress audits for students nearing graduation.

Interior Design, A.A.S.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: The VCCS recommends a productivity standard for Arts and Design of 12 graduates. For this year, NOVA surpassed this by 15 students.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: The Interior Design program will increase program placed students 5% over the number for the preceding year.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Program placed students will increase by 5% over the preceding year.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	188	6
2020-21	178	15
2019-20	155	5
2018-19	147	7
2017-18	137	10

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Students program placed in Interior Design have been steadily increasing over the past five years. While the biggest increase was during the Covid year of 2020-2021, this past year showed continued growth of 6% which is more in keeping with previous years. This more modest growth exceeds the target of 5% by one percentage point.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	105.1	.04
2020-21	109.6	14.8
2019-20	95.5	12.3
2018-19	85.0	3.5
2017-18	82.1	17.1

Use of Results

1. Changes put in place since previous assessment to improve program placement results: As was done last year, many sections are offered remotely allowing students that live further away from the Loudoun Campus to access classes that may have seemed out of reach in previous years. Interestingly, there are students as far away as Lynchburg and Harrisonburg that take these remote classes because there are no programs in their area of Virginia. The program also continues to add additional sections as classes fill, both in person and remote, and has hired new adjuncts to support the additional courses.

2. Impact of changes on current results: As a result of the additional courses added, late enrolling students that may have had to put off starting the program due to classes being full have been able to enroll.

3. According to current results, areas needing improvement: No specific areas have been identified as needing improvement. Faculty will continue to monitor enrollment.

4. Based on the results, new actions to improve program placement/productivity: There is a definite trend toward remote coursework in the Interior Design program. Under consideration is a fully remote program that would allow more remote students access to the excellent instructors in NOVA's Interior Design program.

5. Next assessment of this goal: Assessed annually

Interior Design, A.A.S.

	<u>For Associate-Degree Granting Programs only (N/A for Certificates)</u>: Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain: For AAS degrees in the fields of Art and Design, the VCCS FTE requirement is 18. NOVA's Interior Design has significantly more FTEs with a total of 105.1 for this year.	

Student Learning Outcome Assessment Report: 2021-2022
Liberal Arts, A.A.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: An Associate of Arts degree in Liberal Arts is designed to provide an understanding and appreciation for the ideas and ideals that are the basis of human civilization. It offers a foundation in the arts and sciences and prepares students for transfer into a Bachelor of Arts program. Liberal arts BA degrees prepare graduates for careers in a wide array of professions by enabling them to write well, critically analyze issues, place problems in a variety of contexts, and work competently with diverse groups of colleagues.

Student Learning Outcome 1: Students will be able to use quantitative reasoning coupled with scientific knowledge to draw logical conclusions and make well-reasoned decisions.

Assessment Methods

Course Name/Number: College Physics 201

Direct Measure Used: All instructors turned in two exam grades per student that covered two main physics topics: dynamics and fluids.

SLO/Rubric Criteria or Question Concepts: Each instructor turned in grades for two exams per student: one that included dynamics questions and thus was at the beginning of the semester, and one that included fluids questions and thus was at the end of the semester.

Dynamics questions are based on only a few concepts but have multiple applications. These questions are used to measure students' abilities to analyze problems and find the correct steps needed to solve the problem.

Fluids problems are more conceptual questions that consist of more physical concepts. These types of problems are used to measure the students' abilities to identify different concepts within a section of physics.

Both dynamics and fluids involve problem solving, and so both exams were included in that evaluation.

The attached rubric was used to analyze the grade data given by the instructors.

	0	1	2
Identify Concepts	Fluids <60	Fluids 60 - 80	Fluids >80
Analysis	Dynamics <60	Dynamics 60 - 80	Dynamics

Assessment Results

Semester/year data collected: Fall 2021

Target: 50% of the students should reach a score of (2/2) on each criterion in the rubric. The score of "2" is the highest ranked score for each criterion. Students with a score of 2 showed to be proficient with using scientific knowledge to problem solve.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

****There was no separation of on-campus vs hybrid/remote classes in data collection.****

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed	43.75	N/A
On-campus/ Synchronous remote	32.75	N/A
NOVA Online	58.82	N/A
Dual Enrollment	53.29	N/A

Results by SLO Criteria:
In the following table, the numbers indicate the percentage of students that scored a perfect score of 2/2 on each criterion.

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Identify Concepts	56.6	N/A
2. Analysis	53.47	N/A
3. Problem Solving	54.17	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning and assessment:
This SLO has not been evaluated for physics before. A similar assessment was done in Fall 2015 and 2016 to evaluate how well "Students will be able to use mathematical reasoning to draw logical conclusions and make well-reasoned decisions (from APERs 2015 and 2016)." This SLO was evaluated using only a single thermodynamics problem to evaluate all aspects of problem solving.

2. Impact of changes on current results:
Changing from a single question to a full exam grade of similarly asked questions increases the uncertainties within the evaluations. This could in part cause the drop in results. We will need to compare again in Spring 2023 when we next assess this SLO.

3. According to current results, areas needing improvement:
In-person and Synchronous remote courses need to be evaluated separately in the next assessment of this SLO. Both modalities also need to increase the proficiency of students overall in using scientific knowledge to problem solve.

4. Based on current results, new actions to improve student learning:
The Physics Discipline will discuss having a set bank of questions for each exam to be evaluated, beginning Spring 2023. This will reduce the uncertainties and variables between instructors that could be seen in different exam levels and questions. The modalities of in person and synchronous remote will also need to be separated to be assessed fully.

Problem Solving	Fluids+ Dynamics <60	Fluids+ Dynamics 60-80	Fluids+Dynamics>80

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	0	0
AN	2	2	21
MA	1	1	26
LO	2	2	43
WO	2	2	26
NOVA Online	1	1	20
Off-Site Dual Enrollment	9	9	152
Total	**18**	**17**	**288**

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:
This is the first semester using this modality of evaluation for this SLO.

Areas where students met the target:
Overall, over 50% of students have shown proficiency in each criterion individually. Over 50% off Online and Dual enrollment students have shown overall proficiency in using scientific knowledge to problem solve.

Areas where students did NOT meet the target:
While over 50% of students were proficient in each individual criterion, most students were not proficient in all three criteria in the rubric. This is especially clear in the in-person and synchronous remote classes, that we were unable to separate in this data.

5. Next assessment of this SLO:
Spring 2023.

Student Learning Outcome 2: Student will analyze their everyday behavior in the context of pressing environmental concerns at the local, national, and/or environmental level.

Assessment Methods

Course Name/Number: General Environmental Science I and II (ENV 121 and 122)

Direct Measure Used: Students calculated their ecological footprint using an online tool. Students answered questions to assess how well they understood their results.

CLO/Rubric Criteria or Question Concepts: 1. Meaning of Earth Overshoot Day (EOD). 2. Relationship between EOD and natural resource use. 3. How to reduce carbon footprint. 4. How to reduce food footprint. 5. Biocapacity creditors v. debtors. 6. Trends in biocapacity and footprint for USA. 7. Ways to reduce personal footprint.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	3	53
AN	8	0	0

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will earn an average of 70% on the quiz.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Results 2017-2018*
All students assessed (weighted average)	89.78	N/A
On-campus average	88.75	N/A
Synchronous hybrid (remote) average	87.18	N/A
NOVA Online average	81.25	N/A
Dual Enrollment average	92.45	N/A

*Even if you used a different method/class/etc. Please include the assessment results from your 2017-2018 results and discuss them below. If you assessed the same CLO as you did in 2017-2018.

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by	Current	Results

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is Environmental Science's first time assessing this CLO. The Discipline Chair wrote this assessment after receiving input from several ENV faculty members who had done a personal ecological footprint analysis with their students in the past. The Discipline Chair shared the assessment and allowed editing by ENV faculty. Students learn about the ecological footprint in both ENV 121 and 122.

2. Impact of changes on current results: This is Environmental Science's first time assessing this CLO.

3. According to current results, areas needing improvement: There was low participation by NOVA faculty in assessing this CLO despite the Discipline Chair emailing faculty, discussing it at meetings, and providing the assessment in Canvas.

4. Based on current results, new actions to improve student learning: Students met all targets. They earned the lowest score on concept #6 (Trends in biocapacity and footprint for USA). This concept requires students to

MA	6	1	10
ME	0	0	0
LO	7	1	20
WO	1	0	0
NOVA Online	4	1	8
Off-Site Dual Enrollment	11	6	101
Total	**43**	**12**	**192**

:

CLO Criteria/ Question Concepts	Results Semester Year	2017-2018
1. Meaning of Earth Overshoot Day (EOD)	91.19	N/A
2. Relationship between EOD and natural resource use	80.83	N/A
3. How to reduce carbon footprint	80.83	N/A
4. How to reduce food footprint	94.82	N/A
5. Biocapacity creditors v. debtors	94.82	N/A
6. Trends in biocapacity and footprint for USA	79.79	N/A
7. Ways to reduce personal footprint	98.19	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is our first time assessing this CLO.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: Students met the target in all areas.

interpret either a table or a graph. More emphasis on reading data should occur in classrooms in the future.

5. Next assessment of this CLO: Fall 2023

Student Learning Outcome 3: Students will express personal meaning by creating with the language.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: 202 in World Languages (ARA 202, CHI 202, FRE 202, GER 202, JPN 202, RUS 202, SPA 202) **Direct Measure Used**: A writing prompt in the final exam for the spring semester of 2022. Short description of the writing task: Students were asked to write an email with 6-8 sentences in the target language, to a congressperson or a city council member about a couple of ecological (or any other) problems that affect the community. The email should include students'	**Semester/year data collected: Spring 2022** **Target:** Students will score 12-13 points out of 20 points. **Results for On-campus and Remote Sections:** Average/Mean Score per criteria	**Changes put in place since previous assessment to improve student learning and assessment:** We did not make any changes for this academic year other than adding more resources and spending more instructional time on grammar concepts and related practices in communicative situations. **Impact of changes on current results:** We as a discipline for the most part continue to face challenges in grammar.

Courses	Spanish	Japanese	Chinese	Arabic
# of sections	6	2	1	2
# of students	89	19	13	38
Results by SLO Criteria/ Question Concepts				

feelings about the current situation, what may happen if we do not do anything about the current situation, as well as their hopes for a better future. Students were also instructed to ask the congressperson or city council member to do things to better the environment and/or community.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas which were scored at 4 points each:
1. Task Completion
2. Content
3. Vocabulary
4. Grammar
5. Spelling and Mechanics

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
Spanish	7	6	89
Japanese	2	2	19
Arabic	1	1	17
Arabic NOL	1	1	21
Chinese NOL	1	1	13
Chinese Off-Site Dual Enrollment	1	1	4
Spanish Off-Site Dual Enrollment	12	1	26
Total	**25**	**13**	**189**

1. Task Completion	2.7	3.4	3.2	3.6
2. Content	3.0	3.3	3.2	3.3
3. Vocabulary	2.9	3.1	2.9	3.5
4. Grammar	2.8	3.1	2.5	3.4
5. Spelling and Mechanics	3.1	3.0	2.8	3.4
Total (20 pts)	**14.4**	**15.9**	**14.7**	**17.3**

Results for Dual Enrollment Sections: Average/Mean Score per criteria

Courses	Spanish DE	Chinese DE
# of sections	**1**	**1**
# of students	**26**	**4**
Results by SLO Criteria/ Question Concepts		
1. Task Completion	3.2	4.0
2. Content	3.9	4.0
3. Vocabulary	3.7	3.5
4. Grammar	2.9	3.0
5. Spelling and Mechanics	3.5	3.75
Total (20 pts)	**17.2**	**18.25**

Target Met: [X] Yes [ ] No [ ] Partially

Areas where students met the target: All areas.

Areas where students did NOT meet the target: Although students meet the target in the content and grammar areas, students scored comparatively lower than the other three areas.

According to current results, areas needing improvement: In addition to starting to focus more on the content areas of our instruction, we should put continued emphasis in teaching grammar in context so students will have ample opportunities to practice and apply the grammar concepts.

Based on current results, new actions to improve student learning: In the Spring of 2023, the discipline group members will have an opportunity to share best practices in helping students develop strong content in their writing and "teaching grammar as a concept and use in context" which is one of the six Core Practices for World Language Learning" from ACTFL (the American Council on the Teaching of Foreign Languages).

Next assessment of this SLO:
2024-2025 Academic Year.

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Compare and contrast common themes across two or more religious traditions.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: REL 231 – Religions of the World I **Direct Measure Used**: A writing assignment in which the students are asked to directly compare and/or contrast	**Semester/year data collected:** Spring 2022 **Target:** For 70% of students to score 70% or higher on the assessment.	**1. Changes put in place since previous assessment to improve student learning:** N/A **2. Impact of changes on current results:** N/A

different religious traditions. They are asked to consider various themes/topics in this comparison, such as beliefs, practices, values, history, demographics, and geography.

CLO/Rubric Criteria or Question Concepts: Students were evaluated based on the content (accuracy of comparisons) and composition (writing/syntax).
Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	0	0	0
AN	4	4	74
MA	0	0	0
ME	0	0	0
LO	0	0	0
WO	1	1	16
NOVA Online	4	1	6
Off-Site Dual Enrollment	0	0	0
Total	**9**	**6**	**96**

:

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Results 2017-2018*
All students assessed (weighted average)	80%	N/A
On-campus average	74%	N/A
Synchronous hybrid (remote) average	82%	N/A
NOVA Online average	83%	N/A
Dual Enrollment average	N/A	N/A

*Even if you used a different method/class/etc. Please include the assessment results from your 2017-2018 results and discuss them below. If you assessed the same CLO as you did in 2017-2018.

Results by CLO Criteria:
[ ] Average/Mean Score per criteria or
[X] Percent of Students > target per criteria

Results by CLO Criteria/ Question Concepts	Current Results Semester Year	Results 2017-2018
1. Content and composition	80%	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target: Content and composition

Areas where students did NOT meet the target: None

3. According to current results, areas needing improvement: The students met the target, so for now we will continue to monitor student learning in this area. However, as discussed above, we really did not do this CLO assessment properly, so it's hard to draw any conclusions based on it. We need to develop assessments that have clear, consistent criteria that are specific to the CLO, so that we can make sure student learning in this area is being properly assessed.

4. Based on current results, new actions to improve student learning: It's not clear at this time that actions are needed to improve student learning. However, as discussed above, we are taking various steps to improve our assessment process, so that we can get a clearer picture of student learning and identify areas that may need improvement.
Action plan:
Religion chair attends SLO assessment workshop – October 2022
Religion chair meets with NOVA SLO coordinator – November 2022
Initial assessment discussion and planning – January 2023
Finalize 3-year assessment plan – August 2023

5. Next assessment of this CLO: This CLO will next be assessed in 2024-2025, but I'm not sure whether we will be assessing this one or the other CLO that year. We haven't made a 5-year plan for assessment yet, but plan to work on that at our next discipline group meeting.

Program Goal on Graduation: To increase program graduation rates by 1%

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** To increase program graduation rates by 1% **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** There have been many course and curriculum changes that have taken place in many of the liberal arts disciplines because of changes required by Transfer VA. Many of these changes are still in the works so more accurate results will not be known for probably another year or so. There was also a new one-credit HUM 298

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	136	-6.8
2020-21	146	11.5
2019-20	131	-17.1

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2018-19	158	-26.5
2017-18	215	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
In the 2021-22 academic year, there was a percentage decrease of -6.8% in the number of graduates compared to the 11.5 % increase in 2020-21.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:
Yes, the graduation total of 136 students for the year 2021-22 substantially surpassed the VCCS Productivity Standards of 17 graduates.

added to the Liberal Arts degrees. In addition, last year's reduction of Math credits to the degree from six to three as well as the number of Natural Science credits from eight to four might still be affecting the graduation rates. Tin Fall 2021, there was a push to return some classes back to in-person and on campus.

2. Impact of changes on current results:
Perhaps all of these course and curriculum changes have not been favorable to the Liberal Arts degree and that has caused a decrease in the percentage of graduates Hopefully, as everyone gets more familiar with the changes and the updates are shared with the students, the graduation rates will change in a more positive direction.

3. According to current results, areas needing improvement: It is important that all the Transfer VA changes and others are explained clearly so that students can be advised properly.

4. Based on the results, new actions to improve graduation/productivity results: The disciplines in the Liberal Arts degree will continue next year to make changes to courses and curriculum because of Transfer VA. Because of this, there will also be quite a few changes made to the catalog and internal systems. In addition, marketing for the importance of a Liberal Arts degree would be a tremendous plus.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: The number of Program-Placed students in the Liberal Arts degree will increase by 1%.

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18

Assessment Results

Target: The number of Program-Placed students in the Liberal Arts degree will increase by 1%.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	752	-15.8
2020-21	893	-2.3
2019-20	914	-18.2
2018-19	1,117	-24.5
2017-18	1,480	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve program placement results:
A new one-credit HUM 298 course was added in Fall 2021 as a capstone course for all Liberal Arts degrees. Many of the disciplines in the Liberal Arts degree have been going through course and curriculum changes because of Transfer VA. In addition, in the previous 2020-21 academic year, the number of Math and Natural Science credits were reduced. In Fall 2021, there was a push to schedule more classes on campus and in-person.

2. Impact of changes on current results:
Because of all the recent changes to courses and curriculum, It might be a little too early to pinpoint the

A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

Much like the nationwide community college enrollment declines, the number of program-placed students in the Liberal Arts degree has also declined. The previous 2020-21 academic year saw a decline percentage of just -2.3 but in the 2021-22 academic year, the decline jumped to -15.8.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	474.7	-18.7
2020-21	583.8	0.0
2019-20	582.9	-19.2
2018-19	721.7	-23.1
2017-18	938.7	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
Yes, the number of program placed FTES in 2021-22 (474.7) far exceeds the required VCCS Productivity Standards FTES (24). Curiously, the number of program placed FTES during the 2020-21 full year of COVID (583.8) practically remained the same number as the previous 2019-20 year (582.9). However, the decline percentage in the following 2021-22 academic year (-18.7) returned to almost the same percentage (-19.2) as it was at the beginning of COVID in 2019-20.

impact that the above changes have had on the decrease in the number of program-placed students in the Liberal Arts degree. The changes are still ongoing.

3. According to current results, areas needing improvement:
Overall, there is a need for improvement in many of the areas.

4. Based on the results, new actions to improve program placement/productivity:
A review of the necessity of the fairly new HUM 298 course might be beneficial in case it is taking away from offering other courses. Making sure the catalog and the internal SIS system are updated appropriately and that the Liberal Arts degree is promoted to students and the community college wide. According to last year's report, a review of the messages that the deans are sending to students about the advantages of Liberal Arts degrees might be a way to further the promotion of the disciplines going forward.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Liberal Arts: Theatre, C.S.C.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This program is designed to meet the needs of individuals seeking to further develop skills in acting, directing, arts management, technical theatre, and theatre scholarship. It extends theatre opportunities outside of the classroom and into community, educational, and professional theatres.

Student Learning Outcome 1: Students will be able to analyze a script for performance and production.

Assessment Methods

Course Name/Number: CST – 130

Direct Measure Used: Introduction to Theatre should identify a written assignment given to students as part of their course work. The assignment should require the student to (a) see a play, musical or other performance of theatre that utilizes a script (live/virtual/filmed production) and (b) write a paper that evaluates the performance of the script and the production of the script. Please use the table below to input how each paper would be scored on the noted three areas. For scoring, instructors should assign a paper 0, 1, 2, or 3 points on each area. A score of zero represents BELOW EXPECTATIONS, a score of 1 represents APPROACHING EXPECTATIONS, a score of 2 represents MEETS EXPECTATIONS, and a score of 3 represents EXCEEDS EXPECTATIONS.

SLO/Rubric Criteria or Question Concepts: A. On a scale from 0-3 please score the paper's ability to evaluate the performance of the script.
(e.g., the casting of the play, the acting on stage, choreography, etc.) B. On a scale from 0-3 how would you score the paper's ability to evaluate the production – technical elements - of the script?
(e.g., the use of lighting, props, sound, stage combat, or other elements) C. On a scale from 0-3 how would you score the paper's overall composition?(e.g. organization, grammar, mechanics, punctuation, use of supporting material/examples, etc.)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	0	0
MA in person	1	1	21
MA synchronous	1	1	21
LO in person	2	2	35

Assessment Results

Semester/year data collected: Spring 2022

Target: 7.0 out of 9.0 points

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	7.82	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Areas where students met the target:
Students were strongest in regard to understanding technical elements, second strongest in assessing performance, and needed improvement in overall writing and composition skills.

Areas where students did NOT meet the target:
Overall writing and composition skills.

Use of Results

1. Changes put in place since previous assessment to improve student learning: None

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Overall writing and composition skills.

4. Based on current results, new actions to improve student learning: Encourage students take English 101, utilize writing lab, and consult with professors before assignments are due to review writing samples. Starting in spring 2023.

5. Next assessment of this SLO: 2025

WO (hybrid and synchronous Zoom)	1	1	7
NOVA Online	1	1	21
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**7**	**6**	**105**

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication

Operationalized Definition: To measure written communication, students in CST130 will be asked to analyze a play (either read or viewed) in three areas: understanding (what was the play trying to do/given circumstances), effectiveness (how well did it do it), and worthwhile (was it valuable/worthwhile). This assessment will be given as a paper topic or discussion board assignment. Answers will be collected by Theatre faculty and analyzed to assess to what extent the student has mastered the written communication CLO.

Assessment Methods

Course Name/Number: CST – 130

Direct Measure Used:
To measure written communication, students in CST130 will be asked to analyze a play (either read or viewed) in three areas: understanding (what was the play trying to do/given circumstances), effectiveness (how well did it do it), and worthwhile (was it valuable/worthwhile). This assessment will be given as a paper topic or discussion board assignment. Answers will be collected by Theatre faculty and analyzed to assess to what extent the student has mastered the written communication CLO.

CLO/Rubric Criteria or Question Concepts:
On a scale from 0-3 please score the paper's ability to evaluate understanding (what was the play trying to do/given circumstances)
On a scale from 0-3 how would you score the paper's ability to evaluate the effectiveness of the script? (how well did the play do what it was seeking to do)
On a scale from 0-3 how would you score the paper's ability to analyze the play in terms of being worthwhile (valuable in some way)?

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	0	0
MA in person	1	1	21
MA synchronous	1	1	21
LO in person	2	2	35
WO (hybrid and synchronous Zoom)	1	1	7
NOVA Online	1	1	21
Off-Site Dual Enrollment	N/A	N/A	N/A

Assessment Results

Semester/year data collected: Spring 2022

Target: 7 Points out of 9 Points

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	7.65	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Areas where students met the target:
1. Students were strong in understanding the plays "goals" and appreciating the "given circumstances."
2. Students were strong in appreciating the plays impact and "worthwhileness."

Areas where students did NOT meet the target:
Student's need to work on understanding the "effectiveness" of the script.

Use of Results

1. Changes put in place since previous assessment to improve student learning: None

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Student's need to work on understanding the "effectiveness' of the script.

4. Based on current results, new actions to improve student learning: We are going to change the wording of the assessment to provide the students with more concrete specific questions. Ex. We will have the students determine the theme of the play and how that theme is relevant to their current lives.

5. Next assessment of this CLO: Spring 2025

Liberal Arts: Theatre, C.S.C.

Total	7	6	105		

Program Goal on Graduation: One to two students shall receive their Theatre Certificate this year

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html	**Target:** One to two students shall receive their Theatre Certificate this year **Results for Past 5 Academic Years:** Academic Year / Number of Graduates / Percentage Increase/ Decrease 2021-22 / 2 / 100 2020-21 / 1 / -80 2019-20 / 5 / 500 2018-19 / 0 / -100 2017-18 / 1 / -- **Target Met:** [X] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** The number of graduates doubled this year.	**1. Changes put in place since previous assessment to improve graduation results:** Provided more personal advising of students. **2. Impact of changes on current results:** Doubled graduation rate. **3. According to current results, areas needing improvement:** Still need to have advisors encourage participation in taking theatre - based courses. Admin. Needs to provide more resources and staff to recruitment. **4. Based on the results, new actions to improve graduation/productivity results:** Continue to advocate on behalf of the theatre to administration about the need for more resources and staff for recruitment purposes. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: Maintain current enrollment rates

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html	**Target:** Maintain current enrollment rates **Results for Past 5 Academic Years:** Academic Year / Number of Program-Placed Students / Percentage Increase/ Decrease 2021-22 / 13 / 18.2 2020-21 / 11 / 0 2019-20 / 11 / 38 2018-19 / 8 / -11 2017-18 / 9 / -- **Target Met for Headcount:** [X] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** Enrollment increased by nearly 20% despite coming off of a pandemic.	**1. Changes put in place since previous assessment to improve program placement results:** Provided information to students currently enrolled in theatre classes about the benefits of achieving certificate. **2. Impact of changes on current results:** Enrollment increased nearly 20%. **3. According to current results, areas needing improvement:** Need greater assistance from administration and recruiters to help students gain a greater awareness of what is being offered at college. **4. Based on the results, new actions to improve program placement/productivity:** Continue to encourage students who are currently engaged in theatre-based courses and reach out to advisors so that they are aware of what is being offered. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Medical Laboratory Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to prepare students to perform essential laboratory testing on blood and body fluids that is critical to the detection, diagnosis, and treatment of disease. In a medical laboratory, the medical laboratory technician (MLT) is part of a team of highly skilled pathologists, technologists, and phlebotomists working together to determine the presence, extent or absence of disease, and helping to evaluate the effectiveness of treatment. This program emphasizes "hands-on" practice of laboratory methods in a state-of-the-art laboratory at the Medical Education Campus in Springfield, followed by clinical experience at various affiliating healthcare organizations. Upon completion of the program, graduates will be eligible to take the American Society for Clinical Pathology (ASCP) Board of Certification examination and other national certification examinations offered at the technician level.

Student Learning Outcome 1: Comply with applications of safety, quality assurance and government regulations.

Assessment Methods

Course Name/Number: Introduction to Medical Laboratory Techniques - MDL 101

Direct Measure Used: Questions embedded on Unit 1 exam

SLO/Rubric Criteria or Question Concepts:
Students were assessed on the following criteria:
1. Disinfectant used for blood spills
2. Procedure for preventing transmission of infectious agents
3. Hazardous reagents ID system
4. Hazard classification of Blood and Body Fluids
5. Regulatory standard applicable to operation of Clinical Laboratories
6. HIPAA regulation

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	10
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	10

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% of first year MLT students will be scoring 75% or more in questions related to laboratory safety and regulatory compliance.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
Synchronous hybrid (remote) average	90%	86%

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1. Disinfectant used in blood spills	90%	80%
2. Procedure for preventing transmission of infectious agents	100%	100%
3. Hazardous reagents ID systems	80%	67%
4. Hazard classification of Blood and Body Fluids.	100%	100%
5. Regulatory standard applicable to operation of Clinical Laboratories	80%	93%
6. HIPAA regulation	100%	100%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X1] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: The reinstitution of regular laboratory hours in campus after the pandemic has been a key factor to provide more practice for students to demonstrate their understanding and adherence to safety measures.

2. Impact of changes on current results: The results of this analysis support the improvement shown by this cohort of students in the area of safety and laboratory regulations. We understand how important is to provide laboratory experiences that simulate the clinical environment in which students practice the safety skills learned in this course and their application. The practice of the safety principles along several core courses reinforces the compliance with these important safety guidelines and regulations

3. According to current results, areas needing improvement: It is our goal to reach in this introductory course at least a level of demonstration of 80% in the knowledge and practice of safety principles. Even though the expected outcome was achieved, each instructor of this course selects those strategies that will be more effective to match with the level of previous knowledge that these new students show on this topic. This approach has been helpful to reach the expected goal by providing additional practice time to those students that come into healthcare courses without previous knowledge of the safety issues and exposure to hazards that healthcare workers face every day.

4. Based on current results, new actions to improve student learning: The utilization of strategies that involve active learning in our laboratory activities, like

Narrative comparison of current results to previous results: The only area in which the 2021 cohort of new MLT students showed a lower percentage than previous year students was in knowledge of federal regulations applicable to Clinical laboratories,

Areas where students met the target: First year students demonstrated understanding of the most important principles of safety in their introductory course but there is always room for improvement. Reflections of ways to become alert to different areas of safety will also be practiced doing risk assessment evaluations to emphasize the importance of knowing the correct way to perform laboratory procedures and meet 100% compliance with safety regulations. All MDL courses with laboratory sessions require demonstration of knowledge and application of safety procedures.

Areas where students did NOT meet the target: None

simulations is always an effective tool to initiate students in the practice of a behavior that values safety and compliance with regulations. We have now opportunity to integrate more of these active learning activities within laboratory practices to help students become completely proficient in all safety practices since they are more used to maintain and understand the strict measures put forth during Covid 19 pandemic. These additional practical activities covering all areas of safety can be easily included in the laboratory schedule of this course for the Fall 2022.

5. Next assessment of this SLO: Fall of 2023

Student Learning Outcome 2: Perform, discuss and demonstrate principles and methodologies of diagnostic assays, problem solving, and troubleshooting techniques.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Immunology - MDL 215

Direct Measure Used: Questions embedded in course exam of the unit of Immunodiagnostic Methods.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following criteria:

1. Molecules used to tag specific types of immunoassays.
2. Describe principle of agglutination tests.
3. Interpret results of immunoassays based on precipitation.
4. Distinguish principle of competitive from non-competitive immunoassays.
5. Recognize problems in EIA based on heterogeneous formats.
6. Discuss components of chemiluminescent immunoassays.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed

Semester/year data collected: Fall 2021

Target: 80% of first year MLT students will be scoring 75% or more in questions related to the principles and procedures of Immunodiagnostic Methods.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
Synchronous hybrid (remote) average	85%	92%

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1. Molecules used to tag specific types of immunoassays.	92%	80%
2. Describe principle of agglutination tests.	100%	93%
3. Interpret immunoassays test results based on precipitation.	92%	80%

1. Changes put in place since previous assessment to improve student learning: Different pedagogical strategies were used to introduce these topics in the Immunology course. The utilization of videos from manufacturers of laboratory instrumentation using EIA, ELISA, PETIA, FIA and ECLIA techniques were used to visualize the molecular and microscopic interactions of antigens and antibodies on each of those methods. Activities evaluating different methods and techniques were used to discuss main similarities and differences among these immunodiagnostic techniques. These strategies were also implemented in other courses where these techniques are used including MDL 263 and MDL251.

2. Impact of changes on current results: The discussion of the principles related to immunoassays and the variety of formats available to perform them are vital to understand testing procedures used for measuring chemical and hematology analytes and for detection of infectious antigens in Microbiology. A review of these principles introduced in courses that are taken concurrently during the first semester of the program has been important to clarify concepts and obtain expected results in the evaluation of this SLO.

MA			
ME	1	1	12
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	12

4. Distinguish principle of competitive from non-competitive immunoassays.	75%	87%
5. Recognize problems in EIA based on heterogeneous formats.	75%	87%
6. Discuss components of chemiluminescent immunoassays	100%	67%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results:

Areas where students met the target: The first year students were able to meet the target in all areas but did not show improvement over last year outcomes in distinguishing the differences between homogeneous and heterogeneous immunoassays. They also demonstrated lower results in the identification of problems causing unexpected results in these methodologies.

Areas where students did NOT meet the target: The reinforcement of these immunological testing concepts in the MDL 263 Clinical Chemistry course during the subsequent semester and discussion of immunological techniques applicable to the serological diagnostic testing for microbial pathogens in the second-year course of Clinical Microbiology MDL 251, will keep developing the expected high level of comprehension of immunodiagnostic principles use in testing procedures.

3. According to current results, areas needing improvement: It is very challenging for some students to understand the many variations of immunoassays that may be targeted to capture antibodies or antigens. The concepts that distinguish competitive from non-competitive classification of immunoassays are usually more difficult to understand for students that show more concrete than abstract thinking processes. The identification of problems in these procedures is introduced slowly but requires a scaffolding of concepts to get to the point to be able to identify errors in the procedure.

4. Based on current results, new actions to improve student learning: During the introductory Immunology course of Fall 2022 the presentation of videos from manufacturers will be maintained to provide a visual demonstration of the steps followed by instrumentation using these different types of immunoassays. A careful selection of hands on activities like creating graphic organizers to provide examples of most common formats of immunoassays including the steps and interactions among main components of reagents and patient samples will be used to stimulate better comprehension of steps involved in immunological techniques. Student presentations of methods discussing characteristics of automated instrumentation utilizing immunodiagnostic techniques is a good didactic strategy to be used in the Spring 2023 Clinical Chemistry course to strengthen comprehension of the characteristics of the most common modalities and techniques of immunoassays.

5. Next assessment of this SLO: The applications of these techniques in the MDL 263 course will be evaluated in the Spring of 2023.

Student Learning Outcome 3: Discuss significance of clinical procedure results and the principles and practices of quality assessment.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Clinical Chemistry and Instrumentation III – MDL 263 **Direct Measure Used**: Questions embedded on course exam. 1. Identify origin of acid base imbalance 2. Expected pH for a given pCO2 value 3. Interpretation of Thyroid hormones panel	**Semester/year data collected:** Spring 2022 **Target**: 80% of first year MLT students will be scoring 75% or more in questions related to clinical test procedures in Clinical Chemistry**.** **Results by Modality:** Overall Average/Mean Scores	**1. Changes put in place since previous assessment to improve student learning:** The previous cohort of students in which this SLO was evaluated had a decreased amount of synchronous lecture time and an increased amount of practice problems completed during asynchronous time. The synchronous lectures helped to clarify and make adjustments to basic principles needed for the correct interpretation of chemistry tests results.

Results by Modality	Current Results	Previous Results

4. Interpret levels of cortisol in health and disease states.
5. Recognize hormonal levels in states of hypogonadism.
6. Methods used to measure hormonal levels.

SLO/Rubric Criteria or Question Concepts:

Other Method (if used):n/a

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME	1	1	10
LO			
WO			
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	10

	Spring 2022	Spring 2021
Synchronous hybrid (remote) average	93%	90%
NOVA Online average		
Dual Enrollment average		

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2022
1. Identify origin of acid base imbalance	90%	80%
2. Expected pH for a given pCO2 value	100%	90%
3. Interpretation of Thyroid hormones panel	80%	80%
4. Interpret levels of cortisol in health and disease states.	90%	87%
5. Recognize hormonal levels in states of hypogonadism.	90%	80%
6. Methods used to measure hormonal levels	100%	87%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: The target was met and the comparison with the previous cohort of students show minimal differences within a 10% deviation.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: None All of these concepts are revisited in the final semester review course MDL 281.

2. Impact of changes on current results: This cohort had the opportunity to practice problems during synchronous times providing opportunity for immediate feedback which may have helped to show the slight improvement in scores. The teaching strategies were similar but the coaching through problem solving was more effective.

3. According to current results, areas needing improvement: Interpretation of results and troubleshooting requires critical thinking skills that are slowly acquired through guided discussion of how to sort out the information provided in the clinical situation.

4. Based on current results, new actions to improve student learning:
Application of knowledge to questions of higher levels can be improved by showing best ways to organize data associated to clinical testing. Data analysis includes different sources of information that can help to build a hypothesis and peer discussions may facilitate this process by showing different ways to explain steps used in making connections between the pieces of information. Listening, explaining, and demonstrating in class time along with asynchronous discussions of the application of problem solving techniques is beneficial to develop higher order thinking skills and to integrate new knowledge. These strategies will be implemented in the Spring 2023 MDL 263 Clinical Chemistry course.

5. Next assessment of this SLO: Spring 2023

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: Students in advanced capstone courses will demonstrate the ability to develop, convey and exchange ideas in written communications.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Clinical Correlations MDL 281 **Direct Measure Used**: Cover letter for sending Resume to an available MLT position.	**Semester/year data collected: Spring 2022**	**1. Changes put in place since previous assessment to improve student learning:** Group discussions have been incorporated into core MLT courses since the first

Medical Laboratory Technology, A.A.S.

CLO/Rubric Criteria or Question Concepts: Cover letter rubric and Resume evaluation form

6.	Letter has appropriate beginning.
7.	Clearly communicate interest in the organization and how applicant fit in their mission.
8.	There are no grammatical errors.
9.	Paragraphing and transitions are appropriate.
10.	Body of cover letter emphasizes strengths, interests and qualifications that meet job description.
11.	Professional contact information is included.
12.	Closing paragraph shows interest for interview.

Other Method (if used):NA

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	14
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	14

Target: 100% of second year students will score 90% or better on the rubric for writing skills used to evaluate their cover letter assignment.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2019
Synchronous hybrid (remote) average	93%	94%

Results by CLO Criteria:
[ ] Average/Mean Score per criteria or
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts		Current Results Spring 2022	Previous Results Spring 2019
1.	Letter has appropriate beginning.	100%	94%
2.	Clearly communicate interest in the organization and how applicant fit in their mission.	93%	100%
3.	There are no grammatical errors.	100%	94%
4.	Paragraphing and transitions are appropriate.	93%	100%
5.	Body of cover letter emphasizes strengths, interests and qualifications that meet job description.	100%	100%
6.	Professional contact information is included.	93%	100%
7.	Closing paragraph shows interest for interview.	100%	100%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The comparison of results in overall evaluation show similar results since the variability among some areas is less than 10%. This cohort of students had a slightly higher diversity and more non-native English speakers.

Areas where students met the target: Student met the

Areas where students did NOT meet the target: None

year to promote the correct exchange of ideas in professional environment. Written communication activities have provided non-native English speakers with an opportunity to slowly improve their written communication skills.

2. Impact of changes on current results: Students are now more open to practice their writing skills in group discussions. Activities incorporating simulations of professional interactions have given opportunity to demonstrate appreciation and respect to diversity. The practice of written reports for preliminary results in the Microbiology course has also positively contributed to appreciate the need to develop good professional writing skills.

3. According to current results, areas needing improvement: Effective use of grammar, punctuation and organization of written documents is always one of the main struggles of some non-native English speakers.

4. Based on current results, new actions to improve student learning: The addition of asynchronous discussions during the 2022-2023 academic year in courses of first and second year like MDL 125 and MDL 243, will provide time to improve the writing skills of our students. Working with tutors in written assignments is always another support layer for students that need more help. Assignments based on written reports of laboratory findings needed for discussion in multidisciplinary healthcare teams are other options to promote development of effective communication and professionalism.

5. Next assessment of this CLO: Spring 2024

Medical Laboratory Technology, A.A.S.

Program Goal on Graduation: Increase total number of graduating students until reaching maximum capacity of admission of the program of 20 new students per year.

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Graduate 20 students per year

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	19	-5
2020-21	20	+300
2019-20	5	+18
2018-19	13	-35
2017-18	11	

Results for Past 5 Academic Years - Parent Degree Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

Use of Results

1. Changes put in place since previous assessment to improve graduation results: The promotion opportunities have been slowly increasing after the pandemic and activities like campus tours are again bringing applicants to the program.

2. Impact of changes on current results: The amount of new applicants has not increased it has been relatively similar to the two previous years.

3. According to current results, areas needing improvement: Active participation in career days at other campuses and external institutions**.** Career counseling for students preparing to enter into healthcare Professions and promotion of the MLT AAS among students in the Phlebotomy and MLA CSC.

4. Based on the results, new actions to improve graduation/productivity results: Development of a coordinated promotional plan with campus and institutional resources for the academic year 2022-2023.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Maintain full capacity of program placed FTES in the MLT AAS to meet VCCS Associate degree Productivity Standards.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13

Assessment Results

Target: Increase total number of program-placed FTES requirements to meet the VCCS Associate Degree Productivity Standards.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	33	-17.5
2020-21	40	25
2019-20	32	18.5
2018-19	27	-2.5
2017-18	36	

Target Met for Headcount: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:

Use of Results

1. Changes put in place since previous assessment to improve program placement results: Participation in career days and other promotional activities at other NOVA campuses and external institutions.

2. Impact of changes on current results: Amount of applications was lower than previous year.

3. According to current results, areas needing improvement: Develop other marketing strategies.

4. Based on the results, new actions to improve program placement/productivity: Promoting the opportunity to enter into t MLT AAS degree among laboratory phlebotomists or laboratory assistants.

A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Current results demonstrated a decrease of 17.5 percent.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	22.9	-16.7
2020-21	27.5	26.1
2019-20	21.8	21.8
2018-19	17.9	-27.5
2017-18	24.7	

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:

5. Next assessment of this goal: Assessed annually

Additional Program Goal (optional): The MLT AAS will meet the NAACLS benchmark for the National ASCP BOC Certification test rates.

Assessment Method

Short description of method(s) and/or source of data: The American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Program Performance Report - NVCC MLT June 1-October 8, 2022

2022 MLT AAS Graduates that sat for the test for the first time = 8

Passing the ASCP BOC - MLT certification exam shows that a student possesses the essential knowledge and entry level skills necessary to successfully begin to work as a medical laboratory practitioner.

Assessment Results

Target: NAACLS benchmark for ASCP Board of Certification test is 75%

Results for Past 5 Academic Years:

Academic Year	ASCP BOC MLT Certification First timer Pass	Percentage Increase/ Decrease
2021-22	87%	1
2020-21	86%	-14
2019-20	100%	NA
2018-19	100%	NA
2017-18	100%	

Program Mean Scores by Area	Program mean scaled scores 2022	Cycle Mean Scaled Scores 2022
Blood Bank	522	507
UA	413	497
Chemistry	549	502
Hematology	530	501
Immunology	477	505
Microbiology	506	494
Laboratory Operations	514	506

Target Met: [X] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve program goal: Utilization of computer review programs with simulation certification exams and final comprehensive exams in Review course MDL 281.

2. Impact of changes on current results: The review of topics in course MDL 281 provides opportunity to revisit concepts for first year courses. The practice of simulation exams helps students to get acquainted with the adaptive type of tests and reduces anxiety about the format of the test. Eight graduates took the ASCP BOC during June 1 to October 8, 2022 and seven out of the eight that sat for certification obtained a passing grade. The comments that some of these graduates provided were positive about the review course and the use of simulated exams to be able to effectively prepare for the test.

3. According to current results, areas needing improvement: There are areas in which the program mean scores were lower than the cycle mean scores and we need to reinforce the topics included in those areas to improve the scores and maintain the

	Current Results Improved vs. Previous Results: [ ] Yes [X] No [X] Partially [ ] N/A **Narrative comparison of current results to previous year's results: There is a similar proportion of graduates passing the ASCP BOC for the first time as compared to the cohort of 2021.**	**program graduate's scores higher than the cycle mean scores.** **4. Based on the results, new actions to improve program goal: During the review process special attention will be given to these areas including discussion of clinical cases and correlations with test results in disease states.** **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Medical Laboratory Technology: Phlebotomy, C.S.C.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The program is designed to prepare personnel who collect and process blood and other samples for medical laboratory analysis. Phlebotomists work in hospitals, medical clinics, commercial laboratories, and in other settings where blood is collected from patients. The curriculum includes learning experiences in both on-campus laboratories and affiliated clinical laboratories. Graduates are eligible to sit for the national examination to become certified as a phlebotomy technician.

Student Learning Outcome 1: Develop problem solving skills in all phases of specimen collection.

Assessment Methods

Course Name/Number: Phlebotomy - MDL 105

Direct Measure Used: Questions embedded on Quiz 3 .

SLO/Rubric Criteria or Question Concepts:

1. Action taken for patient not complying with fasting requirement.
2. Action taken to correctly identify patient without wristband.
3. Action taken to avoid causing hemolyzed specimens
4. Action to follow when blood is not obtained in venipuncture.
5. Acton taken for patient refusing to have blood drawn.
6. Action taken after accidental needlestick.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	11
NOVA Online	NA	NA	NA
Off-Site Dual Enrollment	NA	NA	NA
Total	1	1	11

Assessment Results

Semester/year data collected: Fall 2021

Target: 100% of students passing this test with a grade equal to 70% or better.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2021
On-campus average	100%	100%

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2021
1. Action taken for patient not complying with fasting requirement.	100%	100%
2. Action taken to correctly identify patient without wristband.	91%	100%
3. Action taken to avoid causing hemolyzed specimens	82%	100%
4. Action to follow after blood is not obtained in venipuncture.	91%	100%
5. Acton taken for patients refusing to have blood drawn.	91%	100%
6. Action taken after accidental needlestick.	91%	100%

Target Met: [X] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning: Simulation activities in class include situations that a phlebotomist may encounter during venipuncture procedures which require them to apply appropriate solutions. These activities have been very helpful to evaluate if students handle appropriately difficult situations.

2. Impact of changes on current results: Every class member has been able to reach the target. Students go through various levels of practice to leave the novice stage and finally achieve the competency required to be able to progress to the Clinical rotation course..

3. According to current results, areas needing improvement:
The percentages shown by this cohort of students demonstrate a good grasp of actions needed to solve some common unexpected situations that may occur during venipuncture procedures. This evaluation shows a novice level in which is important to build appropriate cognitive information needed to appreciate that dexterity in psychomotor skills is based upon correct knowledge of Actions to maintain the safety of the patient and the integrity of sample collected. Since these students are not required to have prerequisites in Biology upon entrance to this career studies certificate it is difficult for some students to retain all facts. The repetition and explanation of actions needed to successfully collect blood made by instructors during the laboratory practices and formative evaluations help students to progress from cognitive to associative and finally reach the autonomic stage. At the end of the lecture course the summative evaluation of phlebotomy skills requires demonstration of proficiency in all crucial steps of the procedure to pass the course and be allowed to progress to the clinical internship.

<table>
<tr>
<td></td>
<td>Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

Areas where students met the target: Students met the target in all areas but there is an interest in improving the area of demonstration of problem solving skills. This is a process that requires practice, and some cohorts demonstrate a higher degree of dexterity in the development of psychomotor skills

Areas where students did NOT meet the target: None
The 82% of correct answers in actions needed for avoiding hemolysis of red blood cells is considered a good outcome but best practices in PBT indicate the need to eliminate any actions that will cause hemolysis due to the many laboratory tests affected by liberation of hemoglobin to the serum or plasma. These outcomes have been evaluated in Quiz 3 which explores cognitive knowledge during first third of the course and because some of these students may be completely new to these concepts since this career studies certificate does not have any prerequisites, we only require a 70% pass score on the quizzes and exams at this novice level. Upon further laboratory practice of cognitive and psychomotor skills students will be exposed to repetition and expanded discussion of these important concepts to finally demonstrate proficiency in summative evaluations offered at the end of the course.</td>
<td>4. Based on current results, new actions to improve student learning: On the course that begins on Fall 2022 semester additional emphasis will be provided to the students through lecture and laboratory activities on areas that are critical to maintain the accuracy of sample results like actions that avoid hemolysis of samples and other actions that guarantee identification of patients and their safety during sample collection procedures. Actions that will be taken to improve student outcomes in this area include guided practice, case studies discussion and simulations of situations that need application of appropriate problem solving actions. The cognitive and psychomotor skills in this PBT CSC are assessed during the laboratory sessions to recommend metacognitive strategies for improvement of skills and achieving competence.

5. Next assessment of this SLO: Fall 2022</td>
</tr>
<tr>
<td colspan="3">Student Learning Outcome 2: Demonstrate Laboratory Safety and Regulatory Compliance.</td>
</tr>
<tr>
<td>Assessment Methods</td>
<td>Assessment Results</td>
<td>Use of Results</td>
</tr>
<tr>
<td>Course Name/Number: Phlebotomy - MDL 105

Direct Measure Used: Questions embedded on Quiz 1

SLO/Rubric Criteria or Question Concepts:
1. Changing gloves and handwashing between patients
2. Order of donning personal protective equipment (PPE)
3. Operation of a fire extinguisher
4. Purpose of protective isolation
5. Disinfectant for body fluids spill
6. Application of Universal precautions
7. Compliance with Blood Borne pathogens regulations</td>
<td>Semester/year data collected: Fall 2021

Target: 100% of students passing this test with a grade equal to 70% or better.

Results by Modality: Overall Average/Mean Scores
<table>
<tr><th>Results by Modality</th><th>Current Results Fall 2021</th><th>Previous Results Fall 2020</th></tr>
<tr><td>On-campus average</td><td>100%</td><td></td></tr>
</table>
Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria</td>
<td>1. Changes put in place since previous assessment to improve student learning: The program utilizes different resources including Phlebotomy videos that demonstrate and explain step by step the procedure of blood extraction. They are available in Canvas to provide opportunity to come back to look at them anytime outside of class time.
Different strategies like simulations and case study discussions are used to emphasize the importance of safety compliance, risk management and application of regulations.

2. Impact of changes on current results: The simulations during laboratory practices and case studies</td>
</tr>
</table>

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	11
NOVA Online	NA	NA	NA
Off-Site Dual Enrollment	NA	NA	NA
Total	1	1	11

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2021
1. Changing gloves and handwashing between patients	91%	100%
2. Order of donning personal protective equipment (PPE)	100%	100%
3. Operation of a fire extinguisher.	100%	100%
4. Purpose of protective isolation	82%	100%
5. Disinfectant for body fluids spill	100%	100%
6. Application of Universal precautions	91%	100%
7. Compliance with Blood Borne pathogens regulations	91%	100%

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: The results of previous year on SLO criteria that show a variability of 10% or less is not statistically significant due to the high diversity of students from one cohort to another.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: None, but we look at those points near to the cut-off value of not meeting expectations as a warning sign that needs to provide attention to explore strategies that can help these students to acquire the concepts needed to improve development of safety and regulatory compliance.

discussion during classroom activities used in previous years have been improved and implemented in this group obtaining results that meet the target goal and show minimal variability in the outcomes evaluation comparison to previous year's results. A deviation within a 10% of difference in these results may be due to the differences among students. Any difference higher than 10% in comparison to the previous group will be included in the list of topics that need to be given special attention.

3. According to current results, areas needing improvement: Situations and conditions that need use of protective isolation and appropriate use of different types of personal protective equipment depending on isolation restrictions are areas that need review to determine degree of student's understanding of applicable safety measures. Best practices of disinfection and application of other procedures recommended to maintain the safety of patient and healthcare professionals in situations of isolation will also be addressed.

4. Based on current results, new actions to improve student learning: A revision of the strategies used this semester will help to add authentic assessments to the course that begins in Spring 2023. Observations of compliance with safety measures during laboratory practice is a piece that will demonstrate proficiency in criteria 1, 2, 6 and 7. Simulations or drills of fire situation and spills of body fluids will be implemented to demonstrate the degree of appropriate response of students observed in each case. The demonstrated average mean scores are on target but those showing less than 90% mean scores will be reinforced by including authentic assessment assignments like vignettes to observe and discuss situations for phlebotomist to consider the safety actions needed when working in areas of isolation.

5. Next assessment of this SLO: Spring 2023

Student Learning Outcome 3: Perform venipuncture and dermal puncture collection, handling and processing.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Clinical Phlebotomy MDL 106 **Direct Measure Used**: Evaluations of Clinical Preceptors during Clinical Course	**Semester/year data collected: Spring 2022** **Target:** 100% students will be passing the Clinical evaluation of Technical Sills with minimum scores of 3 or 4 in each area evaluated.	**1. Changes put in place since previous assessment to improve student learning:** This SLO has been evaluated formerly on cognitive knowledge in MDL 105.This time a summative evaluation of psychomotor skills at the Clinical Course will demonstrate if all the

Medical Laboratory Technology: Phlebotomy, C.S.C.

SLO/Rubric Criteria or Question Concepts:
1.Correct patient identification procedures.
2.Interpretation of laboratory requisitions

3.Ascertain correct specimen procedure for collection of non-routine tests.
4.Follows laboratory policy to label specimens collected.

5.Use CLSI standard technique to perform venipuncture making no more than two attempts
.
6. Use CLSI Standard technique to perform dermal puncture.
7.Recognizes importance of Stat specimens.

Other Method (if used):NA

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	1	1	13
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	13

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
Synchronous hybrid (remote) average	100%	100%

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2021
1.Correct patient identification procedures.	100% scored 4	100% scored 4
2. Interpretation of laboratory requisitions.	98% scored 4 2% scored 3	95% scored 4 5 % scored 3
3. Ascertain correct specimen procedure for collection of non-routine tests	85% scored 4 15% scored 3	89% scored 4 11% cored 3
4. Follows laboratory policy to label specimens collected.	100% scored 4	95% scored 4 5% scored 3
5.Use CLSI standard technique to perform venipuncture making no more than two attempts	85% scored 4 15% scored 3	95 % scored 4 5 % scored 3
6. Use CLSI Standard technique to perform dermal puncture	89% scored 4 11% scored 3	100% scored 4
7.Recognizes importance of Stat specimens	100% scored 4	100% scored 4

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The percentage of difference among these result is not significant. A variability of about 10-15% can be attributed to factors outside our control. There is a lot of variability among the type of patients that students will be exposed to during clinical rotations. Some students may be placed at institutions where they are collecting blood from outpatients and others from patients

students reached the desired level of competence . Adjustments in the amount of practice time in the labs of MDL 105 with feedback and development of plans for improvement have been strategies implemented and maintained.

2. Impact of changes on current results: The strategies implemented on MDL 105 to develop psychomotor skills from a novice stage has been able to help transition the cognitive knowledge students acquired through lectures to associative psychomotor skills. The accumulation of practice led to demonstrate transition to the precision stage of psychomotor skills domain ending in successful draws.

Students in the Clinical Phlebotomy course perform venipuncture and skin punctures using CLSI standard technique on ambulatory and hospitalized patients, The technical skills are evaluated with a rubric that goes from 0 to 4. Acceptable levels of competency for the Clinical course include a minimum score of 3 or 4 in entry level sample collection and processing criteria. All 13 students in this cohort met the target and goals of the clinical course Technical Skills Evaluation (MDL 106).

3. According to current results, areas needing improvement: The criteria #5 evaluates successful draw of blood which 80 % relies on technical skills and 20% relies in difficult veins that may cause missed draws. The qualification to sit for the PBT certification exam requires to meeting the criteria of a minimum 100 successful draws during Clinical experience (MDL 106). All of the students complete the minimum 100 successful blood collection procedures to approve the Clinical Phlebotomy course. An important consideration for successful phlebotomy procedures is the type of population received for phlebotomy and variability is seen with higher prevalence of difficult draws in geriatric population.
There is room for improvement in criteria #3.Ascertain correct specimen procedure for collection of non-routine tests. The diversity of population received at different institutions that serve as clinical centers provide different challenges to students at their rotations and the clinical preceptors guide students through these situations.

4. Based on current results, new actions to improve student learning: A Plan to develop authentic assessment activities during Spring 2023 MDL 105

	of specialized clinics that have a higher percentage of difficult veins which will be a likely cause to see the results of criteria #5. Patients of specialized clinics may have been ordered special non-routine tests and this is another reason for the variability of scores in criteria #3. **Areas where students met the target:** Students met the target in all areas. Scores of 3 and 4 are accepted as entry level demonstration of proficiency, Correlations have been made between the students that got scores of 3 and they have shown as successful at the certification test as those that obtained scores of 4 in their clinical internship evaluations. **Areas where students did NOT meet the target:** None	through simulations that introduce more requests for special test will help to improve scores of Clinical course to the maximum score of 4 in the rubric for evaluation of Clinical Technical Proficiency. **5. Next assessment of this SLO:** Spring 2024

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication

Operationalized Definition: Phlebotomy students should exhibit civic engagement when they demonstrate in their Clinical practicum an ethical and professional behavior, that accepts the responsibilities of becoming a role model by ensuring a high standard of care for the patients and community they serve,

Assessment Methods

Course Name/Number: Clinical Phlebotomy MDL 106

Direct Measure Used: Evaluations of Professional Characteristics by Clinical Preceptors during Clinical Course

CLO/Rubric Criteria or Question Concepts:

1. Communicates effectively with patients by demonstrating a concerned and confident approach.
2. Communicates effectively with members of the laboratory and hospital staff.
3. Exhibits the initiative and self-confidence to volunteer to collect specimens.
4. Demonstrates the ability to work cooperatively with members of the hospital and staff.
5. Follows verbal instructions
6. Organizes work to achieve maximum efficiency
7. Recognizes mistakes or discrepancies and takes appropriate action including asking questions when appropriate.
8. Accepts constructive criticism and attempts to make appropriate adjustments.
9. Displays professional integrity including the confidentiality of all patient information.
10. Performs work in a manner that instills confidence and trust.

Assessment Results

Semester/year data collected: Spring 2022

Target: 100% of students will be passing the Clinical evaluation of Professional Characteristics with minimum scores of 3 or 4 in each area evaluated.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Fall 2019
All students assessed (weighted average)		
On-campus average	100%	100%
Synchronous hybrid (remote) average		
NOVA Online average		
Dual Enrollment average		

Results by CLO Criteria:

[ ] Average/Mean Score per criteria or
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Semester Year
1.Communicates effectively with patients by demonstrating a concerned and confident approach	95% scored 4 5% scored 3	NA

Use of Results

Changes put in place since previous assessment to improve student learning: This core competency was evaluated in the 2018-2019 report. At that time civic engagement was demonstrated by graduate's' contribution to the well-being of their community by becoming certified to show their commitment to lifelong learning process of maintaining their competency by periodic recertification and abiding to their professional code of ethics. The certification process is independent of completing the Phlebotomy Career Studies Certificate and graduates that accept the responsibilities of the professional code of ethics sit for the certification test. The program goal is to prepare graduates to demonstrate ethical and professional characteristics and the program has a curriculum that includes discussion of their individual responsibilities to their community.

2. Impact of changes on current results: The curricular structure has included activities that prepare Phlebotomy students to learn and practice the different ways in which they can put forth the expectations of the PBT code of ethics. Students have the opportunity to demonstrate these ethical and professional characteristics in the Clinical Practicum course (MDL 106). All students in this cohort demonstrated scores of 3 and 4 which are the highest achievable scores in the Clinical evaluation rubric of Professional Characteristics.

11. Responds to volume or stat pressures with organization and efficiency.

Other Method (if used): The PBT Student Manual has a signature page of the agreement to follow program policies and the Code of Ethics of the profession. This includes the expected behavior and responsibilities of phlebotomists related to the duties to the patient, duties to colleagues and the profession and duties to society:

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME	1	1	11
LO			
WO			
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	11

2. Communicates effectively with members of the laboratory and hospital staff.	98% scored 4 2% scored 3	NA
3.Exhibits the initiative and self confidence to volunteer to collect specimens.	98% scored 4 2% scored 3	NA
4.Demonstrates the ability to work cooperatively with members of the hospital and staff.	98% scored 4 2% scored 3	NA
5.Follows verbal instructions.	95% scored 4 5% scored 3	NA
6. Organizes work to achieve maximum efficiency.	95% scored 4 5% scored 3	NA
7.Recognizes mistakes or discrepancies and takes appropriate action including asking questions when appropriate.	98% scored 4 2% scored 3	NA
8.Accepts constructive criticism and attempts to make appropriate adjustments.	98% scored 4 2% scored 3	NA
9.Displays professional integrity including the confidentiality of all patient information.	98% scored 4 2% scored 3	NA
10. Performs work in a manner that instills confidence and trust.	98% scored 4 2% scored 3	NA
11. Responds to volume or stat pressures with organization and efficiency.	98% scored 4 2% scored 3	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: NA

Areas where students met the target: All areas evaluated.

Areas where students did NOT meet the target: None

3. According to current results, areas needing improvement: A correlation of the scores was made to see if students obtaining scores of 3 showed difficulties passing the PBT certification and the result of this comparison showed no difference among them. Representatives from both groups sat for certification test and all passed providing a 100% certification pass rate for PBT first timers during June to October 2022.

4. Based on current results, new actions to improve student learning: Maintain up to date the discussions in the cognitive, affective, and psychomotor domains related to professionalism in the PBT curriculum and include more community service activities that begin to show the importance of their contribution to society and their profession.

5. Next assessment of this CLO: 2024 (If we continue to follow the assessment timeframe of every three years for this CLO)

Program Goal on Graduation: Increase graduation totals to the maximum capacity of the program per year which includes admission of a maximum of 18 students in August and January.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target:** Graduate at least 13 students per semester. **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** The structure of the PBT CSC has not changed. Every semester there are

Medical Laboratory Technology: Phlebotomy, C.S.C.

Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	16	+228%
2020-21	7	+16.7%
2019-20	6	+50%
2018-19	4	-266%
2017-18	15	----

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

students among the ones admitted and program placed in the PBT CSC that are not interested in completing the 16 credits of the certificate and only pursue registration in the Phlebotomy lecture course MDL 105 and the Clinical Phlebotomy practicum, MDL 106 to become eligible to sit for the Phlebotomy certification. In the orientation provided for all students admitted into this program a discussion of the advantages of holding a career certificate is presented. The economic impact of completing the 16 credits of the PBT CSC may still be too high than the 7 credits option of completing just the core Phlebotomy courses.

2. Impact of changes on current results: Incentives like G3 grants that have been available in the area of financial aid have been an important factor for students to pursue completion of the full PBT CSC instead the option of just finish the MLT 105 and MLT 106 courses which will also give them the opportunity to sit for certification. This has been the reason to see the low number of graduates from the PBT CSC in previous years when you compare the registration on Fall or Spring semester in the MDL 105 and MDL106 courses.

3. According to current results, areas needing improvement: The MDL program director and faculty promote the completion of the PBT CSC as an advantage in professional preparation to enter into the healthcare team of Clinical Laboratory Professionals. The curriculum is current and provides cognitive knowledge and psychomotor skills to successfully pass national certification exams. The availability of programs that will help students with the cost to complete the 16 credits of the PBT CSC is an important factor to increase the members in the annual graduating class of PBT CSC

4. Based on the results, new actions to improve graduation/productivity results: Marketing of the PBT CSC and its benefits in the Clinical Laboratory career ladder is an area of opportunity to capture the attention of admitted students that have the benefit of completing the 16 credits of the PBT CSC with financial aid G3 incentives or other grant opportunities.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Program Place 18 students per semester.

Medical Laboratory Technology: Phlebotomy, C.S.C.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target:

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	9	
2020-21	21	16.7
2019-20	18	20
2018-19	15	50
2017-18	10	----

Target Met for Headcount: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

Use of Results

1. Changes put in place since previous assessment to improve program placement results: The PBT CSC has two entry points for admission. Every Fall and every Spring semester a new group is admitted and program placed. The headcount provided from OIR data only includes the Fall cohort. The curriculum structure of the PBT CSC is designed to be completed in one semester. The list of graduates for Spring graduation includes the graduates that started and finished PBT CSC in Fall semester and new group that started and finished in Spring of the academic year. This unique characteristic of the one semester duration of the PBT CSC makes difficult to interpret results based on registration for only one semester.

2. Impact of changes on current results: The requirements for acceptance into Clinical practicum make it difficult to admit students for lecture during the first weeks of January if available spaces remain open because all medical and other documentation is required to be complete by this time to be send for clinical institutions 4-6 weeks prior to starting clinicals at 7 weeks 2 session. Admission to the PBT CSC are processed in October to provide at least two months for completion of clinical practicum requirements before Spring semester start day.

3. According to current results, areas needing improvement: Increased effort has been dedicated to admission, enrollment, and registration to fill the full capacity of the class admitted for Fall and for the class admitted for Spring. Students accept the admission and later make a change of mind with very short notice near start day of class giving no opportunity to accept a student in waiting list because they won't have time to comply with the documentation needed to have in place 4-6 weeks before start of clinical practicum on 7 weeks 2 session.

4. Based on the results, new actions to improve program placement/productivity: Marketing and efficient admission and program placement are the controllable key factors to help fill capacity but the uncontrollable factors of admitted students that communicate the change in the intention to start in the program late and near start date give no opportunity to admit applicants on waiting list.

5. Next assessment of this goal: Assessed annually.

Additional Program Goal : The Phlebotomy program graduates will sit for the National ASCP Board of Certification (BOC) Exam

Assessment Method

Short description of method(s) and/or source of data: American Society for Clinical Pathology (ASCP) Phlebotomy Technician Board of Certification (BOC).

There is more than one certifying agency available to our phlebotomy graduates: we recommend the most widely known ASCP-BOC. The ASCP BOC is the only one we subscribe to for access to exam performance reports. Traditionally our students sit for the ASCP BOC.

Assessment Results

Target: 90% or more of the first timers sitting for PBT certification will pass the test

Results for Past 5 Academic Years:

Academic Year	Percent of PBTstudents who pass certification on 1st attempt	Percentage Increase/ Decrease
2021-2022	100%	0
2020-2021	100%	0
2019-2020	100%	9
2018-2019	91%	-2
2017-2018	93%	7

Results for Current Year: N= 11 examinees

NVCC PBT Mean Score Year 2022	National Mean Score Year 2022
577	563

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Results by areas of the PBT Body of Knowledge	NVCC PBT Mean Score Year 2022	National Mean Score Year 2022
1. Anatomy & Physiology of Circulatory System	551	570
2. Specimen Collection	591	556
3. Specimen Processing and Handling	555	561
4. Non Blood Specimens	612	553
5. Point of Care Testing	580	579
6. Laboratory Operations	566	590

Narrative comparison of current results to previous year's results: The comparison of performance per year showed comparable results for pass rates. A 100% pass rate for first timers and comparable mean scaled scores per area showed some areas with a slight higher mean scores than National mean. In two areas: Anatomy and Physiology of Circulatory system and in Laboratory Operations the results of our graduates were lower with a

Use of Results

1. Changes put in place since previous assessment to improve program goal: The utilization of training videos of Phlebotomy procedures and other textbook resources provide a detailed visual reinforcement of psychomotor skills for venipuncture and skin puncture procedures. The MediaLab software with simulated certification exam provides opportunity for review and preparation for adaptive PBT certification test.

2. Impact of changes on current results: The utilization of the resources available for the PBT program provides reinforcement of basic concepts and opportunity to develop and improve psychomotor skills.

3. According to current results, areas needing improvement: Updates to the content of the body of knowledge related to new methods, safety devices, and newly approved Point of Care testing Systems are part of the continuous quality process of course revision. Another source of feedback is the analysis of certification test mean scaled scores by areas that show need to emphasize circulatory system concepts and principles of topics included in the Laboratory Operations area.

4. Based on the results, new actions to improve program goal: Revision of teaching strategies and incorporation of authentic assessment is part of the plan for improvement in PBT courses. Emphasize in the lecture course the anatomy and physiology of circulatory system and the concepts and principles of topics included in the Laboratory Operations area.

5. Next assessment of this goal: Assessed annually.

	difference less than 25 points from National mean. The overall performance is great.	

Student Learning Outcome Assessment Report: 2021-2022
Music A.A., A.A.A.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

A.A. Program Purpose Statement: This curriculum offers an emphasis in fine arts. The program may be used by students who wish to transfer to a four-year college or university to complete the Bachelor of Arts in Music.

A.A.A. Program Purpose Statement: This curriculum is designed for students who seek employment in the performing arts field. The degree offers a major in music and a specialization in jazz/popular music. Each program has a common first year.

Student Learning Outcome 1: Students will be able to analyze the musical structure of a composition.

Assessment Methods

Course Name/Number: Music Theory I / MUS 111

Direct Measure Used: All students who were enrolled in MUS 111 (first semester music theory class) across campuses were given a rigorous assessment (our SLO #2 Assessment) as a part of their final exam. Students were asked to analyze a piece of music by labeling the key, completing a Roman Numeral analysis and a lead sheet symbol analysis, labeling non-chord tones, and identifying two cadences.

SLO/Rubric Criteria or Question Concepts: (Music SLO method of assessment is attached.) Maximum score: 100. Target Score: 75 (75%). Students were graded according to this rubric:

Labeling the Key	10 points
Roman Numeral Analysis	28 points
Chord Symbol Analysis	28 points
Labeling Non-Chord Tones	24 points
Labeling Cadences	10 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AN (100% Synchronous, Virtual via Zoom)	2	2	12
AL (50/50 Hybrid In Person)	1	1	5
LO (50/50 Hybrid, Synchronous Virtual)	1	1	7
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**4**	**4**	**37**

Assessment Results

Semester/year data collected: Fall 2021

Target: Target Score: 75 (75%) for the overall total and also each individual category. Using a 100-point rubric, the Achievement Target was an average score of 75% or higher, overall and in each individual category.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2018*
All students assessed (on-campus only)	N/A	65.2%
100% Synchronous via Zoom	80%	N/A
50/50 Hybrid In Person	82.8%	N/A
50/50 Hybrid Synchronous via Zoom	67.71%	N/A
Total Average for all 3 modalities	77%	--

*Other previous results: Spring 2018 (MUS 112): 65.63%

Results by SLO Criteria: Average/Mean Score per criteria

SLO Component	Current Results Fall 2021	Previous Results Fall 2018
Labeling the Key	7.71 / 10 77.1% > 75%	8 /10 80% > 75%
Roman Numeral Analysis	20.21 / 28 72.18% < 75%	19.17 / 28 68.46% < 75%
Chord Symbol Analysis	21.75 / 28 77.68% > 75%	14.9 / 28 53.21% < 75%
Labeling Non-Chord Tones	21.17 / 24 88.21% > 75%	18.8 / 24 78.33% > 75%
*Labeling Cadences	6.17 / 10 61.7% < 75%	4.33 / 10 43.33% < 75%
Overall Average Score	77 / 100 77% > 75%	65.2 / 100 65.2% < 75%

Use of Results

1. Changes put in place since previous assessment to improve student learning: Teachers spent more time working with individual students to assess their knowledge on these concepts and skills, and helped students as needed.

2. Impact of changes on current results: Students' overall scores improved by 11.8% from Fall 2018. It is unknown whether or not the improvement is directly linked to the changes we put in place since the previous assessment, but it's possible.

3. According to current results, areas needing improvement: "Roman Numeral Analysis" and "Labeling Cadences"

4. Based on current results, new actions to improve student learning: Starting in Spring 2023, faculty who teach this course must focus more class time on "Roman Numeral Analysis" and "Labeling Cadences," and assess student learning of these topics better in practice and assignments before the final SLO assessment. We will achieve this by assessing more practice homework in these areas starting in Spring 2023. These improvement strategies will be discussed at our next discipline group meeting in Jan. 2023.

5. Next assessment of this SLO: Fall 2023

	*One teacher did not get to teach the concept of cadences and had their class leave this part blank on the test. This significantly lowered the score in this category. **Overall Target Met:** [ ] Yes [ ] No [X] Partially The overall target was mostly met, and it was met in the Overall Average Score for the entire assessment. However, it was not met in two of the individual categories. **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous results:** Our overall achievement target was met in Fall 2021. Our current results were higher in every category but one ("Labeling the Key") when compared to the results from Fall 2018. **Areas where students met the target:** "Labeling the Key," "Chord Symbol Analysis," "Labeling Non-Chord Tones," and Overall Average Score. **Areas where students did NOT meet the target:** The achievement targets for "Roman Numeral Analysis" and "Labeling Cadences" were not met.	

Student Learning Outcome 2: Students will perform effectively in a group.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Jazz Ensemble / MUS 135 **Direct Measure Used**: The Ensemble Assessment Form that was specifically designed for this SLO was used. This form is a grading rubric with 5 different categories. **SLO/Rubric Criteria or Question Concepts:** Students were assessed on the following question/category concepts: • Accuracy of pitches (worth 5 points, then x3 for 15 total) • Accuracy of rhythms (worth 5 points, then x3 for 15 total) • Accuracy of words/articulations (worth 5 points, then x2 for 10 total) • Tone Quality (worth 5 points) • Overall Musicianship (worth 5 points) Grading Scale:	**Semester/year data collected:** Spring 2022 **Target:** Overall and individual criteria scores will be at or above 75%. **Results by Modality:** Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment: **Results by Modality** / **Current Results Spring 2022** / **Previous Results Spring 2021 (from MUS 149 - Band)*** **On-campus** average: 66.4% / N/A **Synchronous hybrid (remote)** average: N/A / 86% *Additional previous results: • Fall 2019 (MUS 137 & 237, Chorus): 88.8% • Spring 2019 (MUS 149, Band): 77.74% • Fall 2016 (MUS 137, Chorus): 90% • Spring 2016 (MUS 135, Jazz Ensemble): 86.78%	**1. Changes put in place since previous assessment to improve student learning:** More individualized attention was given to students in ensemble classes in Fall 2020, especially since we couldn't meet in person due to COVID and with ensembles taking place via Zoom. When ensembles started meeting as in-person classes again, starting in Fall 2021, more individualized attention was still given to students than when compared to before the pandemic started. Since "Accuracy of articulations" was the lowest scoring criteria category in Spring 2021, more emphasis was placed on teaching correct articulations starting in Fall 2022 and continuing through Spring 2022. **2. Impact of changes on current results:** The data for the current results are negatively skewed since one of the five students assessed was not actually adjudicated and scores of zeros were included for all criteria and the total for that student. Below is a chart that shows the

- 5 points = a superior performance, outstanding in nearly every detail
- 4 points = an excellent performance, minor defects
- 3 points = a good performance, lacking finesse and/or interpretation
- 2 points = a fair performance, basic weaknesses
- 1 point = a poor performance, unsatisfactory

Sample*:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL only	1	1	5
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**5**

*Note: Only music majors taking the jazz ensemble class for credit were assessed. Non-music majors were not assessed.

Results by SLO Criteria:

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021 (from MUS 149 - Band)
1. Accuracy of pitches 15 points	10.2 / 15 68% < 75%	14.44 / 15 96.27% > 75%
2. Accuracy of rhythms 15 points	9.6 / 15 64% 75%	12.94 / 15 86.27% > 75%
3. Accuracy of words/articulations 10 points	6.8 / 10 68% < 75%	7.63 / 10 76.3% > 75%
4. Tone Quality 5 points	3.4 / 5 68% < 75%	4 / 5 80% > 75%
5. Overall Musicianship 5 points	3.2 / 5 64% < 75%	4 / 5 80% > 75%
TOTAL = 50 points	**33.2 / 50 66.4% < 75%**	**43.01 / 50 86.02% > 75%**

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Compared to Spring 2021, students' scores drastically decreased overall and in every category. However, this data is negatively skewed due to the fact that one of the five students was absent during the class sessions the assessment was conducted. Zeros were recorded and included in the current results, so the data does not accurately reflect students' scores.

Areas where students met the target: Students did not meet any of the target goals.

Areas where students did NOT meet the target: All.

current results for all 5 students and just the 4 students who were adjudicated. Our challenges at NOVA include more than just scores on an assessment…they include students who aren't able to attend class several times in the semester due to extenuating circumstances, which is why the 5th student wasn't able to be assessed according to his actual abilities.

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022 (including zeros for one student who was unable to be assessed)	Current Results (including only the 4 students who were actually adjudicated)
1. Accuracy of pitches 15 points	10.2 / 15 68% < 75%	12.75 / 15 85% > 75%
2. Accuracy of rhythms 15 points	9.6 / 15 64% 75%	12 / 15 80% > 75%
3. Accuracy of words/articulations 10 points	6.8 / 10 68% < 75%	8.5 / 10 85% > 75%
4. Tone Quality 5 points	3.4 / 5 68% < 75%	4.25 / 5 85% > 75%
5. Overall Musicianship 5 points	3.2 / 5 64% < 75%	4 / 5 80% > 75%
TOTAL = 50 points	**33.2 / 50 66.4% < 75%**	**41.5 / 50 83% > 75%**

If we consider the current results of only the 4 students who were actually assessed, students' scores are slightly lower overall and, in most categories, when compared to the Spring 2021 results. However, the scores are quite similar and there was a different adjudicator which could have made a small difference. Also, this year's assessment took place in Jazz Ensemble compared to the last assessment in Band. The last time this SLO was assessed in Jazz Ensemble (Spring 2016), students scored slightly higher (86.78%) than this year. They had a different adjudicator in 2016 which could've made the small difference we're seeing in scores.

3. According to current results, areas needing improvement: Improvement could be made in actually getting all students adjudicated instead of including zeros in the data.

4. Based on current results, new actions to improve student learning: Continued emphasis will be put on

individual performances within the ensemble, and starting in Spring 2023, more flexibility will be given for students to make up the assessment if they are absent when it's first conducted.

5. Next assessment of this SLO: Spring 2023

Student Learning Outcome 3: Students will be able to provide an overview of the history of music/history of jazz and popular music.

Assessment Methods

Course Name/Number: History of Music I / MUS 221

Direct Measure Used: The "Western" music assessment was given at the end of the semester in MUS 221. Students were asked to provide the dates, names of composers, and the musical characteristics of various style periods of Western Music.

SLO/Rubric Criteria or Question Concepts: (See the attached Music SLO method of assessment.) Scoring: Each column is graded out of a possible two points. A list of possible answers is provided. Maximum Score: 48. Target Score: 36 (75%). Students were assessed on the following areas:

Dates	16 points
Composers	16 points
Style Characteristics	16 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	0	N/A	N/A
AN	0	N/A	N/A
MA	0	N/A	N/A
ME	0	N/A	N/A
LO	0	N/A	N/A
WO	0	N/A	N/A
Online	1	1	10
DE*	0	N/A	N/A
Total	1	1	10

*Off-site Dual-enrollment

Assessment Results

Semester/year data collected: Fall 2021

Target: Overall and individual criteria scores will be at or above 75%.
Target Score: 36 (75%), and 12 points (75%) in each of the 3 categories.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Fall 2021	Previous Results Fall 2018 (MUS 221 & 222)
On-campus average	N/A	77.67%
100% Synchronous (remote) average	%	N/A

Results by SLO Criteria:

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. Dates	11/16 68.75% < 75%	12/16 75% = 75%
2. Composers	9.9/16 61.88% < 75%	13.25/16 82.81% > 75%
3. Characteristics	9.9/16 61.88% < 75%	12.07/16 75.44% > 75%
4. TOTAL	30.8/48 64.2% < 75%	37.28/48 77.67% > 75%

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: Students' scores decreased a lot overall and in all three categories.

Use of Results

1. Changes put in place since previous assessment to improve student learning: More emphasis was placed on preparing for this assessment, as we believe the overview points for each era that this assessment covers is important for students to have in their long term memories.

2. Impact of changes on current results: The current results are negatively skewed since three of the ten students were not able to take the assessment. These three students did not officially withdraw from the class but had stopped turning in work and had disappeared from the class at the time of the assessment. This was the first full semester during COVID that was 100% online and I believe that hit these 3 students hard. Below is a chart that shows how well the 7 students did on this assessment without including the zeros for the other 3.

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 (10 students, with 3 students all scoring zeros)	Current Results Fall 2021 (7 students)	Previous Results Fall 2018
Dates	11/16 68.75% < 75%	15.71/16 98.19% > 75%	12/16 75% = 75%
Composers	9.9/16 61.88% < 75%	14.14/16 88.38% > 75%	13.25/16 82.81% > 75%
Characteristics	9.9/16 61.88% < 75%	14.14/16 88.38% > 75%	12.07/16 75.44% > 75%
TOTAL	30.8/48 64.2% < 75%	44/48 91.67% > 75%	37.28/48 77.67% > 75%

As you can see in this chart, all students who were able to complete the assessment did very well and scored higher than the previous results in Fall 2018. If only looking at the data from the 7 students, we met our goal in all categories.

	Areas where students met the target: None. **Areas where students did NOT meet the target:** All. **Other previous results:** Spring 2017 – MUS 222 Assessment Results (Western Music) Average score: 33.75/48 (70.31%) Number of students: 4 Number of sections: 1 (AL Campus) Breakdown of scores Dates average score: 12.5/16 (78.13%) Artists average score: 10.75/16 (67.19%) Characteristics score: 10.5/16 (65.63%) Spring 2017 – MUS 225 Assessment Results (Jazz/Pop) Average score: 44.33/48 (92.36%) Number of students: 6 Number of sections: 1 Breakdown of scores Dates average score: 15.67/16 (97.92%) Artists average score: 14/16 (87.5 %) Characteristics score: 14.67/16 (91.67%) Spring 2016 – MUS 222 Assessment Results (Western Music) Average score: 45/48 (93.75%) Dates average score: 15/16 (93.75%) Artists average score: 15.1/16 (94.79%) Characteristics score: 14.83/16 (92.7%)	**3. According to current results, areas needing improvement:** We need to retain our students. I believe that COVID played a big factor in the three students who significantly negatively skewed the data. **4. Based on current results, new actions to improve student learning:** MUS 221 & 222 teaching faculty need to continue to place on emphasis on teaching to this assessment, starting in Spring 2023, as the basic knowledge asked in this assessment gives great context to the entire curriculum for both MUS 221 & 222. **5. Next assessment of this SLO:** Fall 2023

Core Learning Outcome: [X] Written Communication [ ] Civic Engagement

Operationalized Definition: The music department used our SLO #6 to assess the CLO: Students will be able to effectively research and write on topics in the area of music.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Music Theory II / MUS 112 **Direct Measure Used**: A rubric was used to grade students' papers. **CLO/Rubric Criteria or Question Concepts:**	**Semester/year data collected:** Spring 2022 **Target:** Overall and individual criteria scores will be at or above 75%. **Results by Modality:** Overall Average/Mean Scores	**1. Changes put in place since previous assessment to improve student learning:** We decided to implement the old rubric included here for writing assignments in all music classes except for Music History I & II (MUS 221 & 222). This old rubric is used mostly for short, opinion-based essays. The rubric that was used in Spring 2021 will remain in place for lengthier research papers that require using scholarly sources for the music history classes. **2. Impact of changes on current results:** Current results are a little higher than the previous results. This is likely due to the less rigorous assignment guidelines compared to the lengthier research papers.

Criteria	Out-standing	Competent	Minimal	Un-satisfactory
Summary (20 pts.)	Gives a clear and complete summary of the topic.	Summary of the study may be mostly complete but lack some clarity.	Summary of the study may be somewhat incomplete or unclear.	Summary of the study is brief, incomplete and unclear.
Integration of Course Work	Shows thorough	Shows some use	Show limited use	Shows no use of

Results by Modality	Current Results Spring 2022	Previous Results* Spring 2021 (MUS 221 & 222)
All students assessed (LO class was 50/50 hybrid & synchronous via Zoom; AL class was 50/50 hybrid & in person)	86.18%%	81%

*Additional previous results:
- Spring 2020 (MUS 112 & MUS 121): 84.16%

(20 pts.)	use of course readings and guiding questions to support obser-vations.	of course readings and guiding question to support obser-vations.	of course readings and guiding questions to suppose obser-vations.	course readings and guiding questions to support observatio ns.
Writing Style (10 pts.)	Uses concise, coherent, well-organized writing with few errors. Adheres to the required page length.	May write with some lack of clarity and with some errors. Slightly over or under page length requireme nt.	May write with a lack of clarity and coherence, many errors. Far too short or too long.	Writes with little clarity or coherence, many errors. Far too short or too long.
Total (50 pts.)	A = 50-45	B = 44-40	C = 39-35	D = 34-30 (F = 29 & below)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO (synchronous 50/50 hybrid remote)	1	1	6
AL (on campus 50/50 hybrid)	1	1	5
Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**2**	**2**	**11**

- Spring 2019 (MUS 112 & MUS 221): 82.62%

Results by CLO Criteria:

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020 (from MUS 112 & MUS 121)
1. Summary (20 pts.)	16.91 / 20 84.55% > 75%	17.30 / 20 86.5% > 75%
2. Integration (20 pts.)	16.91 / 20 84.55% > 75%	16.57 / 20 82.84% > 75%
3. Writing Style (10 pts.)	9.27 / 10 92.7% > 75%	8.22 / 10 82.2% > 75%
TOTAL (50 pts.)	**43.09 / 50 86.18% > 75%**	**42.09 / 50 84.18% > 75%**

NOTE: This is a different rubric than we used in Spring 2021. The rubric in 2021 was taken and adapted from a research paper rubric from Winona State University. The Spring 2021 results are below.

Previous Results:

Results by SLO Criteria/ Question Concepts	Results Spring 2021
Purpose (20 pts.)	17.5 / 20 87.5% > 75%
Content/Length (20 pts.)	16.25 / 20 81.25% > 75%
Organization (20 pts.)	16 / 20 80% > 75%
Writing Quality (20 pts.)	15.75 / 20 78.75% > 75%
References/Citations (20 pts.)	15.5 / 20 77.5% > 75%
TOTAL (100 pts.)	**81 / 100 81% > 75%**

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The overall scores are a little bit higher in Spring 2022 when compared to Spring 2021 & Spring 2020. It is impossible to compare the current results for the individual criteria to the previous results from Spring 2021 since a different rubric was used, but we can compare the current results to the results from Spring 2020 since the same rubric was used then. The current

3. According to current results, areas needing improvement: None. Teachers devoted a lot of time helping individual students with their papers by having students submit a rough draft first and then a final draft. Teachers discussed the following procedures in detail:

- How to form a topic idea for the scope of the project.
- How to write an outline, rough draft, and final draft.

4. Based on current results, new actions to improve student learning: None. Teachers will continue to devote time to helping students learn the proper procedures and formatting for quality essays and research papers. They will also point out quality resources like YouTube videos, NOVA tutoring services, etc., for students who need help with their writing. Keeping the rough draft assignment first to help students with their writing before turning in a final draft is also very helpful for students so that will remain in place.

5. Next assessment of this CLO: We will assess the Civic Engagement CLO in Spring 2023. The assessment will be used for the SLOA and also for the General Studies/Liberal Arts multidisciplinary report.

	results for each of the three criteria are very similar to the results in Spring 2020. **Areas where students met the target:** All areas **Areas where students did NOT meet the target:** None	

Program Goal on Graduation: Increase Graduation Totals

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html#panel1 VCCS Associate Degree Productivity Standards	**Target:** The program graduation totals will increase by at least 1 person in both degree/certificate programs from the previous year. **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** To increase graduation rates, music faculty members encouraged students to seek their advice during advising week and throughout the academic year in 2021-22. Faculty sent emails to students they advise in Fall 2021 and Spring 2022 to keep them updated about the benefits of the different music degree tracks and to let them know that faculty are available to answer questions about advising. COVID could've hampered our 2022 graduation rates. Another change we've implemented is we are now offering classes in multiple modalities, meaning we are offering some sections in-person, some virtual, some as hybrids, etc. We started offering sections in more modalities starting in Spring 2022. Another point to consider: There are many students who register for music courses for their own fulfillment and enrichment, who are not seeking to graduate. This affects our graduation rates. **2. Impact of changes on current results:** It's not clear whether graduation rates were affected as a result of faculty reaching out to students more, but it certainly is worth continuing. We will be able to measure the impact of these changes in the future by whether or not our graduation rates increase or decrease and by how much. **3. According to current results, areas needing improvement:** Continue to encourage graduation in degree programs. **4. Based on the results, new actions to improve graduation/productivity results:** In Fall 2022 and Spring 2023, faculty will send at least two emails to all the students they advise, letting them know we are there to assist students with their advising needs. **5. Next assessment of this goal:** Assessed annually

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Graduates, MUS AA	Percentage Increase/ Decrease	Number of Graduates, MUS AAA*	Percentage Increase/ Decrease
2021-22	6	-33.33	9	(same)
2020-21	9	28.6	9	28.6
2019-20	7	16.7	7	250.0
2018-19	6	-57.1	2	-71.4
2017-18	14	--	7	--

These numbers include graduates for Music A.A.A. and Music: Jazz/Popular Music Specialization, A.A.A combined.

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: We had 3 fewer graduates in 2022 in the AA degree than we did in 2021. We had the same number of graduates in the AAA degree. While we did not meet our goal, at least we did not decrease in the number of graduates in the AAA degree program, and it is still trending higher than in previous years.

Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: The AA in Music degree is a Transfer degree, and the 2021-2022 number of graduates in that program does not surpass the VCCS Productivity Standard for AA degrees. The two AAA in Music degrees are not Transfer degrees, and the 2021-2022 number of graduates in these programs also do not surpass the VCCS Productivity Standard (using the AAS for Arts number, which is 12).

Music A.A., A.A.A.

Program Goal on Program-Placed Students: Increase Program Placement Rates

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html#panel1

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: The number of program-placed students in each degree/certificate will increase by 5%.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students, MUS AA	Percentage Increase/ Decrease	Number of Program-Placed Students, MUS AAA*	Percentage Increase/ Decrease
2021-22	80	-30.4	50	-13.8
2020-21	115	-10.2	58	-24.7
2019-20	128	-14.7	77	30.5
2018-19	150	-8.0	59	0.0
2017-18	163	--	59	--

*These numbers represent the Music A.A.A. and Music: Jazz/Popular Music Specialization, A.A.A combined.

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Our number of students placed in music degree programs went down when compared to last year. We believe this might largely be due to COVID and people changing their priorities. Also, most NOVA degree programs went down compared to last year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES, MUS AA	% Increase/ Decrease	Number of Program-Placed FTES, MUS AAA*	% Increase/ Decrease
2021-22	43.9	-43.2	22.8	-30.3
2020-21	77.3	0.0	32.7	-18.3
2019-20	77	-18.6	40	4.1
2018-19	94.6	-7.7	28.3	-7.8
2017-18	102.5	--	30.7	--

*These numbers are represent the Music A.A.A. and Music: Jazz/Popular Music Specialization, A.A.A combined.

Does the 2021-2022 FTES meet the VCCS Productivity Standards from the previous column? Please explain: The Music AA and AAA meet the requirements, but the Jazz/Pop Music Specialization does not. The Music AAA

Use of Results

1. Changes put in place since previous assessment to improve program placement results: COVID hit, and we were unable to implement a lot of changes to try to help increase our program placement results. Also, classes had to be held online for 2020-21, so this may have discouraged students from taking classes because music classes are so hands-on.

2. Impact of changes on current results: Our numbers are decreasing, again possibly due to COVID. Also, many of the students in our classes are not seeking music degrees but are there for personal fulfillment in individual classes (example: community members registering for ensemble classes but they are not program-placed).

3. According to current results, areas needing improvement: We need to increase our program placement numbers for all music degrees.

4. Based on the results, new actions to improve program placement/productivity: To improve program placement rates, music faculty on the AL campus will re-implement 1-4 recruiting trips to area high school music programs per year.

Starting in late Spring and Fall 2022, music faculty started implementing more recruiting activities like concert collaborations with local high schools, audition workshops aimed at local high school participants, open house music events on campus, and visits to high school music programs to visit with students about our music programs at NOVA.

In addition, the NOVA Alexandria campus band hosts approximately 150 5th through 12th graders from local area schools to perform annually in combined concerts. These young students get to see a part of the strong music program at NOVA and remember when they got to perform on stage in the Rachel M. Schlesinger Concert Hall and Arts Center on the Alexandria campus. This has helped and will hopefully continue to help recruit some music majors.

5. Next assessment of this goal: Assessed annually

	had 19.3 FTEs in Fall 2020, but the Music AAA in Jazz/Pop Specialization only had 3.5 (using 18 as the required number for both AAA Music programs).	

Student Learning Outcome Assessment Report: 2021-2022
Music Recording Technology Certificate

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program Purpose Statement The Music Recording Technology curriculum is designed for persons who desire to set up their own studio or seek employment as music recording technicians. Occupational objectives include development for positions as assistants and aides in recording studios, broadcast studios, myriad other recording enterprises, and countless private studios in the recording industry. Training in digital audio is emphasized using industry standard software.

Student Learning Outcome 1: Appropriately use an equalizer, compressor, and/or time based effects in audio applications.

Assessment Methods

Course Name/Number:
MUS 227

Direct Measure Used: Audio file submissions that comprise of a multi-track mix at 48/24 resolution for critical hearing of effects being evaluated.

SLO/Rubric Criteria or Question Concepts:
Appropriately use EQ and compressors in mixes

Other Method (if used): written quiz

Sample:

Campus Modality	Total # of Sections Offered	# of Sections Assessed	# Students Assessed
LO	1	1	8
NOVA Online			
Off-Site Dual Enrollment			
Total	**1**	**1**	**8**

Assessment Results

Semester/year data collected: Spring 2022

Target: 90% or better

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	8	6.5-Spring 2019.

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Eq vs compressor better for given example	8/8	12/13
2. identifying eq bands	8/8	12/13
3. identifying and application of EQ for correction -subtractive EQ	8/8	12/13
4. identifying and application of instrument EQ for enhancement - additive EQ	8/8	12/13
5. Compression parameter usage for balancing levels	8/8	12/13
6. Upward vs downward compression	8/8	12/13

Use of Results

1. **Changes put in place since previous assessment to improve student learning:**
   Quizzes (sample attached) and hands on time plus discussion. The class format was on line, unlike before, this diminished outcomes and results

2. **Impact of changes on current results:**
   On line audio is challenging at the advanced level. Some compromise had to be made due to zoom limitations reproducing HD audio.

3. According to current results, areas needing improvement:
Class works better in person due to consistency in equipment. On line each student has a different set up. Some flexibility is required in grading those who do not have robust systems

4. Based on current results, new actions to improve student learning:
The required target was met, the program will evaluate a different area in Fall 2023.

5. Next assessment of this SLO:
Fall 2028

7. input volume and threshold links			
8. effects of SSL or master bus eq in signal chain		8/8	12/13

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
All areas showed improvement.
Areas where students met the target: ALL

Areas where students did NOT meet the target: NONE

Student Learning Outcome 2: Predict and control room reverberation time (RT_{60}) with regard to proper musical acoustic support for a traditional recording studio space exhibiting frequency-dependent exponential decay

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Sound Studio Design - MUS 157 **Direct Measure Used**: Students were assessed on two assignments: 1. Students had one week to complete the Room Reverberation Calculation assignment 2. Studio Design Project - Students were presented with a real strip mall location, a noise audit of the outside location, and a 3 million dollar budget for construction and operation for 2 years. **SLO/Rubric Criteria or Question Concepts:** Room Reverberation Calculation assignment: 1. Create a measured room drawing 2. Calculate the room volume 3. Choose target RT60 (Reverberation Time) 4. Define surface materials 5. Locate material absorption coefficient (a) data 6. Calculate surface area 7. Combine surface area for each material	**Semester/year data collected:** Spring 2022 **Target:** 90% of students enrolled would pass with 81%. **Results:** • 6/16 students earned an “A” (91-100%) • 1/16 earned a “B” (81-90%) • 9 earned an “F” (0-60%) because they did not submit the assignments, so they were not included in this assessment. • Overall result: 43% of students turned in the assignment. Of the students that submitted the assignment, 100% of them passed. **Past assessment results: Spring 2021** **Target:** 90% of students enrolled would pass with 81%. **Results:** • 14/21 students earned an “A” (91-100%) • 1/21 earned a “B” (81-90%) • 6/21 earned an “F” (0%) because they did not submit the assignments, so they were not included in this assessment.	**1. Changes put in place since previous assessment to improve student learning:** There were several pre-project assignments that bolstered the students’ competency in the individual steps of the RT_{60} calculation. **2. Impact of changes on current results:** Although students did feel more prepared for this assignment, several students did not turn in the pre project assignments before attempting the projects. This held them back in their success. **3. According to current results, areas needing improvement:** The biggest problem that I saw from this semester was a lack of interest in the material. The change that I would make would be constantly engaging the students in the question of “why does this matter” or what the importance of this knowledge would be for them. This current semester, fall 2022, my participation is much higher by making this small change in all of the earlier assignments. Students who do not think this knowledge will be helpful in the future will want to ignore the

Music Recording Technology Certificate

8. Calculate total absorption for room surface

Studio Design Project:

1. Write a business plan that the studio will be designed to meet.
2. Select the proper building materials and wall assembly design that would block out the amplitudes and frequencies of outside noise present.
3. Demonstrate the ability to properly design and label a floor plan including labeling electrical receptors, lighting, HVAC, Doors and Windows.
4. Students will properly calculate RT60 for every room.
5. Students will demonstrate how to price construction costs by determining costs per linear foot of new construction and finding geographically adjusted instillation costs of all required construction.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO only	1	1	15
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**15**

Overall result: 71% of students turned in the assignment. Of the students that submitted the assignment, 100% of them passed.

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2021
Room Reverberation Calculation Assignment	
1. Measured room drawing	7/16
2. Room volume	7/16
3. Target RT60	7/16
4. Surface Materials	7/16
5. Material absorption coefficient	7/16
6. Surface area	7/16
7. Surface area for each material	7/16
8. Total absorption	7/16
Studio Design Project	
1. Business plan	6/16
2. Building materials	6/16
3. Floor plan	7/16
4. Calculate RT60	7/16

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:

[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Students that completed the project showed great resourcefulness and initiative to complete projects with detail that went above and beyond the minimum requirements. However, MANY students were not participating in the class at all. Not attending class or turning in assignments.

Areas where students met the target: Calculating RT60 transitioned nicely into the studio project and this complex equation was correctly addressed by all of the material. If they understand how beneficial it can be, they will participate.

4. Based on current results, new actions to improve student learning: More emphasis on each component with specific quizzes designed to test students on individual components. I would ask these as word problems, so students can see how materials. Thicknesses can address the sound absorption issues they were looking in to.

The students were successful in the quizzes that I made, but it did not transfer over to the project.. Extra scaffolding assignments are needed to bridge the gap between the simple arithmetic, and the complex multi step calculations is needed

Basic Geometry also needs to be elaborated more in prior assignments,

Construction estimates would be made by simple square foot estimates, and would only be used for students to estimate loan payments on a monthly P&L. The specific budgetary aspect of this project would only be used to help students make economical decisions in the design of the studio.

5. Next assessment of this SLO:

	students. **Areas where students did NOT meet the target:** There are a large number of students who gave up and stopped participating.	

Student Learning Outcome 3: Calculate basic electrical circuit resistance, amperage, and voltage

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Recording Studio Electronics: Theory and Maintenance - MUS 158 **Direct Measure Used**: Students were presented with a worksheet with 17 word problems related to the five concepts listed below. **SLO/Rubric Criteria or Question Concepts:** Students were assessed on the following areas: Students correctly use ohms law and derivative formulas to solve equations. Students correctly use the power law and derivative formulas to solve equations. Students identify series or parallel circuits and find the voltage drop in a wiring diagram. Students identify and use the correct unit of measurement for Current, Voltage, resistance and Power. Students will use Kirchhoff's laws to find missing variables in circuit diagrams. **Sample:**	**Semester/year data collected: Fall** 2021 **Target:** 90% of students enrolled would pass **Results:** • 4/14 students earned an "A" (91-100%) • 4/14 students earned an "C" (71-80%) • 2/14 students earned an "D" (61-70%) • 4 earned an "F" (0-60%) - Did not submit • Overall result: 71% of students turned in the assignment. Of the students that submitted the assignment, 80% of them received passed **Past Assessment Results - Spring 2021** **Target:** 90% of students enrolled would pass **Results:** • 14/18 students earned an "A" (91-100%) • 4 earned an "F" (0-60%) - Did not submit Overall result: 77% of students turned in the assignment. Of the students that submitted the assignment, 100% of them received an A. **Results by SLO Criteria:** Percent of Students > target per criteria	**1. Changes put in place since previous assessment to improve student learning:** The worksheet was changed to Canvas Quizzes. Since there was no ability to construct these circuits in person, online video resources were added to the modules for students to have further practice. **2. Impact of changes on current results:** This class was taught online, so the inability to have hands on experience negatively affected the results. The use of videos was helpful, and the students did better on the assessment, but had a weaker conceptual understanding of the circuits. The online version of the quiz prevented any widespread cheating, so it was far more difficult for students. The students that took the quiz multiple times ended up getting a perfect score. **3. According to current results, areas needing improvement:** Students need multiple attempts and smaller practice assessments to build confidence. **4. Based on current results, new actions to improve student learning:** I need to have multiple pre-quizzes that were one question long, so students could practice on a shorter time frame. Each time the quiz is given, the result changes due to variables, so this would be the fastest way to allow students to practice. The use of question banks in canvas made some of the students able to calculate the math, however the conceptual understanding of what they were doing was clearly a problem. I would like to incorporate the use of the free software: livespice https://www.livespice.org/ This software allows you to create an audio circuit, and

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO only	1	1	18
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**1**	**1**	**18**

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. Ohms law and derivative formulas	100
2. Power law and derivative formulas	100
3. Series or parallel circuits and find the voltage drop	77
4. Correct unit of measurement for Current, Voltage, resistance and	100

	Power	
5.	Use Kirchhoff's laws to find missing variables in circuit diagrams.	77

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:

[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The prior version of the exam was a paper and pencil worksheet, where the entire class had the same questions. I suspected that there might be cheating, or at least, students working together

The newest iteration of this same worksheet was an online quiz where each variable would change for every student. This eliminated the possibility of students copying the correct answer, and therefore gave a much more honest assessment of student capability of the subject.

Areas where students met the target:
students who took the exam multiple times (with different questions each time) did a very good job and were able to receive perfect scores.

Areas where students did NOT meet the target:
The lack of success was due to students not re-taking the quiz more than once. I allowed 3 attempts to be made.

you can feed live signals into the circuits you design. The project can then be exported as a VST plugin and used in your DAW. The practical application for this is minimal, but it would allow students to understand the components and circuits that they are calculating the mathematical functions for.

Program Goal on Graduation: 5% increase

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html.	**Target:** 5% increase **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** None- we were under lockdown which curtailed all studio activity. We learned to collaborate on projects virtually and posted results college wide via articles in college publications and social media.

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	5	0
2020-21	5	25.0

Music Recording Technology Certificate

	(for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

2018-19	6	0
2017-18	6	20.0
2016-17	5	----

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The online modality brought in more students. Other comparisons are difficult since there was no studio available to students, they had to use less than optimal equipment, comparison with results obtained in a controlled studio would be inconclusive

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: NA

2. Impact of changes on current results: Not optimal. 100 level classes are fine virtually. Teaching advanced level is difficult

3. According to current results, areas needing improvement: Better connectivity and home computers if virtual.

4. Based on the results, new actions to improve graduation/productivity results: Moving back to In person classes and use of the recording studio

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Nursing, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The two-year Associate of Applied Science Degree in Nursing at NOVA prepares students for a successful career in nursing. The curriculum is designed to prepare selected students for eligibility to take the National Council Licensure Examination (NCLEX) and a future career as a registered nurse (RN) providing and coordinating care for patients in a variety of healthcare settings.

Student Learning Outcome 1: Safety: Practice safe nursing care that minimizes risk of harm across systems and client populations**.**

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Competencies in Nursing Practice/ NSG 106 **Direct Measure Used**: Drug Dosage Calculation Competency **SLO/Rubric Criteria or Question Concepts:** Students were assessed on their ability to accurately calculate drug dosages. Compute drug dosage calculations with 90% accuracy. Perform required skills safely and accurately. **Sample:**	**Semester/year data collected:** Fall 2021 **Direct Measure Used:** Drug Dosage Calculation Competency (DDC) Examination in Level 1 **Target:** The required target for the DDC is 90% for all Level 1 students before they matriculate to Level 2. The total number of students assessed is 76 The Target for the Drug Dosage Calculation Competency score is at Level 1 proficiency (68-75%). The proficiency level benchmarks are those recommended from the ATI RN Concept-Based Assessments National Standard-Setting Studies. Currently, the ATI concept-based assessments do not provide a National Mean for Drug Dosage Calculation Competency. The Nursing Program has identified the Target for the Drug Dosage Calculation Competency Score for Level 1 proficiency for the Group Score based on the description of the proficiency level definition: "Scores meeting the criterion for Proficiency Level 1 indicates that the student demonstrates proficiency in the knowledge and skills related to the assessed concepts." **Results**: The students completing the Level 1 DDC did met the proficiency level targets established. The Group score for the Drug Dosage Calculation Competency (94.74%) did meet the target of Level 1 proficiency (68-75%). A further analysis of the data showed that remediation and 2nd attempts at the DDC; remediation is required if not successful on first and 2nd attempts. Students have 3 attempts to score 90%.	**1. Changes put in place since previous assessment to improve student learning:** Required remediation with nursing skills lab faculty if student fails to meet the required 90% target. **2. Impact of changes on current results:** This has improved the first- and second time pass rate and decreased the number of students who are unable to matriculate through the curriculum secondary to failing the drug dosage calculation competency. **3. According to current results, areas needing improvement:** Based on current results there are no areas of improvement needed at this time. **4. Based on current results, new actions to improve student learning:** Based on current results there will be no new actions implemented to improve student learning in this area. **5. Next assessment of this SLO:** Fall 2024

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	4	4	76
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total			

Table 1: ATI RN Concept Based Level 1 assessment Sub-Scale data for Drug Dosage Calculation (2 items)

Item Topic (Fall 2018)	% students answering correctly (Fall 2020)	Item Topic (Fall 2020)	% students answering correctly (Fall 2021)
Dosage Calculation (2 items)	81.3	Dosage Calculation (2 items)	90.4
	93.6		91.6

Target Met: [**x**] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[**x**] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The current correct exceeded the results of the previous Fall 2020 student cohort.

Areas where students met the target: 94.74% of the cohort successfully passed the DDC with scores of 90% or better.

Areas where students did NOT meet the target: All areas of this target were met.

Student Learning Outcome 2: Professional Behaviors: Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning,

Assessment Methods

Course Name/Number: Introduction to Healthcare Leadership/ NSG 230

Direct Measure Used: Written communication was assessed using an assignment that consisted of writing a cover letter and resume for their first professional job as a new RN.

SLO/Rubric Criteria or Question Concepts:
Professional Behaviors is a SLO criteria for this evaluation period.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	4	4	73
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A

Assessment Results

Semester/year data collected: Fall 2021

Target: The target is 100% assignment completion of the students completed the assignment with a grade of >80%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	100	N/A
On-campus average	100	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
7. Professional Behaviors	100	N/A

Target Met: [x] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning: N/A- No changes required.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Based on the results of this assessment there are no identified areas needing improvement.

4. Based on current results, new actions to improve student learning: Based on the results of this assessment there were no new actions necessary to improve student learning.

5. Next assessment of this SLO: Assessed annually.

Total	**4**	**4**	**73**

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:100% of the students completed the assignment with a grade of >80%

Areas where students met the target: Students met the 100% target for all areas assessed.

Areas where students did NOT meet the target: N/A

Student Learning Outcome 3: Collaboration: Demonstrate principles of collaborative practice within the nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve stated outcomes of care.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Health Care Participant**/** NSG 152

Direct Measure Used: Completion of a quiz after viewing a video about interdisciplinary collaboration.

SLO/Rubric Criteria or Question Concepts: I have a better understanding of interdisciplinary collaboration after watching this video.
I believe my input as a student nurse is important to better the health outcomes of my patients.
I believe my input as a Registered Nurse once I graduate will be important to better the health outcomes of my patients.
I believe collaborative care improves the health outcomes of patients.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	4	4	68
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total			**68**

Semester/year data collected: Spring 2022

Target:

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	100	N/A
On-campus average	100	N/A

Results by SLO Criteria: (data not provided)
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target:100% of the students completed the assignment with a grade of >80%

Areas where students did NOT meet the target: N/A

1. Changes put in place since previous assessment to improve student learning: N/A-No changes required.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Based on the results of this assessment there are no identified areas needing improvement

4. Based on current results, new actions to improve student learning: Based on the results of this assessment there were no new actions necessary to improve student learning.

5. Next assessment of this SLO: Assessed annually.

Core Learning Outcome: [x] Civic Engagement [x] Written Communication

Nursing, A.A.S.

Operationalized Definition: Written Communication

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: NSG 230 **Direct Measure Used**: Student Resume Assignment **Other Method (if used): N/A** **Sample:**	**Semester/year data collected:** Spring 2022 **Target:** 100% completion of the assignment. **Results by Modality:** Overall Average/Mean Scores	**1. Changes put in place since previous assessment to improve student learning:** N/A- No changes required. **2. Impact of changes on current results:** N/A **3. According to current results, areas needing improvement:** Based on the results of this assessment there are no identified areas needing improvement **4. Based on current results, new actions to improve student learning:** Based on the results of this assessment there were no new actions necessary to improve student learning. **5. Next assessment of this CLO:** Spring 2023

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	4	4	73
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	4	4	**73**

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	100%	N/A
On-campus average	100%	N/A

Results by CLO Criteria: (data not provided)
[ ] Average/Mean Score per criteria or
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially **[x**] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:

Areas where students did NOT meet the target:

Program Outcome on Retention and Completion: Students enrolled in the Nursing Program complete curriculum requirements in the prescribed length of time as illustrated by program and college retention and graduation rates.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html **Method:** • Retention rate is calculated by dividing the number of students who have progressed to the third semester in the program by the number of students enrolled at census date in the first semester of the program. • Completion is calculated by dividing the number of students who successfully complete the last semester of the program within 150% of program	**Program Retention Target:** Expected Level of Achievement (ELA) is >60%. **Results for Past 5 Academic Years: Did not provide data** **Target Met:** [ ] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [ ] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:**	**1. Changes put in place since previous assessment to improve graduation results:** The MEC and Nursing Division have sustained efforts in place to assist with student retention and completion. Student support services at the MEC offer a wide range of support services for students to promote their success. These include academic, fiscal, and personal support services. The Nursing division has an established advisory program for students. Each student is assigned a nursing faculty member as an advisor in the first semester to support their academic progression. Additionally, any student who is unsuccessful on a nursing

length by the number of students enrolled at census date in the first semester of the program.

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

For Associate-Degree Granting Programs only (N/A for Certificates):

- **Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:**
  - Graduation: Yes, we have greater than 7 graduates
  - Program Placement: With 110 students as of May 2021, we have more than 10 FTES required by VCCS.

exam is contacted by their course instructor and a remediation plan is implemented. The Nursing Division now has a fulltime Nursing remediation specialist to

2. Impact of changes on current results: Student retention data is not demonstrating any appreciable improvement with the above means in place. A retention rate of 86% is above the national average of 80% retention (NLN 2013 https://files.eric.ed.gov/fulltext/EJ1252119.pdf). Students meet with advisors and continue to have performance improvement plans and remediation plans, and results of meetings are documented in Navigate.

3. According to current results, areas needing improvement: The program is above target for this goal and will continue to assess annually.

4. Based on the results, new actions to improve graduation/productivity results: The program is above target for this goal and will continue to assess annually.

5. Next assessment of this goal: Assessed annually

Program Goal on NCLEX-RN Pass Rate: Graduates are eligible to sit for and complete the NCLEX- RN leading to licensure as a registered nurse as determined by NCLEX-RN pass rates.

Assessment Method

Short description of method(s) and/or source of data: Virginia Board of Nursing (VBON) quarterly reports: NCLEX-RN pass rates. Reported April 01-June 30; July 01-September 30; October 01-December 31.

National Council State Board of Nursing (NCSBN) NCLEX Annual Report - Available annually in March. This report provides information on how the graduates performed against other programs regionally and nationally.

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)

Assessment Results

Target: The expected level of achievement (ELA) for this program outcome is: NCLEX-RN pass rates for NOVA Nursing Program graduates will be at or above the national licensure exam pass rates for associate degree programs as reported by the NCSBN.

Table 1: NCLEX- RN pass rate data

Graduate Year	# pass	# tested	Pass rate	National	Similar Programs
2022 (YTD)					
2021	19	20	95%	*	*
2020	74	94	79%	85%	82%
2019	109	127	86%	88%	85%
2018	126	145	87%	86%	92%
2017	139	156	89%	85%	85%

*NCLEX annual pass rate data is available the first of the following year. 2021 Graduate NCLEX-RN pass rates will be reported with the 2021-2022 APER.

Use of Results

1. Changes put in place since previous assessment to improve program placement results: In Spring 2021: the Hurst NCLEX-RN review program was embedded in level 4 NSG 230 curricula and continues to be used. Additionally, Spring graduates are provided access to expert faculty members for three months after graduation for mentoring and counseling.

2. Impact of changes on current results: NCLEX annual pass rate data is available the first of the following year. 2022 NCLEX-RN pass rates will be reported with the 2022-2023 SLO. The NCLEX-RN pass rate to date is 86%.

Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target Met for Headcount: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [] Partially [ ] N/A

Narrative comparison of current results to previous year's results: In 2020 the NCLEX-RN pass rates for NOVA Nursing Program graduates fell below the ELA for the program as well as below the VBON Benchmark of 80%. Because the program fell below the VBON target of 80%, a plan of correction was created and endorsed by the faculty.

3. According to current results, areas needing improvement:
• Reduce turnover of nursing faculty and Deans
•Re-instate the TEAS admission testing (Fall 2022)
•Increase the number of adjunct faculty for clinical rotations so that students are not missing clinical due to lack of staffing.

4. Based on the results, new actions to improve program placement/productivity: Reduce turnover of faculty and Deans. Increase and retain adjunct clinical nursing faculty.

5. Next assessment of this goal: The Nursing Division assesses NCLEX-RN pass rates quarterly and reports results annually.

Program Outcome on Employment as an RN: The Nursing Program prepares students to practice in various community-based settings as identified by employment data

Assessment Method

Short description of method(s) and/or source of data: Annual Survey of Graduates coordinated with the NVCC Office of Institutional Research (OIR)

Assessment Results

Target: > 80% of NOVA Nursing Graduates surveyed will be employed either full time or part time within 12 months of graduation.
Results: 12-month survey of Graduates: What is your employment status?

Graduates	N	Employed as RN	Seeking employment as RN	%
May 2020 May 2021	COVID-19 remote working environment in addition to turnover in the Nursing Program leadership hindered graduate survey deployment in May 2020. An informal survey of the senior students in the Spring 2019 preceptorship program resulted in eighteen (24.3%) of the students indicating they had tentative job offers, contingent on passing the NCLEX-RN.			
May 2022	A survey of the Spring 2022 graduates revealed that 100% of the students who want to be employed as an RN are employed.			

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: An informal survey of the Spring 2021 graduates resulted in a response rate of 55% to an informal survey created by the Level 4 teaching team. The results revealed that 100% of the students who want to be employed as an RN are

Use of Results

1. Changes put in place since previous assessment to improve program goal: No changes have implemented to date.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: None noted.

4. Based on the results, new actions to improve program goal: No changes are needed, as employment opportunities in healthcare remain abundant.

5. Next assessment of this goal: Assessed annually

	employed. This same informal survey was deployed for Spring 2022 graduates with a yield of 100% employed as RN.	

Student Learning Outcome Assessment Report: 2021-2022
Paralegal Studies, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to provide an individual with a sufficient level of knowledge, understanding, and proficiency to perform the tasks associated with meeting a client's needs. These tasks can be performed by a trained, non-lawyer assistant working under the direction and supervision of a lawyer. A paralegal or legal assistant will have a basic understanding of the general processes of American law, along with the knowledge and proficiency required to perform specific tasks under the supervision of a lawyer in the fields of civil and criminal law. Occupational objectives include employment in corporate law firms, government agencies, and any of the varied law-related fields. Paralegals or legal assistants are prohibited by law from offering legal services directly to members of the public.

Student Learning Outcome 1: Research federal and state laws using manual and computer assisted methods such as Lexis or Westlaw.

Assessment Methods

Course Name/Number: Legal Research (LGL 125)

Direct Measure Used: Data was collected from a legal memorandum that required students to research federal and state laws using manual and computer assisted methods such as Lexis or Westlaw.

SLO/Rubric Criteria or Question Concepts: Students were assessed using the following criteria:

- Analyze a hypothetical scenario
- Use manual or computer assisted methods to research case law and statutory law
- Determine whether the "client's" Fourth Amendment rights were violated.
- Draft Memo using the correct format

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL/Person	1	1	17
AL/Zoom	1	1	19
Off-Site Dual Enrollment			
Total			36

Assessment Results

Semester/year data collected: Fall 2021

Target: Student average on the overall assessment will be at or above 80 percent.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	78%	N/A
Synchronous hybrid (remote) average	78%	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Analysis	78%	N/A
2. Research	78%	N/A
3. Writing	78%	N/A
4. Format	78%	N/A

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: In Spring 2021 a different method of assessment was used (Breach of Contract exercise). Therefore, no previous year results are available.

Use of Results

1. Changes put in place since previous assessment to improve student learning: To improve student learning, faculty decided to change the method of assessment from the Final Research Project (Fall 2018) to a Memorandum of Law. The new assessment method allows students to conduct more extensive research using manual and computer assisted methods.

2. Impact of changes on current results: It is difficult to determine the impact of these changes because the method of assessment is different. However, the program will be able to assess the impact when a new assessment is conducted in Fall 2023.

3. According to current results, areas needing improvement: The target was not met; therefore, faculty will continue to emphasize the importance of effective legal research. This is especially important because Legal Research (LGL 125) is a prerequisite for Legal Writing (LGL 126).

4. Based on current results, new actions to improve student learning: The target was not met; therefore, faculty will increase the emphasis on the importance of students learning how to conduct research using books before teaching them how to use computer assisted methods.

5. Next assessment of this SLO: Fall 2023.

Areas where students met the target: Students who met the target correctly used manual or computer assisted methods to research federal case law and statutory law, used analytical skills to determine the outcome, and used the correct format to write a memo explaining their results.

Areas where students did NOT meet the target: Students who did not meet the target did not complete the assignment because they did not properly analyze case law or statutory law. Some students did not turn in the assignment.

Student Learning Outcome 2: Identify and solve legal ethics and professional responsibility issues

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Criminal Law (LGL 218)

Direct Measure Used: Data was collected from a mock trail assignment to determine whether students were able to identify and solve legal ethics and professional responsibility issues in a trial setting.

SLO/Rubric Criteria or Question Concepts: Students were assessed using the following criteria:

- Pre-trial preparation
- plaintiffs' attorneys: explain the elements of intentional torts
- Defense attorneys: defend your client using: consent; privilege; duress; statute of limitations; immunities, etc.
- Identify and solve legal ethics and professional responsibility issues

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL/Zoom	1	1	23
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	23

Semester/year data collected: Fall 2021

Target: Student average on the overall assessment will be at or above 80 percent.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	91%	N/A
Synchronous hybrid (remote) average	91%	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Pre-trial preparation	91%	
2. Identify and explain elements of intentional torts	91%	
3. Identify and explain appropriate defenses	91%	
4. Identify and solve legal ethics and professional responsibility issues in a trial setting	91%	

Target Met: [x] Yes [ ] No [ ] Partially

1. Changes put in place since previous assessment to improve student learning: For the past several years this SLO has not been evaluated even though ethics and professional responsibility are covered in all of the courses. In Spring 2024 in order to improve student learning, the program will select different courses to evaluate this assessment.

2. Impact of changes on current results: The program will be in a better position to assess the impact of changes after Spring 2024.

3. According to current results, areas needing improvement: Even though the target was met, different methods of assessment will be identified to improve student learning.

4. Based on current results, new actions to improve student learning: In Spring 2024 the program will identify different methods of assessing legal ethics and professional responsibility such as discussion board topics, group exercises, and other assignments.

5. Next assessment of this SLO: Fall 2024.

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: The assignment for this assessment were changed; therefore, the results are not comparable.

Areas where students met the target: Students who met the target were able to identify and solve legal ethics and professional responsibility issues, participated in pre-trial preparation, explained the elements of intentional torts, and identified and explained appropriate defenses.

Areas where students did NOT meet the target: Students who did not meet the target did not participate in the assignment.

Student Learning Outcome 3: Locate and prepare standard forms appropriate to specific legal problems.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number: Family Law (LGL 117)

Direct Measure Used: Data was collected from a Divorce Complaint assignment to determine whether students were able to draft a pleading (complaint).

SLO/Rubric Criteria or Question Concepts: Students were graded on:

- Correct information in Caption
- Proper jurisdiction,
- Ground for divorce
- Proper format

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL/Zoom	2	2	35
NOVA Online			
Off-Site Dual Enrollment			
Total			

Semester/year data collected: Spring 2022

Target: Student average on the overall assessment will be at or above 80 percent.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
Synchronous hybrid (remote) average	91%	97.7%/Fall 2019

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Caption	91%	97.7%
2. Proper Jurisdiction	91%	97.7%
3. Ground for divorce	91%	97.7%
4. Proper Format	91%	97.7%

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

1. Changes put in place since previous assessment to improve student learning: The target was met in Fall 2019 and Spring 2022; therefore, no changes have been put in place. To improve student learning the program will consider using another course to assess this SLO.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Based on current results there are no areas that need improvement.

4. Based on current results, new actions to improve student learning: Even though the target was met in Spring 2024 faculty will decide whether to use another course (Estate Planning & Probate [LGL 225] to assess this SLO.

5. Next assessment of this SLO: Fall 2023.

Narrative comparison of current results to previous results: In Fall 2019, 97.7 percent of students completed the Caption correctly, identified the proper jurisdiction and ground for divorce, and used the correct format. Students who were not successful did not turn in the assignment. In that semester 44 students were enrolled in LGL 117 compared to 35 enrolled in Spring 2022. In addition, a new professor taught the course in Fall 2019.

Areas where students met the target: Students who met the target included correct information in the Caption and the body of the Complaint (jurisdiction, number of and ground for divorce), and used the proper format.

Areas where students did NOT meet the target: Students who did not meet the target did not turn in the assignment.

Core Learning Outcome: [ ] Civic Engagement [x] Written Communication

Operationalized Definition: Students drafted a Limited Partnership Agreement to assess their written communication skills.

Assessment Methods

Course Name/Number: Legal Aspects of Business Organizations (LGL 235)

Direct Measure Used: Students' written communication skills were assessed when they drafted a Limited Partnership Agreement for Legal Aspects of Business Organizations (LGL 235).

CLO/Rubric Criteria or Question Concepts: Students were graded on their ability to draft a legal document using the following criteria:

- Use Fictitious Business to create a Limited Partnership
- Members of partnership
- Capital contributions
- Division of profits
- Sharing of losses
- Appropriate boilerplate language

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL/Zoom	1	1	15

Assessment Results

Semester/year data collected: Spring 2022

Target: Student average on the overall assessment will be at or above 80 percent.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
On-campus average	87%	N/A
NOVA Online average	94%	N/A

Results by CLO Criteria:

[ ] Average/Mean Score per criteria or

[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Used fictitious business to draft a Limited Partnership Agreement	91%	N/A
2. Named members of the partnership	91%	N/A
3. Explained amount and type of capital contributions	91%	N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: To improve student learning, in Spring 2023 faculty spent more time explaining components of the Limited Partnership type of business organization. For example, group exercises and hypothetical examples were used to explain how profits are divided and losses are shared. In addition, more emphasis was put on the effectiveness of boilerplate language.

2. Impact of changes on current results: The program will be able to assess the impact of these changes the next time this SLO is assessed.

3. According to current results, areas needing improvement: Based on current results there are no areas that need improvement.

4. Based on current results, new actions to improve student learning: To improve student learning, in Spring 2024 faculty will include additional group exercises and hypothetical examples to explain the components of the Limited Partnership Agreement. The Program Head will also seek guidance from the advisory committee.

5. Next assessment of this CLO: Spring 2024.

NOVA Online	1	1	17
Off-Site Dual Enrollment			
Total	2	2	32

4.	Noted division of profits	91%	N/A
5.	Noted sharing of losses	91%	N/A
6.	Included the appropriate boilerplate language in the agreement	91%	N/A

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: In 2018 a different method was used to assess this SLO (General Partnership Agreement); therefore, the results are not comparable.

Areas where students met the target: Students who met the target used information from the fictitious business they created, identified members of the Limited Partnership and their capital contributions, explained how profits were divided, how losses were shared, and used the appropriate boilerplate language.

Areas where students did NOT meet the target: Students who did not meet the target did not turn in the assignment.

Program Goal on Graduation: To maintain the program graduation totals.

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12

Assessment Results

Target: Graduate total will increase by 3 percent over the next three years.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	30	3
2020-21	29	-6
2019-20	33	6.5
2018-19	31	14.8
2017-18	27	----

Target Met: [x] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve graduation results: Beginning in Fall 2021 faculty began increasing their efforts to explain the importance of graduation during advising sessions. The program continues to conduct events that will allow students to visualize their career paths after graduation. For example, the program will conduct a Virtual Panel Discussion in Spring 2023.

2. Impact of changes on current results: The program will assess the impact of these changes after the Virtual Panel Discussion is conducted in Spring 203.

3. According to current results, areas needing improvement: Even though the target was met, faculty

A.A.S. in Engineering, Mechanical, and Industrial Technologies 9 A.A.S. in Health Technologies 7 Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.	**Current Results Improved vs. Previous Results:** [ ] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** **For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:**	and advisors must continue to emphasize the importance of graduation and career advising. **4. Based on the results, new actions to improve graduation/productivity results:** Faculty will continue to emphasize the importance of graduation during advising sessions. Beginning Spring 2023 they will also invite program graduates to serve as guest speakers and participate in career events such as the Virtual Panel Discussion. The Program Head will seek guidance from the advisory committee to develop new actions to improve the graduation rate. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: To increase the number of program-placed students.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html **VCCS Associate Degree Productivity Standards** **Degree Program** — **FTES Requirement (for Institutions with 5,000 or more students)** Transfer (A.A., A.S., A.A.&S.) 24 A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies 18 A.A.S. in Engineering, Mechanical, and Industrial Technologies 13 A.A.S. in Health Technologies 10 Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.	**Target:** The total of program-placed students will increase over the next three years. **Results for Past 5 Academic Years - Headcount:** Academic Year — Number of Program-Placed Students — Percentage Increase/ Decrease 2021-22 — 159 — -6 2020-21 — 168 — 18.3 2019-20 — 142 — -13 2018-19 — 164 — 7.9 2017-18 — 152 — ---- **Current Results Improved vs. Previous Results:** [ ] Yes [ ] No [x] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** **Results for Past 5 Academic Years - FTES:** Academic Year — Number of Program-Placed FTES — Percentage Increase/ Decrease 2021-22 — 85.7 — -10 2020-21 — 99.5 — 23.5 2019-20 — 76.1 — -11.8 2018-19 — 86.3 — 0.6 2017-18 — 78.7 — ----	**1. Changes put in place since previous assessment to improve program placement results:** Since the previous assessment the program has continued to offer classes in person and through Zoom; however, beginning in Fall 2021 more paralegal courses were offered in person. The program has also reviewed data from the KPI dashboard. **2. Impact of changes on current results:** Continuing to offer paralegal courses through Zoom has had a positive impact on the number of program placed students. However, the increase in the number of in-person classes has had a negative impact on the number of program-placed students. Reviewing the KPI dashboard provided information about age, race, and gender distribution of students. However, this information did not provide any insight into the number of program-placed students. Information from the KPI dashboard can be used for ABA reporting purposes. **3. According to current results, areas needing improvement:** Based on current results, the program needs to offer more courses through Zoom. In-person classes are more effective for Legal Research (LGL 125) and perhaps Real Estate Law (LGL 115); however, the majority of LGL courses can effectively be taught via Zoom or through NOVA Online. **4. Based on the results, new actions to improve program placement/productivity:** In Fall 2022 the Program Head will solicit input from faculty and advisory

		committee members to discuss new actions to improve program placement and productivity. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Personal Training, C.S.C.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This program is based on the standards of the American Council on Exercise (ACE) and prepares students to become knowledgeable fitness professionals in health clubs, recreation departments, and fitness facilities in private, commercial, corporate, or government settings. Emphasis is placed on preparing students to sit for a nationally recognized certification exam in Personal Training.

Student Learning Outcome 1: : Students will be able to explain the scientific principles of fitness and demonstrate proper techniques for flexibility, muscular strength, muscular endurance, and cardiovascular exercises.

Assessment Methods

Course Name/Number: PED 111 – Weight Training I

Direct Measure Used:
Established in 2014, the major assignment for PED 111 is for the students to apply the scientific concepts and the resistance training recommendations outlined by the American College of Sports Medicine (ACSM) to design a personalized resistance training program that they apply and practice throughout the second half of the course. After course lecture on exercise principles, extensive discussion on ACSM recommendations, and several weeks of demonstration and practicing a wide variety of resistance training exercise, students build their skills of resistance training program design and practice mastering proper form and resistance selection.

SLO/Rubric Criteria or Question Concepts:
The assignment consists of 4 parts. Each part must be detailed and rationalized using appropriate resistance training recommendations.

1. Setting appropriate SMART Goals.
2. Design their 4-8 Week program design based on length of course.
3. Participate in program with techniques observed by the instructor.
4. Evaluate program effectiveness (exercise testing) and discuss methods to make necessary program adjustments.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	8
AN (All Remote Sections)	3	2	25

Assessment Results

Semester/year data collected: Fall 2021

Target: 80 % of students will complete the programming assignment with a score of 80% or better.

Results by Modality: Overall Average/Mean Scores

30 of 33 students (90.1%) of enrolled students completed the program design assignment.

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)		
On-campus average	100%	N/A
Synchronous (remote) average	100%	
NOVA Online average		
Dual Enrollment average		

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. SMART Goals	100%	N/A
2. Program Design	100%	N/A
3. Participation	100%	N/A
4. Evaluation	100%	N/A
5.		
6.		
7.		
8.		

Target Met: [x] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning:
First evaluation of this SLO in this course

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: None

4. Based on current results, new actions to improve student learning: None

5. Next assessment of this SLO:
To establish baseline data for future assessment, this SLO will be reassessed in PED 111 in Fall 22 or Spring 2023 depending on course offerings and enrollments.

NOVA Online			
Off-Site Dual Enrollment			
Total	4	3	33

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:
All 30 of the students completing the program design assignment received a score of 100%. Resistance training program design is a vital component to a sound fitness/wellness program. Because of that, faculty decided to help students develop, practice, and adjust their plans is a very hands-on way. Each student must provide a draft of their SMART goals and initial program for review before they begin their program. Once reviewed and discussed with the student for needed changes, students are allowed to begin their program in class under the guidance of the instructor. This offers substantial time for one-on-one skills practice as well as discussion of ways to make program adjustment with alternative exercise and more advanced resistance training methods.

Areas where students did NOT meet the target:

Student Learning Outcome 2: Students will be able to identify and describe the muscular-skeletal structure as it relates to fitness.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number:
PED 111 – Weight Training I

Direct Measure Used:
In 2014, the PED/HLT discipline group established a standard quiz to be included in all PED 111 courses to assess student knowledge of major exercise-related muscular and skeletal anatomy. Exercise-related anatomy is taught early in the course prior to demonstration and practice on resistance training exercises. This is an in-class, 50 question multiple choice quiz worth 15-30% of the final grade at the discretion of the instructor.

SLO/Rubric Criteria or Question Concepts:

Other Method (if used):

Sample:

Semester/year data collected: Fall 2021

Target: 80% of students will complete the quiz with an average score of 80% or better

Results by Modality: Overall Average/Mean Scores
31 of 33 students (93.9%) completed the quiz.

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)		
On-campus average	87.34%	N/A
Synchronous (remote) average	84.67%	N/A
NOVA Online average		
Dual Enrollment average		

Results by SLO Criteria:
[ ] Average/Mean Score per criteria

1. Changes put in place since previous assessment to improve student learning: First time assessing this SLO with PED 111

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: As noted, 6 students passed the quiz but did not reach the discipline goal of 80% or better. The discipline group feels that the knowledge of exercise-related anatomy is vital to not only personal fitness, but academic study and professional practice in the fitness industry.

4. Based on current results, new actions to improve student learning:
For Fall 2022 onward, PED 111 instructors have agreed to spend more time on related anatomy. Additionally, free online resources (such as Exercise Prescription on the Net…exrx.net) will be provide in Canvas to assist

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL – PED 111	1	1	8
AN – PED 111 (All remote sections)	3	2	25
NOVA Online			
Off-Site Dual Enrollment			
Total	4	3	33

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results:

Areas where students met the target:
31 of 33 students completed to quiz. On-campus average was over 87% and remote course average was over 84%.

Areas where students did NOT meet the target:
While targets were met for completion and quiz average, the instructors of the remote sections noted that 6 students did score under 80%. Their scores ranged from 72 -79%. While these are passing scores, the discipline group feels this can be improved.

students in developing a basic mastery of exercise-related anatomy.

5. Next assessment of this SLO: Fall 2024 or Spring 2025 depending on future course offerings.

Student Learning Outcome 3: Students will be able to identify and describe the academic areas of study and professional opportunities in the fitness industry.

Assessment Methods

Course Name/Number:
HLT 206 – Introduction to Kinesiology
Direct Measure Used:
For Spring 2022, the PED/HLT group decided to reassess (previously assessed Spring 2021) this SLO in HLT 206 as the course is designed to provide students with an overview of the academic discipline of Kinesiology (formally known as exercise science), the study of physical activity and it's benefits to human health. Specifically, the group chose to evaluate students on their general knowledge of each major subdiscipline within Kinesiology: Philosophy of Physical Activity, Sociology of Physical Activity, Motor Behavior, Biomechanics, and Physiology of Physical Activity. General knowledge in these areas are key aspects of this introductory course as outlined by the National Academy of Kinesiology (NAK) and the American Kinesiology Association (AKA). Students are asked to use the textbook as reference, as well as White Papers within kinesiology that are provided in Canvas.

Assessment Results

Semester/year data collected:
Spring 2022

Target: 75% of students will complete the assignment with and average score of 80% or better.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)		
On-campus average		
Synchronous hybrid (remote) average: Percent of students completing the assignment	7/10 = 70%	78.57%
Average Score of Completed Assignments	12.97/86.45%	12.91/86.1%

Results by SLO Criteria:

Use of Results

1. Changes put in place since previous assessment to improve student learning:

- The course content summary was re-written and approved as part of the Transfer Virginia initiative. This resulted in a course name change to Introduction to Kinesiology and revisions to the curriculum to align with current NAK and AKA standards.
- The course instructor instituted an introductory lesson on APA writing style during the 3rd class meeting. The lesson has traditionally been brief (approx. 15 minutes) but expanded to 30 minutes of class time.

2. Impact of changes on current results:
The added instruction of APA style only slightly increased the average score for proper use of APA format.

3. According to current results, areas needing improvement:

Personal Training, C.S.C.

SLO/Rubric Criteria or Question Concepts: Students were asked to complete a written assignment worth 15 points (15% of final grade). Students had up to 12 pages (2 pages maximum for each subdiscipline) to provide a written overview of each of the major subdisciplines, and were to include discussion on the following topics for each:

1. Why study physical activity in this way? What are the goals?
2. What do they do?
3. Brief history of the subdiscipline.
4. What research methods do they use?
5. Overview of knowledge/major concepts in the subdiscipline.

Scoring for the assignment was as follows:

- Philosophy of Physical Activity – 2 Points
- Sociology of Physical Activity – 2 Points
- Motor Behavior – 2 Points
- Psychology of Physical Activity – 2 Points
- Biomechanics – 2 Points
- Physiology of Physical Activity – 2 Points
- Proper Format/use of APA Style references and in-text citations - 3 Points

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	10
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	10

[x] Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year1.82
1. Philosophy	1.81	1.82
2. Sociology	1.83	1.82
3. Motor Behavior	1.8	1.77
4. Psychology	1.82	1.86
5. Biomechanics	1.75	1.72
6. Physiology	1.87	1.91
7. Format/APA Style	2.02	1.95

Target Met: [ ] Yes [ ] No [x] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: In 2019-2020, this SLO was evaluated in PED 168 (Fall) and HLT 206 (Spring). However, that evaluation focused on the professional opportunity aspect of this SLO with a different assignment and questions. As the goals were met with that evaluation, the PED/HLT group decided to evaluate the academic study aspect of this SLO in Spring 2021 and 2022 to gather data for current evaluation and future comparison.

Areas where students met the target:
Students completing the assignment in this course met the target of 80% for each of the Kinesiology subdisciplines in the SLO Criteria breakdown. The lowest average score was 1.75 out of 2(87.5%) in the area of Biomechanics.

Areas where students did NOT meet the target:
Students did not meet the target regarding Proper Format and use of APA Style for references and in-text citations. The class average was 2.02 points out of 3 (67.3%).

Students are generally more aware and accustomed to other writing styles (e.g., MLA) in their high school careers. APA style is used by Kinesiology and related health professions. Although this is an introductory course, more emphasis needs to be placed on this style to prepare students for future academic and career paths.

4. Based on current results, new actions to improve student learning:
Future sections of the course will include a tutorial on APA style provided by a NOVA librarian within the first 3 class meetings.

5. Next assessment of this SLO: Spring 2025

Core Learning Outcome: [ ] Civic Engagement [x] Written Communication
Operationalized Definition: Students will be able to identify and apply basic treatment and prevention of common fitness-related injuries.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: PED 168 – Basic Personal Trainer Preparation **Direct Measure Used**:	**Semester/year data collected:** Spring 2021	**1. Changes put in place since previous assessment to improve student learning:** First assessment of this CLO within PED 168

Personal Training, C.S.C.

The Personal Trainer C.S.C partners with the American Council on Exercise (ACE) to provide their Personal Trainer Certification Curriculum as the basis for PED 168. Within this curriculum, ACE provides several lab assignments to bolster student Skills, Knowledge, and Abilities. For this CLO, the discipline group used two of these written labs to assess student knowledge of common exercise-related conditions and injuries.

1) Common Conditions Worksheet: Students list Program Design Considerations and Exercise examples that can be applied for clients with 15 common conditions that can limit exercise capacity in clients.
2) Students are asked to define 9 of the most common acute exercise-related injuries and describe the most appropriate response they should take with regards to activating emergency management systems.

CLO/Rubric Criteria or Question Concepts:

1) List program design considerations and exercises for the following conditions: Shoulder Impingement, Lateral and Medial Epicondylitis (Elbow), Carper Tunnel Syndrome, Forward Head Posture, Lordosis, Piriformis Syndrome, Hip Arthritis and Replacement, IT Band Syndrome, Tendinitis, Patellofemoral Pain Syndrome, Knee Arthritis/Replacement, Shin Splints, Ankle Sprains, Plantar Fasciitis
2) Define and provide detailed appropriate response to the following injuries: Muscle Strains, Ligament Sprains, Cartilage Damage, Bone Fractures, Head/Neck/Back Injuries, Tendinitis, Bursitis, Fasciitis, Stress Fractures.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	12
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	10

Target: 80% of students will complete both the Common Conditions and Common Acute Injuries worksheets with a score of 70% or higher.

Results by Modality: Overall Average/Mean Scores
10 of 12 students completed both labs for a completion rate of 83.3%

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	90.5%	N/A
On-campus average		
Synchronous hybrid (remote) average		
NOVA Online average		
Dual Enrollment average		

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Program Considerations and Exercises	91.1%	N/A
2. Injury Definitions and Response	90%	N/A

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A

Narrative comparison of current results to previous results: First Assessment.

Areas where students met the target:
Scores on these 2 lab assessments demonstrate that students are meeting ACE KSA standards by being able to write clearly and effectively about common diseases, conditions, and injuries in relation to exercise. More importantly, it shows they would be able to effectively communicate this knowledge with potential fitness clients to help them improve their overall health and fitness.

Areas where students did NOT meet the target:

2. Impact of changes on current results:
This assessment will provide baseline data for future assessments.

3. According to current results, areas needing improvement: None. Results show students are meeting the ACE KSA's related to identifying and applying treatment and prevention for common fitness-related injuries.

4. Based on current results, new actions to improve student learning:
Results support that the course in provided students with basic knowledge needed by a personal trainer in the areas of diseases/conditions and common injuries. While basic level personal trainers are qualified to work with apparently healthy individuals, more emphasis is being placed on diseases with the growing health problems in the U.S. Beginning Spring 2023, the course will begin adding more discussion on this topic by expanding ACE resources with those of the CDC and NIH. Discussion on specialty fitness certifications for cancer, disability, autism, and others will also be introduced.

5. Next assessment of this CLO: As this is the first time assessing the SLO/CLO, it will be next assessed in Spring 2023 to establish baseline data for future assessments.

	Two students did not complete the assignment. Both did not pass the course as they did not complete several required assignments.	

Program Goal on Graduation: Increase the enrollment headcount of program placed students.

Assessment Method

Short description of method(s) and/or source of data:
Graduation data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target:

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2020-21	1	-75%
2019-20	4	-20%
2018-19	5	-28.6%
2017-18	7	No change
2016-17	7	----

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

Use of Results

1. Changes put in place since previous assessment to improve graduation results:
The two main capstone courses for the program are PED 168 and HLT 206. During the Spring semester, the instructor for both courses had a class discussion with students about graduation applications before the Spring 2022 deadline.

2. Impact of changes on current results:
In Spring 2022, 7 students successfully completed HLT 110 and 8 Students completed PED 168. While all students were given instructions on how to apply to graduate from the program, only 1 student successfully applied for graduation.

3. According to current results, areas needing:
The program's most important goal has been to increase the number of graduates year over year. Our program has begun to see an enrollment increase toward pre-2020 levels, but graduation rates have not followed this positive trend.

4. Based on the results, new actions to improve graduation/productivity results:

(1) With the number of program placed students in Navigate, we must continuously improve advising: The discipline will continue to suggest that all Associate Deans responsible for PED/HLT courses at each campus advise students to contact the lead faculty directly to review all courses/requirements and to help them apply for graduation. Ideally, it would be beneficial for a PED/HLT faculty member listed as a primary or secondary advisor for program placed students.
(2) Continue the practice of student communication regarding course offerings and graduation deadlines through Navigate established in Fall 2020. It is believed to be a key tool to help improve enrollments and graduation rates for this college-wide program with limited faculty.
(3) Continue to offer virtual options for program courses such as HLT 206, PED 168, and HLT 230 to

increase overall course enrollment and graduation rates.

(4) Meet with the discipline dean before AY 2023-24 to determine ways to increase program oversight and promote graduation applications.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: [Insert Program Goal on Program-Placed Students here]

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Increase program placed students by 10%.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2020-21	22	37.5
2019-20	16	-40
2018-19	40	53.85
2017-18	26	18.10
2016-17	22	----

Target Met for Headcount: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Our goal was to increase our current rates by 10%. The program did meet this target for AY 21-22 as demonstrated by the 37.5% increase in program-placed students. It is believed the previous year reduction is a direct result of the impact of COVID-19. The industry demand for personal trainers and fitness professionals declined dramatically and temporarily as a result of COVID-19 regulations. These regulations have since been lifted and the program is demonstrating a bounce back in enrollment as a result.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
Fall 2021	13.0	88.4
Fall 2020	6.9	-64.8
Fall 2019	19.6	43.37
Fall 2018	13.3	-2.9
Fall 2017	13.7	----

Use of Results

1. Changes put in place since previous assessment to improve program placement results:

(1) Utilize existing data to identify opportunities: In Fall 2021 and Spring 2022, the PED/HLT discipline chair conducted Data Close to Practice under the guidance of the MSTB Dean at the Alexandria Campus. Part of this process was meeting with a campus expert on the Navigate information system to identify tools to increase student communication, course enrollment, program retention, and number graduates.

(2) Continued improvements in communication were observed between the discipline chair and key points of student contacts (e.g., Deans, Associate Deans, First-Year advisors, counselors, enrollment services, financial aid officers, Veteran Affairs, Student Life and PED faculty).

(3) The discipline chair became an active member of the Health Sciences Pathways council.

(4) Continued lifting of Covid-19 restrictions has led to an modest increase in program placed students.

(5) Previous AY efforts to improve marketing/visibility of the program was continued, such as:

- Website Maintenance
- NOVA Catalog updates to provide students with more accurate course information and new course content summaries for HLT 110 and HLT 206 were adopted from the Transfer Virginia initiative in January 2020.

2. Impact of changes on current results:

(6) Analysis of program placed students in the Navigate system shows a dramatic gap between the number of program placed students, enrollments, and graduates. Navigate shows that there are 250 currently program placed students as of Fall 2022.

(7) Navigate data shows that at least 30% of program placed students are not active at all academically. nc

	<u>For Associate-Degree Granting Programs only (N/A for Certificates):</u> Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:	(8) Involvement in the Health Sciences Pathways Council has provide insight, support, and suggestions to bolster the program. **3. According to current results, areas needing improvement:** (9) Although the target to increase enrollments by 10% was met, enrollments have yet to reach pre-2020 levels. (10) The discipline chair became an active member of the Health Sciences Pathways council. Previous AY efforts to improve marketing/visibility of the program was **4. Based on the results, new actions to improve program placement/productivity:** (11) The discipline chair will be working with the pathway dean before AY 2023-2024 to determine ways to have more oversight of the program. Two campuses have been scheduling program-specific courses without the knowledge of the program's lead faculty. (12) Continued improvements in communication were observed between the discipline chair and key points of student contacts (e.g., Deans, Associate Deans, First-Year advisors, counselors, enrollment services, financial aid officers, Veteran Affairs, Student Life and PED faculty). (13) Using the Navigate system to send class schedule announcements and mass communication to program students. The was established in Fall 2022. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Photography and Media A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to prepare students for diverse career options within the field of professional photography and imaging. Students will learn to solve a wide range of visual problems with imagination and originality through the study of technique, history, theory, and aesthetics.

Student Learning Outcome 1: Control the image output process

Assessment Methods

Course Name/Number: Photography II – PHT 102

Direct Measure Used: Multiple choice exam questions

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following topics (see attached):
1. Primary colors
2. Neutral values
3. Color-managed print
4. Exporting for online viewing

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	7
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	7

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% of students will answer correctly on each criterion and the overall score.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2018
All students assessed (weighted average)	96%	87%
On-campus average	96%	87%
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2018
1. Primary colors	85%	86%
2. Neutral values	100%	83%
3. Color managed print	100%	91%
4. Exporting for online viewing	100%	89%

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous results: Overall results improved by 9%. The result indicates that students improved on Neutral values, Color managed prints, and exporting for online viewing at a 100% success rate. The concept of Neutral values improved the most, by 17%. The concept of Color

Use of Results

1. Changes put in place since previous assessment to improve student learning: Starting in the Fall of 2020, faculty have provided practice quizzes on Neutral values online and in-class lectures in AL. Faculty documented the most common wrong answer on a neutral color value to analyze the question in Fall 2021. However, only one student answered incorrectly (Red, Blue, Yellow), which needed to provide more information for analysis. The answer choice indicates the student was confused with the pigment-based primary color instead of the primary color of light.

2. Impact of changes on current results: The overall average of 96% meets the target of 80%, and the results increased by 9% from the previous assessment. Except for the concept of Primary Colors, students' success rate was 100%. The changes put in place from the last SLO assessment were effective.

3. According to current results, areas needing improvement: The concept of Primary Colors needs improvement.

4. Based on current results, new actions to improve student learning: Emphasize the difference between the pigment-based primary color and the primary color of lights. Explain that the primary colors of light are closely related to how the human eye perceives color, similar to how a camera sensor is built, differentiating from the pigment-based color theory in class lectures and online review materials starting in Spring 2023.

5. Next assessment of this SLO: Scheduled to be assessed in Spring 2025.

managed print and Exporting for Online viewing improved by 9% and 11%.

The success rate of the Primary color decreased by 1%.

Areas where students met the target: Neutral values, Color managed prints, and Exporting for online viewing.

Areas where students did NOT meet the target: Primary color

Student Learning Outcome 2: Produce and present a coherent body of work in a chosen genre

Assessment Methods

Course Name/Number: Advanced Photography I&II – PHT201/202

Direct Measure Used: Portfolio

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following criteria (see attached), which were graded out of 25 points each (for a total score of 100):

1. Successful completion of portfolio
2. Technical competency
3. Design (formal aspects) quality
4. Creativity

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	0
WO	1	1	10
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	10

Assessment Results

Semester/year data collected: Fall 2021

Target: Student average on each SLO Criteria and sub-scores will be at or above 20 points, and the total score will be at or above 80 points

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2019
All students assessed (weighted average)	93 points	90.2 points
On-campus average	93 points	90.2 points
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:

[x] Average/Mean Score per criteria

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2019
1. Successful completion of portfolio	24 points	22.9 points
2. Technical competency	23 points	22.3 points
3. Design (formal aspects)quality	22.5 points	22.4 points
4. Creativity	23.5 points	22.5 points

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: Faculty included technical exercises in class (synchronous via zoom) and online/Canvas starting in Spring 2020. Students present in-progress work to receive feedback from a larger audience using online resources and guest artists as part of their decision-making and problem-solving process for the final presentation of completed portfolios.

2. Impact of changes on current results: The achievement level increased by 2.8%. Overall points continue to be 10 points above the target. Points in the four areas are well balanced.

3. According to current results, areas needing improvement: Design (formal aspects) quality scores the lowest in the four criteria. There were two sections offered in Fall 2021 to assess the SLO. However, the assessment results were collected from only one section. Communication about the SLO assessment needs improvement.

4. Based on current results, new actions to improve student learning: Send multiple reminders about the SLO assessment to faculty.

5. Next assessment of this SLO: Scheduled to be assessed in Fall 2023.

Narrative comparison of current results to previous results: The overall average success rate was increased by 2.8%. Of the four criteria, Successful completion of the portfolio scored the highest. Design (formal aspects) quality scored the lowest.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: None.

Student Learning Outcome 3: Manage image assets and workflow

Assessment Methods

Course Name/Number: Photography II – PHT102

Direct Measure Used: Multiple choice exam questions

SLO/Rubric Criteria or Question Concepts:
1. Backing up files
2. Lightroom
3. Metadata
4. Missing image files

Other Method (if used):
Midterm review of Adobe Lightroom Classic (Digital Assets Management Software) catalog organization. This assessment was administered in one section at AL
1. Images organized by date or assignment in Folders
2. Images organized using Collections
3. Copyright info
4. Keywords
5. Rate/sort (starred, flagged, colored, etc., of your choice)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	6
WO	1	1	8
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	14

Assessment Results

Semester/year data collected: Spring /2022

Target for exam questions: 80% of students will answer correctly on each criterion and the overall score.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Fall 2019
All students assessed (weighted average)	100%	93.7%
On-campus average	100%	93.7%

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[x] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2019
1. Backing up files	100%	91.6%
2. Lightroom	100%	91.6%
3. Metadata	100%	100%
4. Missing image files	100%	91.6%

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[x] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Overall success rate improved by 6.3%. The success rate for Metadata (100% for both current and previous results) shows that students continued to have an excellent understanding of what metadata is and how it is handled in Adobe Lightroom Classic (Digital Assets

Use of Results

1. Changes put in place since previous assessment to improve student learning: Provide review materials in Canvas starting in Fall 2020, emphasizing multiple solutions to Backing up files and Missing images. For the concept of the Lightroom catalog, highlight the multiple reasons to utilize the cataloging system.

2. Impact of changes on current results: The overall achievement rate increased by 6.3%. All categories met a 100% success rate, suggesting that our changes were effective.

3. According to current results, areas needing improvement: Current results show students are learning the concepts of managing image assets and workflow. The faculty decided to use an authentic method to measure how students manage image assets and workflow. The authentic assessment method was used, and the result was collected from one section in Spring 2022 as a test run.

4. Based on current results, new actions to improve student learning: The authentic assessment method (midterm review of Adobe Lightroom Classic catalog organization) will be used in all sections of PHT102, in addition to multiple choice exam questions starting in spring.

5. Next assessment of this SLO: Scheduled to be assessed in Fall 2025.

Management Software). Backing up files, Lightroom, and Missing image files also improved by 8.6%. The success rate for the assessment is 100% for all four concepts.

Areas where students met the target: All areas

Areas where students did NOT meet the target: None

The target for a catalog organization using Digital Assets Management software: Student average on each criterion and sub-scores will be at or above 1.6 points, and the total score will be at or above 8 points

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results N/A
All students assessed (weighted average)	8 points	N/A
On-campus average	8 points	N/A

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results N/A
1. Organization in folders	2 points	N/A
2. Organization in collections	1.8 points	N/A
3. Copyright	1.6 points	N/A
4. Keywords	1.1 points	N/A
5. Rating	1.1 points	N/A

Target Met: [ ] Yes [ ] No [x] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [x] N/A
Assessed for the first time

Narrative comparison of current results to previous results: N/A

Areas where students met the target: Organization in folders, Organization in collections, and Copyright.

Areas where students did NOT meet the target: Keywords and Rating

Photography and Media A.A.S.

Core Learning Outcome: **[ ] Civic Engagement** **[x] Written Communication**
Operationalized Definition: Written Communication demonstrated in the career research project

Assessment Methods

Course Name/Number: Careers in Photography

Direct Measure Used: Research Project

CLO/Rubric Criteria or Question Concepts: Provide Rubric Criteria or Question Concepts: See attached. Evaluated on the following: organization, accuracy, reasoning, documentation, and style.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	13
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	13

Assessment Results

Semester/year data collected: Spring 2022

Target: Student average on each CLO Criteria and sub-scores will be at or above 3 points, and the total score will be at or above 15 points

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring/2019
All students assessed (weighted average)	16.3 points	**16.5 points**
Synchronous hybrid (remote) average	16.3 points	**16.5 points**

Results by CLO Criteria:
[x] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2019
1. Organization	3.61 points	3.58 points
2. Accuracy	3 points	3.5 points
3. Reasoning	3.23 points	3.5 points
4. Documentation	3.07 points	2.75 points
5. Style	3.38 points	3.5 points

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous results:
Overall results mostly stayed the same. The success rate of Organization and Documentation increased slightly. Reasoning and Style decreased slightly. The success rate for Accuracy scored the lowest.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: None.

Use of Results

1. Changes put in place since previous assessment to improve student learning: Faculty decided to spend more class time on problems in evaluating sources and discuss more methods of recording sources for citations during research. This change was implemented in the Spring of 2020.

2. Impact of changes on current results: Overall results did not improve but did not change too much and were reduced by 0.2 points. However, the target continues to be met in all categories, which suggests that reviewing problems in research methods and evaluation of sources is effective. Discussion of more methods of recording sources for citations was adequate, which helped increase the success rate for Documentation by 0.32 points, which was the lowest success rate in the previous assessment.

3. According to current results, areas needing improvement: The overall success rates met or exceeded the target. The results in the criteria of Accuracy and Documentation are the weakest.

4. Based on current results, new actions to improve student learning: Faculty decided to use group discussions to encourage students to correct inaccuracies and seek complete documentation to improve Accuracy and Documentation. Some students ignored online guidance and did not revise their work. The reminder about the guidance during class lets students pay more attention to the guidelines. This will be implemented in Spring 2023.

5. Next assessment of this CLO: Scheduled to assess in Spring 2026

Program Goal on Graduation: Increase program graduation totals

Photography and Media A.A.S.

Assessment Method

Short description of the method(s) and/or source of data:
Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain the VCCS Productivity Standards

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	8	-38%
2020-21	13	-13%
2019-20	15	7%
2018-19	14	40%
2017-18	10	----

Target Met: [ ] Yes [x] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:
The graduation rate decreased by 38%. It is the lowest graduation rate in the last five years.

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: No. Photography and Media A.A.S. graduate numbers are off by four students. This result may be an impact of the pandemic.

Students in Photography and Media program are 1) pursuing a career in the photography and media field, 2) transitional students to four-year institutions, and 3) taking Photography and Media classes for personal enrichment. Students in the 2) and 3) categories often intend to do something other than complete the degree and move forward or continue to take classes.

Photography and Media classes have consistently high enrollment across campuses and are rarely canceled due to low enrollment. This demonstrates the interest that students have in the program. In addition, A.F.A. students often take many Photography and Media classes with the intention of going on to study Photography at a four-year institution. There isn't a way to calculate this in the Productivity Standards assessment.

Use of Results

1. Changes put in place since previous assessment to improve graduation results: In addition to reaching out to students assigned to each faculty individually via email and Navigate, the faculty had Zoom advising sessions in Fall 2021 to help program-placed students prepare to register for the following semester and answer any questions to clarify degree requirements. The program website was updated in Spring 2022 to show and clarify detailed course descriptions and Frequently Asked Questions and Answers with infographics and more student-friendly language.

Faculty across campuses also collaborated on class schedules to ensure that no classes overlapped or competed.

2. Impact of changes on current results: The current result does not show that the changes had a positive impact. However, the program website has been a helpful reference to students who express interest in Photography and Media program. Students also gain benefit from more outreach from faculty and can better plan their course schedules.

3. According to current results, areas needing improvement: Improvement in advising for retention and clarification of the degree path is still necessary to increase the total graduation numbers.

In Fall 2022, the program experienced low enrollments in the degree requirement classes (PHT201/202 and PHT130) and a PHT elective, which is also required for students to graduate. No classes were canceled. However, it could have impacted students' degree progress if the classes were canceled. Scheduling may have resulted in low enrollment and needs improvement.

The switch back from online learning to in-person also may have had an impact, as students were adjusting their schedules and re-adapting to the change.

4. Based on the results, new actions to improve graduation/productivity results: Revise and update the curriculum to provide more options and smooth degree progress for students. For example, PHT228 - Professional Practices for Photographers was approved in June 2022. The photography discipline group faculty

		proposed to add PHT228 as an optional requirement (PHT227 OR PHT228). Faculty also decided to make minor changes (moving the PHT elective from the 2nd semester to the 3rd semester because most PHT electives have PHT102 as a prerequisite which is also sequenced in the 2nd semester.) Include PHT104 and PHT106 in the approved list of PHT electives. Faculty proposed the update, which should be in place for the 2022-23 catalog. Faculty will discuss the schedule for Fall 2023 and address issues to avoid enrollment issues. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: Increase the number of program-placed students

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Maintain the VCCS Productivity Standards

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	98	-12.5%
2020-21	112	-2.6%
2019-20	115	18.5%
2018-19	97	5.4%
2017-18	92	----

Target Met for Headcount: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The students majoring in Photography and Media A.A.S. decreased by 12.5%. Headcount is almost the same as in 2018-19, pre-pandemic.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	56.7	-10.7%
2020-21	63.5	-1.6%
2019-20	64.5	22.1%
2018-19	52.8	8.4%
2017-18	48.7	----

Use of Results

1. Changes put in place since previous assessment to improve graduation results: Faculty reaching out to students in the classroom starting in Fall 2021 to encourage them to meet for an individual advising session. The conversations with the four-year institutions (Maryland Institute College of Art, American University, and University of the District of Columbia) continued in the Fall of 2021. However, American University and the University of the District of Columbia have yet to respond.

2. Impact of changes on current results: The current result does not show that the changes had a positive impact. However, individual advising sessions with faculty help students determine which degree suits their goals. Students sometimes switch from Photography and Media AAS to Visual Art AFA and vice versa, which may affect the results.

3. According to current results, areas needing improvement: Individual advising sessions are effective, and faculty can reach out to students in their classes who are currently enrolled. A complete list of students in both Visual Art AFA majoring in Photography and Photography and Media AAS would help us identify their goals and determine if those students should be placed in a degree that best serves them.

In the current advising structure, many Photography and Media AAS students are not assigned a Photography and Media faculty member as their advisor. Some have

	For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes.	no advisor assigned at all. This leaves them at a disadvantage because faculty cannot reach out to them directly and they are not able to receive appropriate advising for the program. This causes some students to fall behind in the degree plan or take classes that are not necessary or beneficial. **4. Based on the results, new actions to improve graduation/productivity results:** Reach out to counselors in the Advising Center to inform them about the Photography and Media AAS degree to help students decide when signing up for a program. Acquire a complete list of students in both Visual Art AFA majoring in Photography and Photography and Media AAS and reach out to the students. Find out if current Photography and Media majors can be reassessed to be assigned appropriate advisors. **5. Next assessment of this goal:** Assessed annually
Additional Program Goal (optional): Obtain the instructional resources to provide excellent instruction		
Assessment Method	**Assessment Results**	**Use of Results**
Short description of method(s) and/or source of data: The PHT faculty evaluates the traditional and digital photographic facilities and recommends technology upgrades using the Tech Plan, FF&E, ETF findings, and the college-wide software order.	**Target:** The adequate funding of technology to provide up-to-date instruction **New equipment at the AL campus:** • A humidifier for Epson P9000 to help reducing nozzle clogging issues. • Three Rodenstock 135mm f/5.6 Rodagon Enlarging Lens **New equipment at the WO campus:** • Three Epson SureColor P5000 Standard Edition 17" Wide-Format Inkjet Printer **Target Met:** [ ] Yes [ ] No [X] Partially **Current Results Improved vs. Previous Results:** [ ] Yes [X] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** The Tech Plan and ETF findings provided sufficient support for the photography program. Adobe software update problem continues to be unresolved.	**1. Changes put in place since previous assessment to improve program goal:** The photography program purchased a humidifier at the AL campus and continues tracking the number of prints weekly to avoid nozzle clogging issues of Epson P9000 (Large Format Inkjet Printer) started in the Fall 2021. IT updated apple computers; 25 iMacs in AFA 304, 10 in AFA 305, and 2 in AFA 308. That's 37 total between 3 labs in Alexandria Campus in Summer 2022. IT also updated the Mac OS system to Monterey 12.6.1 and installed 2022 Adobe software in August 2022. Adobe updates software every October, and IT needs to be in sync with Adobe's update cycle. At WO, IT updated apple computers; 22 iMacs in WAS 142 and 12 in WAS 106. That's 34 total between 2 labs in Woodbridge Campus in Summer 2022. IT also updated the Mac OS system to Monterey 12.6.1 and installed 2022 Adobe software in August 2022. Adobe updates software every October, and IT needs to be in sync with Adobe's update cycle. The college continues to provide a home-use Adobe Software License to students enrolled in classes.

		2. Impact of changes on current results: Epson P9000 is in operation without any major issues with nozzle clogging. Using a humidifier and tracking the weekly use of the printer are effective. New Epson P5000 printers at WO will improve the quality of inkjet prints for students and allow for an additional printer to be utilized. Adobe Software update in August allowed students to use the most current version of the industry standard software. However, Adobe updated the software in early October 2022, putting us out of sync again with the software version. The Photography and Graphic Design program addressed this software issue many times to IT and admin in Fall 2021, Spring 2022, and Summer 2022, but it did not make an impact on convincing IT to change the update cycle. Home-use Adobe Software License for students serves effectively for students both taking 100% online zoom classes and partially online classes. **3. According to current results, areas needing improvement:** The photography program is concerned that the software update schedule by IT and Adobe does not match, which would disrupt classroom instruction. **4. Based on the results, new actions to improve graduation/productivity results:** The college and IT need improvement in updating Adobe software in sync with Adobe's update schedule. As noted above under the #2 section, the faculty has addressed the issue many times in the past two years, but there has been no IT assistance. The photography program will address the issue again, with IT reminding them that the problem remains and needs improvement. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Physical Therapist Assistant, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The program is designed to prepare students to utilize exercise, specialty equipment, and other treatment procedures to prevent, identify, correct, and alleviate movement dysfunction. The program design provides students with the philosophical, theoretical, and clinical knowledge necessary to deliver high-quality patient care. Ultimately, students are prepared as skilled technical healthcare providers who work under the direction and supervision of a physical therapist to provide selected components of physical therapy treatments. Upon successful completion of the program, students must take and pass a licensing examination to begin their career as a physical therapist assistant (PTA). Students are prepared for employment in a variety of healthcare settings, including acute care hospitals, outpatient clinics, extended care facilities, rehabilitation centers, contract agencies, and schools.

Student Learning Outcome 1: Present sound rationales for clinical problem solving within the plan of care established by the physical therapist.

Assessment Methods

Course Name/Number:

1. Clinical Education III - PTH 232
2. Therapeutic Procedures II - PTH 122
3. Clinical Education II - PTH 231

Direct Measure Used - **Summative Assessment**: The summative evaluation method is performance on Criterion #7 Clinical Problem Solving on the PTA Clinical Performance Instrument (CPI) in Clinical Education III-PTH 232 in the Spring semester of the second year. One of the listed skills for the Problem Solving criterion is "demonstrates sound clinical decisions within the plan of care to assess and maximize intervention outcomes, including patient progression and/or intervention modifications." For this year's SLO, the focus is strength assessment. Per the CPI, criteria which must be met in order for a student to achieve "entry level performance," are:

1. Is capable of completing tasks, clinical problem solving, and interventions/data collection for patients with simple or complex conditions under general supervision of the physical therapist
2. Is consistently proficient and skilled in simple and complex tasks, clinical problem solving, and interventions/data collection
3. Is capable of maintaining 100% of a full-time PTA's patient care workload in a cost-effective manner with direction and supervision from the physical therapist.

"Entry level" is the single point, highest level terminal benchmark without gradations. Students achieving this benchmark are deemed ready to practice as physical therapist assistants. There are no strengths or

Assessment Results

Semester/year data collected:

- PTH 232: Spring 2022
- PTH 122: Spring 2022
- PTH 231: Fall 2021

Target: 100% of students will score "Entry Level" on Clinical Education III- PTH 232 CPI criterion #*7.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
On-campus average	92%	100%

Results by SLO Criteria:

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021 / Spring 2022	Previous Results Fall 2020 / Spring 2021
1. Strength progression & patient positioning exam question (PTH 122)	100% achieved correct answer Class of 2023	Not previously tested in this format
2. Muscle fatigue indicators exam question (PTH 122)	100% achieved correct answer Class of 2023	97% Class of 2022
3. Interpreting MMT measurements exam question (PTH 122)	21% achieved correct answer Class of 2023	Not previously tested in this format
4. Selection of functional exercises exam question (PTH 122)	71% achieved correct answer Class of 2022	79% Class of 2022
5. Therapeutic strengthening sequence exam question (PTH 122)	67% achieved correct answer Class of 2023	86% Class of 2022
6. Midterm Clinical Instructor Assessment of Assistance Needed with Exercise Resistance & Patient Position (PTH 231)	92% achieved or exceeded target of about 50% assist.	Not previously assessed in this format

Continuous Improvement

1. Changes put in place since previous assessment to improve student learning: In Fall 2021, guest speakers were invited into the classroom for Clinical Education II - PTH 231 to provide clinical examples and demonstrate rationale for strength training and progressions in both the outpatient setting and home health setting. In addition, as part of the therapeutic exercise curriculum in Therapeutic Procedures II - PTH 122, 23 students attended a field trip to DPI, a specialty clinic which emphasizes strengthening and progression of patients with unique disabilities.

2. Impact of changes on current results: Following inclusion of guest speakers in Fall 2021, 0 students out of 25 in the Class of 2022, commented on the need for more didactic education in strength training and progression on the APTA Evaluation of Clinical Experience and Clinical Instruction questionnaire.

3. According to current results, areas needing improvement: According to current results, students continue to be challenged with selecting appropriate functional exercises, prescribing the optimal resistance, and determining the proper strengthening sequence based on patient presentation and assessment of manual muscle tests.

4. Based on current results, new actions to improve student learning: As current results indicate deficits with exercise prescription, additional opportunities for critiquing assessment of manual muscle tests and selecting appropriate exercises should be provided in Therapeutic Procedures II - PTH 122 during Spring semester of 2023 following the Therapeutic Exercise Practical Exam. In addition, enhancing to the curriculum

weaknesses defined or identified for individual criterions on this national performance assessment tool.

SLO/Rubric Criteria or Question Concepts-Formative Assessments: The focus of this SLO was strength assessment. Student competence in this skill was assessed in the first year using an online practical exam format. Students' ability to perform the skill in the clinic was also assessed halfway through the second and third clinical experiences in the second year. The formative evaluation methods included:

1. In Therapeutic Procedures II -PTH 122 in the Spring 2022, 5 exam questions required 23 students of the Class of 2023 to demonstrate their understanding of strength progression and patient positioning, muscle fatigue indicators, interpret MMT measurements, select functional exercises, and identify an appropriate strengthening sequence.
2. In Clinical Education II-PTH 231 in the second half of the Fall 2021 semester in the second year, the Midterm Assessment Form asked clinical instructors for the 25 students in the Class of 2022: "How much assistance does your student require to choose the appropriate exercise resistance and position for patient's level of strength?"
3. In Clinical Education III-PTH 232 in the second half of the Spring 2022 semester in the second year, the Midterm Assessment Form asked clinical instructors the same question for the 25 students in the Class of 2022.

Sample:

Campus/Modality: ME only	Total # of Sections Offered	# Sections Assessed	# Students Assessed
PTH 232 (Spring 2022)	1	1	25
PTH 122 (Spring 2022)	1	1	23
PTH 231 (Fall 2021)	1	1	25
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**73**

	44% exceeded the target	
7. Midterm Clinical Instructor Assessment of Assistance Needed with Exercise Resistance & Patient Position (PTH 232)	95% achieved or exceeded target of about 25% assist. 38% exceeded the target	Not previously assessed in this format

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: In Spring 2022, 92% of students in the class of 2022 achieved the entry-level criteria for Criterion #7 in Clinical Education III-PTH 232. This is an 8% reduction from students in the Class of 2021, as 100% of that class achieved an entry-level score.

Areas where students met the target: Although the summative target was not met, 92% of students in Clinical Education II- PTH 231 met or exceeded the target of requiring about 50% assistance from clinical instructors to appropriately prescribe resistance with exercises and properly position the patient based on strength. The target is consistent with the expectation that students are at the Intermediate level at the beginning of the clinical experience and must achieve the Advanced Intermediate level by the end. In Spring 2022 95% of students in Clinical Education III- PTH 232 met or exceeded the target of requiring about 25% assistance from clinical instructors to perform the skill. The target is consistent with the expectation that students are at the Advanced Intermediate level at the beginning of the clinical experience and must achieve the Entry-level by the end.

Areas where students did NOT meet the target: One student in the Class of 2022 did not meet the target at midterm of Clinical Education III- PTH 232 requiring more than 25% assistance from their clinical instructor to appropriately prescribe resistance with exercises and properly position the patient based on strength. In Therapeutic Procedures II - PTH 122, the Class of 2022 for Kinesiology for the PTA- PTH 115 to (a.) improve interpretation of manual muscle test results and (b.) apply assessment outcomes to exercise selection.

5. Next assessment of this SLO: Spring 2023

	exhibited challenges related to interpreting MMT measurements and selecting functional exercises based on patient presentation.	

Student Learning Outcome 2: Demonstrate competence in implementing interventions identified in the plan of care established by the physical therapist.

Assessment Methods	Assessment Results	Use of Results

Course Name/Number:

1. Clinical Education III - PTH 232
2. Introduction to Physical Therapy- PTH 105
3. Clinical Education II - PTH 231

Direct Measure Used: The summative evaluation method is performance on Criterion #1: Safety: Performs in a safe manner that minimizes the risk to patient, self, and others. Essential Skills: Uses acceptable techniques for safe handling of patients (e.g., "guarding, level of assistance") and requests assistance when necessary (e.g., "requests assistance from clinical instructor, utilizes and monitors support personnel") on the PTA Clinical Performance Instrument (CPI) in PTH 232 Clinical Experience III in the Spring semester of the second year. For this year's SLO, the focus is transfer training. Individual components are listed for Criterion # 1 but cannot be teased out.

Per the CPI, criteria which must be met in order for a student to achieve "entry level performance" are:

1. Is capable of completing tasks, clinical problem solving, and interventions/data collection for patients with simple or complex conditions under general supervision of the physical therapist
2. Is consistently proficient and skilled in simple and complex tasks, clinical problem solving, and interventions/data collection
3. Is capable of maintaining 100% of a full-time PTA's patient care workload in a cost-effective manner with direction and supervision from the physical therapist.

"Entry level" is a single point highest level terminal benchmark without gradations. Students achieving this benchmark are deemed ready to practice as physical therapist assistants. There are no strengths or weaknesses defined or identified for individual criterions on this national performance assessment tool.

SLO/Rubric Criteria or Question Concepts: The focus of this SLO was transfer training. Performance on written exam questions in the first year that required students to

Semester/year data collected:

- PTH 232: Spring 2022
- PTH 105: Fall 2021
- PTH 231: Fall 2021

Target: 100% of students will score "Entry Level" on Clinical Education III- PTH 232 CPI Criterion #1.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
On-campus average	92*%	100%

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021/ Spring 2022	Previous Results Fall 2020/ Spring 2021
1. Stand-pivot exam question (PTH 105)	97% achieved correct answer Class of 2023	97% Class of 2022
2. Two-person lift exam question (PTH 105)	93% achieved correct answer Class of 2023	Not previously tested in this format
3. Sit/stand to walker instructions exam question (PTH 105)	100% achieved correct answer Class of 2023	100% Class of 2022
4. PTA position with sit/stand from W/C exam question (PTH 105)	83% achieved correct answer Class of 2022	77% Class of 2022
5. BOS with stand/pivot transfer exam question (PTH 105)	90% achieved correct answer Class of 2021	Not previously tested in this format
6. Hoyer lift exam question (PTH 105)	93% achieved correct answer Class of 2021	Not previously tested in this format
7. Midterm Clinical Instructor Assessment of Assistance Needed with Safe Transfers Management (PTH 231)	100% achieved or exceeded target of about 50% assist.	Not previously assessed in this format

1. Changes put in place since previous assessment to improve student learning: In an effort to improve students' understanding and performance of safe transfers, in Fall 2021 students were assigned different partners for each lab which led to the students gaining more practice with a variety of body types. Additionally, in Introduction to Physical Therapy- PTH 105 – a simulation lab was introduced with scripted patients who required assistance with specific transfers providing students with additional practice opportunities. In 2019, a rubric was created for the stand pivot and slide board transfer skills check to enhance understanding of expectations and guide performance.

2. Impact of changes on current results: When students' ability to perform safe patient transfers was assessed halfway through the second and third clinical experiences in the second year, 100% of students met or exceeded the target.

3. According to current results, areas needing improvement: To improve safety and proficiency with transfer training, students require reinforcement with tightening the gait belt following sit-to-stand transfers, correct positioning of wheelchair prior to transferring patients, and safe management of tubes and lines with more complex patients.

4. Based on current results, new actions to improve student learning: During Introduction to Physical Therapy- PTH 105 prior to the Practical Exam, students may benefit from a rehearsed step by step transfer with the whole class. Greater emphasis should be placed on set-up, including positioning of wheelchair, assistive device, and student "clinician" to ensure optimal safety. Adding a variety of transfer scenarios to the Clinical Education II - PTH 231 simulation lab may also enhance learning opportunities and reinforce proper form prior to clinical rotations. These actions will be implemented in Fall 2022.

5. Next assessment of this SLO: Fall 2023

understand transfer training concepts was examined. Students' ability to perform the skill in the clinic was also assessed halfway through the second and third clinical experiences in the second year. The formative evaluation methods included:

1. In Introduction to Physical Therapy- PTH 105 in the Fall 2021 semester, 6 exam questions required 30 students of the Class of 2023 to demonstrate their understanding of safe patient transfers. Specifically, questions were asked about performing safe stand-pivot transfers, two-person lift, stand-pivot transfers, clinician/PTA positioning with transfers, base of support considerations, and proper use of hoyer lift.
2. In Clinical Education II- PTH 231 in the second half of the Fall 2021 semester in the second year, the Midterm Assessment Form asked clinical instructors the question for all 25 students in the Class of 2023: "How much assistance does your student require to perform safe transfers giving the appropriate level of assistance to the patient?"
3. In Clinical Education III- PTH 232 in the second half of the Spring 2022 semester in the second year, the Midterm Assessment Form asked clinical instructors the same question for the 25 students in the Class of 2022.

Sample:

Campus/ Modality: ME campus only	Total # of Sections Offered	# Sections Assessed	# Students Assessed
PTH 232	1	1	25
PTH 105	1	1	30
PTH 231	1	1	25
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**80**

	95% exceeded the target	
8. Midterm Clinical Instructor Assessment of Assistance Needed with Safe Transfers Management (PTH 232)	100% achieved or exceeded target of about 25% assist. 78% exceeded the target	Not previously assessed in this format

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A 100% of students achieved appropriate level of assistance at midterm of second and third clinical rotations. Only 92% of Class of 2022 achieved the Entry level benchmark on Criterion #1.

Narrative comparison of current results to previous results: One student in the Class of 2022 did not achieve entry level in Criterion #1 Safety, which included safe handling of patients compared to 100% in the Class of 2021. Students in the Class of 2023 performed at the same level or slightly better on the Fall 2021 Introduction to Physical Therapy- PTH 105 exam questions related to transfers.

Areas where students met the target Although the summative target was not met, 100% of students in Clinical Education II- PTH 231 met or exceeded the target of requiring about 50% assistance of clinical instructors to manage safe transfers. The target is consistent with the expectation that students are at the Intermediate level at the beginning of the clinical experience and must achieve the Advanced Intermediate level by the end. Additionally, 100% of students in Clinical Education III- PTH 232 met or exceeded the target of requiring about 25% assistance of clinical instructors to perform the skill. The target is consistent with the expectation that students are at the Advanced Intermediate level at the beginning of the clinical experience and must achieve Entry-level by the end.

Areas where students did NOT meet the target: Students in the Class of 2023 remain challenged with determining appropriate positioning for the clinician during sit-stand transfers from the wheelchair.

Physical Therapist Assistant, A.A.S.

Student Learning Outcome 3: Exhibit conduct that reflects practice standards that are legal, ethical and safe.

Assessment Methods

Course Name/Number:

1. Clinical Education III - PTH 232
2. Therapeutic Procedures I- PTH 121
3. Kinesiology for the PTA- PTH 115
4. Clinical Education II - PTH 231

Direct Measure Used: The summative evaluation method is performance on Criterion #1: Safety: Performs in a safe manner that minimizes the risk to patient, self, and others. Essential Skills: Uses acceptable techniques for safe handling of patients on the PTA Clinical Performance Instrument (CPI) in PTH 232 Clinical Experience III in the Spring semester of the second year. For this year's SLO, the focus is body mechanics. Individual components are listed for Criterion # 1 including body mechanics but cannot be teased out. Per the CPI, criteria which must be met in order for a student to achieve "entry level performance" are:

5. Is capable of completing tasks, clinical problem solving, and interventions/data collection for patients with simple or complex conditions under general supervision of the physical therapist
6. Is consistently proficient and skilled in simple and complex tasks, clinical problem solving, and interventions/data collection
7. Is capable of maintaining 100% of a full-time PTA's patient care workload in a cost-effective manner with direction and supervision from the physical therapist.

"Entry level" is a single point highest level terminal benchmark without gradations. Students achieving this benchmark are deemed ready to practice as physical therapist assistants. There are no strengths or weaknesses defined or identified for individual criterions on this national performance assessment tool.

SLO/Rubric Criteria or Question Concepts: The focus of this SLO was on body mechanics. Student competence in this skill was assessed in the second semester of the first year during skills checks and practical exams. Students' ability to perform the skill in the clinic was also assessed halfway through the second and third clinical experiences in the second year. The formative evaluation methods included:

8. In Therapeutic Procedures I- PTH 121 in the Fall 2021 semester the 36 students in the Class of 2023

Assessment Results

Semester/year data collected:

- PTH 232: Spring 2022
- PTH 121: Fall 2021
- PTH 115: Spring 2022
- PTH 231: Fall 2021

Target: 100% of students will score "Entry Level" on Clinical Education III- PTH 232 CPI criterion #1.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results 2021
On-campus average	92%	100%

Results by SLO Criteria: Percent of Students at target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021/ Spring 2022	Previous Results Fall 2020/ Spring 2021
1. Clean Technique Skills Check (PTH 121)	8.3% of students received deductions Class of 2023	2.7% of students received deductions Class of 2022
2. UE MMT Practical Exam (PTH 115)	23.1% of students received deductions Class of 2023	6.9% of students received deductions Class of 2022
3. LE MMT Practical Exam (PTH 115)	12.5% of students received deductions Class of 2023	27.6% of students received deductions Class of 2022
4. Midterm Clinical Instructor Assessment of Assistance Needed for Safe Body Mechanics (PTH 231)	100% achieved or exceeded target of about 50% assist. 96% exceeded the target	Not previously assessed in this format
5. Midterm Clinical Instructor Assessment of Assistance Needed	100% achieved or exceeded target of about 25% assist.	Not previously assessed in this format

Use of Results

1. Changes put in place since previous assessment to improve student learning: In an effort to improve body mechanics for the students in the Class of 2023, additional open lab sessions were provided, with dedicated practice on LE palpation and positioning for optimal MMT performance. Additionally, body mechanics was added to every practical exam rubric for all labs across all PTH courses to reinforce awareness and attention to appropriate positioning and mechanics.

2. Impact of changes on current results: The combination of dedicated open lab sessions and the heightened awareness of body mechanics on practical exam rubrics helped improve performance for the Class of 2022 during lab exams and while in clinic.

3. According to current results, areas needing improvement: Students across both cohorts did not meet the target with correct body mechanics during practical examinations. More students in the Class of 2022 compared to the Class of 2021 received deductions with Clean Technique and UE MMT Practicals but with targeted practice performed better on LE MMT Practical. In both Introduction to Physical Therapy- PTH 105 and Therapeutic Procedures I- PTH 121, students continue to need feedback and context to improve body mechanics.

4. Based on current results, new actions to improve student learning: During future Spring semesters, students may benefit from dedicated open lab sessions prior to UE MMT Practical and LE MMT Practical to reiterate optimal positioning to demonstrate proper body mechanics with handling various limbs. In addition, a teaching assistant during the labs of Kinesiology for the PTA-PTH 115 can provide additional hands-on guidance and formal feedback to emphasize awareness of body mechanics. These actions will be implemented in Spring 2023.

5. Next assessment of this SLO: Fall 2023

were assessed on incorporating proper body mechanics during the Clean Technique Skills Check.

9. In Kinesiology for the PTA-PTH 115 in the Spring 2022 semester the 26 students in the Class of 2023, points were assessed on incorporating proper body mechanics during the Upper Extremity Manual Muscle Test Practical and the Lower Extremity Manual Muscle Test Practical.
10. In Clinical Education II- PTH 231 in the second half of the Fall 2021 semester in the second year, the Midterm Assessment Form asked clinical instructors the question for all 25 students in the Class of 2023: "How much assistance does your student require to perform safe transfers giving the appropriate level of assistance to the patient?"
11. In Clinical Education III- PTH 232 in the second half of the Spring 2022 semester in the second year, the Midterm Assessment Form asked clinical instructors the same question for the 25 students in the Class of 2022.

Sample:

Campus/ Modality: ME Campus Only	Total # of Sections Offered	# Sections Assessed	# Students Assessed
PTH 232	1	1	25
PTH 121	1	1	36
PTH 115	1	1	26
PTH 231	1	1	25
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**4**	**4**	**112**

for Safe Body Mechanics (PTH 232)	66% exceeded the target	

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A - 100% of students achieved appropriate level of assistance at midterm of second and third clinical rotations. Only 92% of Class of 2022 achieved the Entry level benchmark on Criterion #1.

Narrative comparison of current results to previous results: Students in the Class of 2022 did not meet the summative target, while 100% of students in the previous cohort did. Students in both the Class of 2022 and the Class of 2023 were challenged with executing proper body mechanics during practical exams, as noted through point deductions.

Areas where students met the target: Although the summative target was not met, 100% of students in Clinical Education II- PTH 231 met or exceeded the target of requiring about 50% assistance of clinical instructors to execute proper body mechanics. The target is consistent with the expectation that students are at the Intermediate level at the beginning of the clinical experience and must achieve the Advanced Intermediate level by the end. Additionally, 100% of students in Clinical Education III- PTH 232 met or exceeded the target of requiring about 25% assistance of clinical instructors to perform the skill. The target is consistent with the expectation that students are at the Advanced Intermediate level at the beginning of the clinical experience and must achieve Entry-level by the end.

Areas where students did NOT meet the target: Students in the Class of 2022 who were instructed remotely in Fall 2020 for Therapeutic Procedures I- PTH 121 exhibited better body mechanics during the Clean Technique skills check than students in the Class of 2023 who received in-person instruction. However, students in the Class of 2023 demonstrated significant improvement in body mechanics during the LE MMT Practical in comparison to Class of 2022. Due to the pandemic, in the Fall of 2021 students practiced the skill for one hour while being coached by their partner with the rubric

	immediately followed by testing in the second hour. This allowed greater carry over that body mechanics were a graded element.	

Core Learning Outcome: [ ] Civic Engagement [X] Written Communication
Operationalized Definition: PTA SLO#4 Communicate verbally and nonverbally with the patient, the physical therapist, health care delivery personnel and others in an effective, appropriate, and capable manner.

Assessment Methods

Course Name/Number:

1. Clinical Education III - PTH 232
2. Therapeutic Procedures II- PTH 122
3. Clinical Education II - PTH 231

Direct Measure Used - **Summative Assessment**: The summative evaluation method is performance on Criterion #13 Documentation on the PTA Clinical Performance Instrument (CPI) in Clinical Education III- PTH 232 in the Spring semester of the second year. One of the listed skills for the Documentation criterion is "Produces documentation that is accurate, concise, timely, legible, grammatically and technically correct (e.g., abbreviations, terminology, etc.)." For this year's CLO, the focus is on patient documentation. Per the CPI, criteria which must be met in order for a student to achieve "entry level performance" are:

4. Is capable of completing tasks, clinical problem solving, and interventions/data collection for patients with simple or complex conditions under general supervision of the physical therapist
5. Is consistently proficient and skilled in simple and complex tasks, clinical problem solving, and interventions/data collection
6. Is capable of maintaining 100% of a full-time PTA's patient care workload in a cost-effective manner with direction and supervision from the physical therapist.

"Entry level" is the single point, highest level terminal benchmark without gradations. Students achieving this benchmark are deemed ready to practice as physical therapist assistants. There are no strengths or weaknesses defined or identified for individual criterions on this national performance assessment tool.

CLO/Rubric Criteria or Question Concepts: The focus of this CLO was patient documentation. Student competence in this skill was assessed during practical

Assessment Results

Semester/year data collected:

- PTH 232: Spring 2022
- PTH 122: Spring 2022
- PTH 231: Fall 2021

Target: 100% of students will score "Entry Level" on Clinical Education III- PTH 232 CPI criterion #13.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
On-campus average	92%	100%

Results by CLO Criteria:

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
1. Electro SOAP Note (PTH 122)	24% of students received failing grade Class of 2023	72% of students received failing grade Class of 2022
2. Ther Ex SOAP Note (PTH 122)	26% of students received failing grade Class of 2023	76% of students received failing grade Class of 2022
3. Midterm Clinical Instructor Assessment of Assistance Needed for Documentation (PTH 231)	80% achieved or exceeded target of about 50% assist. 68% exceeded the target Class of 2022	Not previously assessed in this format
4. Midterm Clinical Instructor Assessment of Assistance Needed	95% achieved or exceeded target of about 25% assist.	Not previously assessed in this format

Use of Results

1. Changes put in place since previous assessment to improve student learning: In effort to improve documentation skills for the Class of 2023, the SOAP note rubric was modified in the Spring of 2022. The rubric was changed from a 5-point scale, with 3/5 or less being a failing grade, to a 20-point scale, which allowed instructors to better discriminate documentation errors and highlight areas needing improvement.

2. Impact of changes on current results: Compared to the Class of 2022, more students in the Class of 2023 were able to achieve a passing grade on SOAP notes during the Electro and Ther Ex practical exams.

3. According to current results, areas needing improvement: In Therapeutic Procedures II- PTH 122, students continue to need feedback to improve patient documentation, including accurate assessment and completeness of objective information. The experiences and clinical instructor assistance during Clinical Education II-PTH 231 and Clinical Education III- PTH 232 is needed to reinforce student understanding of timely, concise, and technically correct patient documentation.

4. Based on current results, new actions to improve student learning: In the Spring of 2023 for the Class of 2024, students will be provided sample SOAP notes prior to practical exams in Therapeutic Procedures II- PTH 122. In addition, the SOAP note rubric will be reviewed prior to practical exams. Students may also benefit from completing non-graded SOAP notes for the simulated practice practical before the Electro practical.

5. Next assessment of this CLO: N/A

exams in the Spring semester of the first year. Students' ability to perform the skill in the clinic was also assessed halfway through the second and third clinical experiences in the second year. The formative evaluation methods included:

1. In Therapeutic Procedures II- PTH 122 in the Spring 2022 semester for the 25 students in the Class of 2023, SOAP notes were examined to assess student ability to document pertinent data during a simulated patient treatment.
2. In Clinical Education II in the second half of the Fall 2021 semester in the second year, the Midterm Assessment Form asked clinical instructors the question for all 25 students in the Class of 2022: "How much assistance does your student require to produce clear, complete and concise documentation?"
3. In Clinical Education III- PTH 232 in the second half of the Spring 2022 semester in the second year, the Midterm Assessment Form asked clinical instructors the same question for the 25 students in the Class of 2022.

Sample:

Campus/ Modality: ME Campus only	Total # of Sections Offered	# Sections Assessed	# Students Assessed
PTH 232	1	1	25
PTH 122	1	1	25
PTH 231	1	1	25
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**75**

for Documentation (PTH 232)	28% exceeded the target Class of 2022	

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: One student in the Class of 2022 did not achieve entry level in Criterion #13 Documentation, which included appropriately documenting physical therapy interventions compared to 100% in the Class of 2021.

Areas where students met the target: Although the summative target was not met, 95% of students in Clinical Education III- PTH 232 met or exceeded the target of requiring about 25% assistance from clinical instructors to appropriately document patient interventions. The target is consistent with the expectation that students are at the Advanced Intermediate level at the beginning of the clinical experience and must achieve Entry-level by the end.

Areas where students did NOT meet the target:
Six out of 25 students in the Class of 2022 received a failing grade for their written patient documentation (SOAP note) in Therapeutic Procedures II- PTH 122. Students in the Class of 2021 performed significantly worse on these written assessments. Two students who did not meet this target at the midpoint of their second clinical affiliation were non-native English speakers.

Student Learning Outcome Assessment Report: 2021-2022
Professional Writing Certificate

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The Professional Writing Certificate program prepares candidates to compose documents and manage professional communications for a variety of contemporary professions, including business, military, medicine, government, science, and industry. Writers will gain expertise in composing, designing, and editing electronic texts, as well as a comprehensive foundation in grammar and punctuation. Students may tailor their preparation for particular writing environments by selecting from a variety of elective courses in journalism, technical report writing, graphic design, writing for publication, writing for the Web, social media, and communications.

Student Learning Outcome 1 Compose and correctly format concisely written documents in a variety of genres including business letters (with or without attachments), documents, technical reports, and user documentation

Assessment Methods

Course Name/Number: ENG 115: Technical Writing

Direct Measure Used: Business letter: the purpose of this letter is to address a complaint.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following five criteria

1. Adherence to Business letter conventions
2. Tone/Establishing credibility
3. Supports the claim
4. Ends with a course of action/remedy
5. Audience awareness

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME			
LO			
WO			
NOVA Online	1	1	14
Off-Site Dual Enrollment			
Total	1	1	14

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will score an average of 2.5 on each attribute.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	14	21
On-campus average	0	0
Synchronous hybrid (remote) average	0	0
NOVA Online average	14	21
Dual Enrollment average	0	0

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Letter conventions	2.5	2.5
2. Tone	2.5	2.4
3. Support	2.5	2.8
4. Action item	2.5	2.7
5. Audience	2.5	1.9

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: This assessment evaluated 14 complaint

Use of Results

1. Changes put in place since previous assessment to improve student learning: None. This course is an online shell run through NOL. There are no changes since the last assessment.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Study of this assignment in this course shows that students consistently exhibit strong performance both in terms of completion rates and grades on assignments. This assignment is meeting the targets in all areas.

4. Based on current results, new actions to improve student learning: The results of this report will be communicated to the faculty. Faculty could then decide on a course of action such as email reminders.

5. Next assessment of this SLO: Spring 2024

letters. Students improved in attribute #5. Students went down a few points for Attributes #4 and #3.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: N/A

Student Learning Outcome 2: Employ correct fundamentals of English grammar, including punctuation, and basic logic of written communication

Assessment Methods

Course Name/Number: ENG 115 Technical Writing

Direct Measure Used: Business letter: the purpose of this letter is to address a complaint.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following four criteria

1. Sentence construction
2. Punctuation
3. Mechanics
4. Coherence

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	n/a		
AN	n/a		
MA	n/a		
ME	n/a		
LO	n/a		
WO	n/a		
NOVA Online	1	1	14
Off-Site Dual Enrollment	n/a		
Total	1	1	14

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will score an average of 2.5 on each attribute

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)		21
On-campus average		
Synchronous hybrid (remote) average		
NOVA Online average		21
Dual Enrollment average		

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Sentences	2.5	2.4
2. Punctuation	2.7	2.6
3. Mechanics	2.6	2.4
4. Coherence	2.6	2.4

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: This assessment evaluated 14 complaint letters. Students improved by a small amount, in all areas

Areas where students met the target: All targets were met.

Use of Results

1. Changes put in place since previous assessment to improve student learning: None. This course is an online shell run through NOL. There are no changes since the last assessment.

2. Impact of changes on current results: While the NOL shell has not changed in many years, student scores improved in all areas.

3. According to current results, areas needing improvement: Study of this assignment in this course shows that students consistently exhibit strong performance both in terms of completion rates and grades on assignments.

4. Based on current results, new actions to improve student learning: The results of this report will be communicated to the faculty. Faculty could then decide on a course of action such as email reminders.

5. Next assessment of this SLO: Spring 2024

Professional Writing Certificate

Areas where students did NOT meet the target: None

Student Learning Outcome 3: Compose and edit web pages with consistent tone, ethics, and style

Assessment Methods

Course Name/Number: ENG 123 Writing for the Web

Direct Measure Used Final Website

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following five criteria

1. Consistency in layout and tone
2. Consistency of navigation scheme
3. Inclusion of About Me and Contact info
4. Audience awareness and respect for audience
5. Contains at least 15 hyperlinks

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME			
LO			
WO			
NOVA Online	1	1	5
Off-Site Dual Enrollment			
Total	1	1	5

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will score an average of 2.5 on each attribute

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)		
On-campus average		
Synchronous hybrid (remote) average		
NOVA Online average		2.64
Dual Enrollment average		

Results by SLO Criteria:

[ ] Average/Mean Score per criteria

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Consistent layout	2.6	3.0
2. Consistent tone	2.6	3.0
3. About Me	2.2	2.4
4. Audience	2.6	3.0
5. Hyperlinks	2.4	1.8

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: his assessment evaluated five final websites. While targets were met in 4 out of 5 criteria, in most areas, students scored lower compared to the last evaluation.

Areas where students met the target: Targets were met in all criteria except for #5 Hyperlinks

Use of Results

1. Changes put in place since previous assessment to improve student learning: This course is an online shell run through NOL. There are no changes since the last assessment. The course has not changed in many years.

2. Impact of changes on current results: While the course has not been modified in many years, students continue to meet targets.

3. According to current results, areas needing improvement: Students continue to show strong abilities to meet the requirements of a website.

4. Based on current results, new actions to improve student learning: Faculty teaching this course will be informed of the results. Faculty could then decide on a course of action such as email reminders.

5. Next assessment of this SLO: Fall 2025

Professional Writing Certificate

Areas where students did NOT meet the target:
Students did not meet the target for #5 Hyperlinks

Core Learning Outcome: [ ] Civic Engagement [x] Written Communication
Operationalized Definition: Students will create an effective web essay

Assessment Methods

Course Name/Number: ENG 123 Writing for the World wide Web

Direct Measure Used: Web essay: this essay was designed as a page on the final website.

CLO/Rubric Criteria or Question Concepts: Students were assessed on the following three criteria

1. Content
2. Structure
3. Mechanics

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL			
AN			
MA			
ME			
LO			
WO			
NOVA Online	1	1	4
Off-Site Dual Enrollment			
Total	1	1	4

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will score an average of 2.5 on each attribute

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)		
On-campus average		
Synchronous hybrid (remote) average		
NOVA Online average		N/A
Dual Enrollment average		

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Content	3	NA
2. Structure	3	NA
3. Mechanics	2.5	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: his assessment evaluated 4 web essays. Students met the target in all three criteria.

Areas where students met the target: All three areas met the target.

Areas where students did NOT meet the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: This CLO has not been assessed in ENG 123.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: The target was met in all three areas. However, since Mechanics scored lowest, it is possible that students could improve in that area.

4. Based on current results, new actions to improve student learning: Results of this assessment will be communicated to instructors who regularly teach this course,

5. Next assessment of this CLO: Fall 2024

Program Goal on Graduation: [Program will meet the VCCS criteria of seven graduates per year.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data:	**Target:** 7	**1. Changes put in place since previous assessment to improve graduation results:** There are no new

Professional Writing Certificate

Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	8	
2020-21	9	
2019-20	8	
2018-19	7	
2017-18	4	----

Target Met: X[ ] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [x] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:

changes implemented since the last assessment. Changes implemented two years ago continue to be in place. The program head continues to track and advise current program-placed students, so they reach graduation. These activities are done through regular email announcements and video meetings

2. Impact of changes on current results: It seems that retention to graduation has improved slightly.

3. According to current results, areas needing improvement: The certificate is meeting its target. However, we continue to aim for higher graduation numbers.
While the certificate program exceeds the VCCS requirement for graduates, it is the aim of the program to continue consistency in moving students to completion.

4. Based on the results, new actions to improve graduation/productivity results: There are no new actions. Outreach as described above will continue.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Increase the number of program placed students

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: 22

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	29	
2020-21	42	
2019-20	32	
2018-19	32	
2017-18	20	----

Target Met for Headcount: [ ] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous year's results:

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed	Percentage Increase/

Use of Results

1. Changes put in place since previous assessment to improve program placement results: There have been no new changes pertinent to increasing program placed students, since the last program assessment

2. Impact of changes on current results:

3. According to current results, areas needing improvement: Student headcount decreased by 13 students. This can partially be explained by the graduation of 10 students.

4. Based on the results, new actions to improve program placement/productivity: Action items identified in previous APERS will continue to be implemented in 2022-23.

5. Next assessment of this goal: Assessed annually

Professional Writing Certificate

	FTES	Decrease
2021-22	10	
2020-21	181	
2019-20	14.7	
2018-19	15.6	
2017-18	9.2	----

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? Please explain: N/A

Student Learning Outcome Assessment Report: 2021-2022
Psychology, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed for students who plan to transfer to a college or university for a B.S. or B.A. degree in psychology.

Student Learning Outcome 1: 2A. Students will differentiate elements of the scientific method, types of research methodology, and skills and errors in critical thinking and problem-solving.

Assessment Methods

Course Name/Number: PSY 200

Direct Measure Used: Methods Multiple choice. This is a ten-item multiple choice assessment designed to measure how well students can recognize the three research designs used in Psychology.

SLO/Rubric Criteria or Question Concepts: The SLO assesses identification of the following research designs: Descriptive, Correlation, and Experiment.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	2	49
AN	14	6	201
MA	13	6	155
ME	0	0	0
LO	14	7	180
WO	7	6	143
NOVA Online	13	7	152
Off-Site Dual Enrollment	0	0	0
Total	67	34	880

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
All students assessed (weighted average)	81.3%	84.76%
On-campus average	81.6%	85.94%
Synchronous hybrid (remote) average	81.7%	N/A
NOVA Online average	80.0%	79.91%
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019
1. Descriptive Design	78%	78.6%
2. Experimental Design	84%	86.4%
3. Correlational Design	86%	89.7%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [] Partially [ ] N/A

Narrative comparison of current results to previous results: Scores were slightly lower across all methods of teaching. We had 2 more on-line professors assess their classes, but overall response rates were lower than the previous assessment.

Areas where students met the target: Students met target in all areas. The lowest scores were about the descriptive design.

Use of Results

1. Changes put in place since previous assessment to improve student learning: The chair of the DG reminded online instructors to collect and report on the assessment twice during the semester. This resulted in slightly more online class assessments. The steering committees also reminded instructors on their campuses.

2. Impact of changes on current results: Online instructors responded at slightly higher rates. However, in person and synchronous remote instructors responded at lower rates.

3. According to current results, areas needing improvement: Response rates need to improve. Students need more instruction about Descriptive designs.

4. Based on current results, new actions to improve student learning: While students are exceeding the target for this assessment, instructors should continue to highlight the differences among the designs, descriptive in particular and provide more practice for identifying the designs.

5. Next assessment of this SLO: Fall 2025

Psychology, A.S.

Areas where students did NOT meet the target: Students met target in all areas. The lowest scores were about the descriptive design.

Student Learning Outcome 2: 1A. Students will differentiate the major concepts, theoretical perspectives, historical trends, and empirical findings in psychological science.

Assessment Methods

Course Name/Number: PSY 230

Direct Measure Used: Nature/Nurture SLO

SLO/Rubric Criteria or Question Concepts: The assessment consists of 10 multiple choice questions designed to assess the degree to which students can identify whether examples represent Nature, Nurture or an interaction between the two.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	4	106
AN	10	5	129
MA	5	2	68
ME	Na	NA	NA
LO	5	2	55
WO	4	3	81
NOVA Online	13	5	129
Off-Site Dual Enrollment	0	0	0
Total	43	21	568

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
All students assessed (weighted average)	74.98%	75.95%
On-campus average	75.38%	75.84%
Synchronous hybrid (remote) average	75.62%	NA
NOVA Online average	73.37%	77.2%
Dual Enrollment average	NA	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019
1. Nature	73.94%	75.70%
2. Nurture	74.59%	73.37%
3. Interaction	78.99%	78.32%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: All modes of instruction surpassed the target results. Each mode shows a slight decrease from the previous assessment. The NOL results decreased but that could be because only one instructor reported the results in 2019 and there were 5 represented this assessment cycle.

Areas where students met the target: Students met the target in all areas.

Use of Results

1. Changes put in place since previous assessment to improve student learning: In the past assessment only one online instructor submitted their results, so a concerted effort was made to remind online instructors several times to collect the data.

2. Impact of changes on current results: More online instructors reported their results.

3. According to current results, areas needing improvement: While the students passed the target, the nature and nurture concepts seem to be more confusing to students than the interaction examples. Since the online classes' averages were less than the on campus, we might want to look at the online course to see if there is enough discussion and practice identifying nature nurture issues.

4. Based on current results, new actions to improve student learning: Instructors should spend more time practicing identifying the role of nature and nurture, providing more real life examples. The online class should be reviewed for coverage of this topic.

5. Next assessment of this SLO: Fall 2024

Areas where students did NOT meet the target: While students met the target in all areas, the nature and nurture concepts could be improved.

Student Learning Outcome 3: 1B Students will apply the major concepts, theoretical perspectives, historical trends, and empirical findings in psychological science to real world examples.

Assessment Methods

Course Name/Number: Statistics for the Behavioral Sciences, PSY 213

Direct Measure Used: Data Analysis Assessment

SLO/Rubric Criteria or Question Concepts: This assessment, given at the end of the semester, included 10 multiple choice questions that assessed the following concepts: graphic representation, results, frequency tables, measurement scales, central tendency and type I error.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	15
AN	3	3	41
MA	3	3	76
ME	0	0	0
LO	1	0	0
WO	0	0	0
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	8	7	133

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Semester Year
All students assessed (weighted average)	79.54%	NA
On-campus average	80.85%	NA
Synchronous hybrid (remote) average	79.07%	NA
NOVA Online average	NA	NA
Dual Enrollment average	NA	NA

Results by SLO Criteria:
[x] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Semester Year
1. Graphic representation	85%	NA
2. Results	74%	NA
3. Frequency Table	94%	NA
4. Measurement scales	78%	NA
5. Central tendency	72%	NA
6. Type I error	74%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is the first year we have used this assessment.

Areas where students met the target: Students met the target in all six concepts.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time this assessment was used. We developed the assessment for the quantitative CLO and wanted to pilot test it before using it to test that CLO in the spring of 2024.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: The three areas that need improvement are interpretation of results, central tendency, and Type I errors.

4. Based on current results, new actions to improve student learning: The course has been redesigned to focus more on interpretation of the results of statistical analysis. This change in focus should increase the interpretation of results scores. Central tendency is a topic that is covered early in the semester and students may have forgotten some of the information by the end of the semester when this assessment was given. Instructors should remind students of the cumulative nature of the class. Errors in hypothesis testing is an especially difficult concept for students, so their scores were surprisingly good on that concept. Instructor should continue discussing the types of error we make in hypothesis testing and provide practice identifying the two types. We will review the assessment for wording and clarity prior to the next assessment.

5. Next assessment of this SLO: Spring 2024.

Psychology, A.S.

Areas where students did NOT meet the target: While students met the target in all six concepts, the lowest performance was in the interpretation of results, central tendency and Type I errors.

Core Learning Outcome: [ ] **Written Communication** [X] **Civic Engagement**

Operationalized Definition: Students will identify &/or apply ethical standards to evaluate psychological science and practice.

Assessment Methods

Course Name/Number: Research Methods for the Behavioral Sciences, PSY 211

Direct Measure Used: Ethics Assessment

CLO/Rubric Criteria or Question Concepts: This 10 question multiple choice test assesse the following concepts: risk, consent, confidentiality, fraud, IRB, plagiarism, and deception.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	7
AN	2	2	38
MA	1	0	0
ME	0	0	0
LO	2	1	19
WO	1	1	19
NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	7	5	83

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
All students assessed (weighted average)	81.6%	84%
On-campus average	79.3%	84%
Synchronous hybrid (remote) average	84.1%	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by CLO Criteria:

[X] Average/Mean Score per criteria or

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020
1. Risk	78%	82%
2. Consent	79%	87%
3. Confidentiality	84%	91%
4. Fraud	88%	86%
5. IRB	89%	86%
6. Plagiarism	94%	88%
7. Deception	67%	75%

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:

[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: Two of the concepts increased since the last assessment (Plagiarism and Fraud), while the remaining five concepts decreased.

Use of Results

1. Changes put in place since previous assessment to improve student learning: To increase reporting, SLO questions were posted on Canvas in order to make it easier to collect the data. To improve student learning regarding the concept of deception after the last assessment, faculty said they would spend more time covering debriefing as a tool to mitigate the effects of deception

2. Impact of changes on current results: The response rate improved from 50% to 71% after we made the assessment accessible via Canvas. The increased time spent on debriefing did not seem to help the students to understand the concept of deception.

3. According to current results, areas needing improvement: The use of deception in research is the only area that needs improvement as students performed well above target on most of the other concepts.

4. Based on current results, new actions to improve student learning: The faculty needs to spend more time clarifying the concept of deception in research. The use of deception in psychological research is more context dependent than the other concepts so faculty needs to provide more examples of when deception is a problem for research and what can be done to minimize the problem.

5. Next assessment of this CLO: Fall 2023 (as SLO)

Psychology, A.S.

Areas where students met the target: The students met the criteria for six of the seven criteria (risk, consent, confidentiality, fraud, IRB, and plagiarism).

Areas where students did NOT meet the target: The students did not meet the target for the concept of deception.

Program Goal on Graduation: The Psychology, A.S. hopes for graduation decreases of no more than 5%

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Target is to have no more than a 5% decrease in graduation totals compared to the previous year

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	161	+73%
2020-21	93	+1229%
2019-20	7	
2018-19	N/A	
2017-18	N/A	
2016-17	N/A	----

Results for Past 5 Academic Years - Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Psychology, AS			7	93	161	+73
Social Sciences, Psychology Specialization	88	77	125	89	36	-60
Liberal Arts, Psychology Specialization	23	24	12	7	4	-43
Total	**111**	**101**	**144**	**189**	**201**	**-6**

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The new Psychology AS degree

Use of Results

1. Changes put in place since previous assessment to improve graduation results: The discipline group communicated the changes Transfer VA mandated to the degree clearly to allow students time to repeat classes they need for graduation.

2. Impact of changes on current results: The numbers of Psychology students graduating continues to rise. Approximately 30 students who had previous failed the two phased out or changed classes are retaking the course this semester with the goal of graduating or transferring.

3. According to current results, areas needing improvement: The numbers are increasing. It will be interesting to see what effect the two extra credits that are required for the Psychology degree as a result of Transfer VA mandated changed to the curriculum has on graduation numbers.

4. Based on the results, new actions to improve graduation/productivity results: Strong advising will continue to help our students graduate and transfer.

5. Next assessment of this goal: Assessed annually

Psychology, A.S.

Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: The graduation totals for the degrees that are currently being offered have continued to increase each year. The other two specializations are no longer offered so the numbers will decrease until no students are left in those specializations.

Program Goal on Program-Placed Students: The Psychology, AS hope to have no more than a 5% decrease in program placed students amid college-wide decreasing enrollment.

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Target is to have no more than a 5% decrease in program placed students amid college-wide decreasing enrollment.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	1089	28
2020-21	849	345
2019-20	191	----
2018-19	N/A	----
2017-18	N/A	----
2016-17	N/A	----

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:

Program	2017-18	2018-19	2019-20	2020-21	2021-22	% Change
Psyc., AS			191	849	**1089**	**+28**
Social Sciences, Psyc. Special.	753	771	723	278	**99**	**-64**
Liberal Arts, Psyc. Special.	324	197	74	33	**13**	**-60**
Total	**1,077**	**968**	**988**	**1,160**	**1,201**	**+3.5**

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve program placement results: After we created the CANVAS website to share information with advisers about careers in Psychology, we have not done much else to advertise our program.

2. Impact of changes on current results: The number of students in our program continues to increase.

3. According to current results, areas needing improvement: The numbers are increasing. It will be interesting to see what effect the two extra credits that are required for the Psychology degree as a result of Transfer VA mandated changed to the curriculum has on program-placed numbers.

4. Based on the results, new actions to improve program placement/productivity: We will need to discuss how we can better advertise our program in the January 2023 discipline group meeting.

5. Next assessment of this goal: Assessed annually

Narrative comparison of current results to previous year's results: The Psychology AS has increasing numbers, up 28% from last year. Even as the specializations are dropping, the total number of students who are interested in Psychology is up 3.5% from last year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	749.2	+23
2020-21	609.3	+453
2019-20	134.3	
2018-19	--	
2017-18	--	

Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: The Psychology, AS exceeds the VCCS productivity standards.

Student Learning Outcome Assessment Report: 2021-2022
Public History and Historic Preservation, C.S.C.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum is designed for persons seeking to develop research, analytical, and field skills in historic preservation, archaeology, and museum studies sufficient for the student to continue or to participate in local community-based projects.

Student Learning Outcome 1: Students will synthesize knowledge of historical preservation / public history with practical experience in the field.

Assessment Methods

Course Name/Number: HIS 190 – Coordinated Internship

Direct Measure Used: Reflection Paper

SLO/Rubric Criteria or Question Concepts:

A one-page maximum, informal reflection paper in which students comment on their experience completing the internship submitted through Canvas during the last week of the semester.

The reflection paper should highlight how their various courses in the certificate program helped them (or did not help them) with the internship.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	3
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	3

Assessment Results

Semester/year data collected: Fall 2021

Target: 80% of students should demonstrate competence.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	100%	100%
On-campus average	N/A	100%
Synchronous hybrid (remote) average	N/A	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2020	Previous Results Spring 2020
Completed Reflection Paper	100%	100%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
Previously, we assessed this SLO as part of the 2019-2020 CLO related to Professional Readiness and then again as a standalone SLO in Fall 2020 and Fall 2021. Student success has been consistent among all of these reporting periods.

Areas where students met the target:

Use of Results

1. Changes put in place since previous assessment to improve student learning: As a way to maintain institutional memory and records, we have kept information recorded here longer than a one year assessment window. Before the Fall 2015 semester, the program was revised and renamed, helping to streamline the learning process, scale back the required courses, and produce more graduates. During the past four years, we have hired a full-time faculty member with a Ph.D. in public history to teach these classes (hired in August 2015), revised our SLOs twice (Spring 2017 and Fall 2018), improved the curriculum map (Fall 2018), updated course content summaries (July 2016 and August 2018), and stabilized the program. We have used the SLOs as a way to measure the program's and courses' strengths and weaknesses, always looking for ways to improve, especially in regard to content delivery (on campus, hybrid, and online) and maintaining professional awareness. We are currently working through recognizing an appropriate sample size for this SLO assessment, using multiple years as a way to indicate whether the data collected is solid or not. This is the third time we have assessed this SLO as a standalone component (last year we measured it as part of the CLO process related to Professional Readiness).

2. Impact of changes on current results: Even with the limited amount of data collected, because of the smaller number of students evaluated, the SLO seems to be providing relevant and important information.

3. According to current results, areas needing improvement: With the feedback provided in their reflection papers, it would seem that this SLO is working. The primary purpose of the reflection paper and this SLO is to measure whether the certificate program, as a whole, since the internship is basically a capstone-like project, is fulfilling the mission of providing students tangible learning experiences in the classroom that

	Students met the target if they successfully completed the reflection paper and, in turn, successfully completed their internship. **Areas where students did NOT meet the target:** All students successfully met the target. By this point in the program, nearly every student should be able to reach the target threshold for this SLO.	translate to real world experiences. This goal has consistently been achieved throughout the previous reporting periods and has been very helpful in monitoring the overall health of the program. **4. Based on current results, new actions to improve student learning:** At this point, we plan on continuing forward without any changes to this particular SLO, or reflection paper assignment. Currently, the results of this report are being shared with the appropriate faculty and advisory council, and are updated as needed. **5. Next assessment of this SLO:** This SLO will next be assessed during the 2021-22 academic year, when we will examine the results from our data collected for analysis.

Student Learning Outcome 2: Students will analyze and assess museum exhibits and objects.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: HIS 183 – Survey of Museum Practice **Direct Measure Used**: Museum Exhibit – Evaluation / Critique Paper **SLO/Rubric Criteria or Question Concepts:** Each student was required to visit a museum exhibition virtually and then produce a written evaluation of their experience based on museum and collection management best practices. Students needed to consider such questions as the exhibition's message/central theme, how the subject matter was presented (such as their use of objects, label copy, and space design), how the exhibit fits within the scope/mission of the museum, and how it relates to the audience. Here is a summarized version of the rubric used for this assignment: • An "A" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by appropriate analysis and a good range of specific facts; and, the assignment is well written. • A "B" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by adequate understanding of the text and common sense; and, the assignment is well written without major grammar errors.	**Semester/year data collected:** Fall 2021 **Target:** Students will score 80% or higher on each criterion and overall. **Results by Modality:** Overall Average/Mean Scores **Results by SLO Criteria:** [ ] Average/Mean Score per criteria [X] Percent of Students > target per criteria **Target Met:** [X] Yes [ ] No [ ] Partially	**1. Changes put in place since previous assessment to improve student learning:** As a way to maintain institutional memory and records, we have kept information recorded here longer than a one year assessment window. Before the Fall 2015 semester, the program was revised and renamed, helping to streamline the learning process, scale back the required courses, and produce more graduates. During the past four years, we have hired a full-time faculty member with a Ph.D. in public history to teach these classes (hired in August 2015), revised our SLOs twice (Spring 2017 and Fall 2018), improved the curriculum map (Fall 2018), updated course content summaries (July 2016 and August 2018), and stabilized the program. We have used the SLOs as a way to measure the program's and courses' strengths and weaknesses, always looking for ways to improve, especially in regard to content delivery (on campus, hybrid, and online) and maintaining professional awareness. A challenge we have had is trying to recognize an appropriate sample size for the SLO assessment, using multiple years as a way to indicate whether the data collected is solid or not. This was the same assignment that we used to measure the SLO in previous years. As we did last year, this year's APER/SLO report examined the essential components of the assignment into various components, allowing us to track the data across multiple years now. **2. Impact of changes on current results:** After a year plus process, we have completed the guided pathway

Results by Modality	Current Results Fall 2021	Previous Results Fall 2020
All students assessed (weighted average)	83%	100%
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	83%	100%
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2020
1. Exhibition Message	83%	100%
2. Presentation	83%	100%
3. Exhibition Scope	83%	100%
4. Audience	83%	100%
5. Writing Component	83%	100%

- A “C” grade only answered part of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by some understanding of the text; there may include factual errors, or not demonstrate adequate understanding of the historical period; and, it maybe poorly written.
- A “D” grade is defined as an assignment that provided only opinions, or evaluations given are not called for in the question or are not supported by an understanding or the period; and, assignment may be poorly written, and contain many spelling and grammatical errors.
- A “F” grade is defined as an essay that ignores the question or questions; contains many serious factual errors; poorly written, making it difficult to understand; and, sentences directly copied from other sources.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	24
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	24

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:

The assessment demonstrates that the students are indeed practicing this outcome successfully.

- In the Fall 2012/Spring 2013 evaluation, this was assessed in HIS 183 and 12 out of 13 students demonstrated competence with this learning outcome (92%).
- In the Fall 2013/Spring 2014 evaluation, this was assessed in HIS 183 and 6 out of 7 students demonstrated competence with this learning outcome (86%).
- In the Fall 2014/Spring 2015 evaluation, this was assessed in HIS 187 and 12 out of 13 students demonstrated competence with this learning outcome (92%).
- In the Fall 2015/Spring 2016 evaluation, this was assessed in HIS 186 and 9 out of 11 students demonstrated competence with this learning outcome (81.8%)
- In the Fall 2016/Spring 2017 evaluation, this was assessed in HIS 183 and 14 out of 14 students demonstrated competence with this learning outcome (100%), the highest percentage within the past few years.
- In the Fall 2017/Spring 2018 evaluation, this was assessed in HIS 183 and 13 out of 13 students demonstrated competence with this learning outcome (100%), matching the percentage of previous year.
- In the Fall 2018/Spring 2019 evaluation, this was assessed in HIS 183 and 8 out of 8 students demonstrated competence with this learning outcome (100%), matching the percentage of the previous three years.
- In the Fall 2019/Spring 2020 evaluation, this was assessed in HIS 183 and 13 out of 13 students demonstrated competence with this learning outcome (100%), matching the percentage of the previous years.
- In the Fall 2020/Spring 2021 evaluation, this was assessed in HIS 183 and 13 out of the 13 students transfer with the University of Mary Washington’s B.A. Historic Preservation program. This pathway went into effect for the Fall 2020 semester. This class will be one of the two transfer electives for their program. UMW only has two historic preservation electives and this class, along with HIS 187, will fulfill both electives upon a student’s transfer. Students graduating in 2020-21 academic year will be able to matriculate into the University of Mary Washington program.

3. According to current results, areas needing improvement: We have maintained our 100% success rate for this SLO by our students who have completed this assignment. The one area that we have started to measure a bit closer is the writing component found within the rubric. This way we can examine more closely how the students perform on their content development and their individual writing skills. By reevaluating the students’ performance through the assignment’s criteria, we can better understand where they might be having challenges.

4. Based on current results, new actions to improve student learning: The instructor will continue to provide students with examples of excellent museum exhibits through reading assignments and in-class discussions as a way to provide a guide for their own analyses. Students also participated in various question and answering sessions at the start of class, providing updates on their progress and listening to instructor suggestions. Additionally, a greater emphasis will be made on encouraging students to submit early drafts of their work for review and comment. These actions will be continued to be implemented in the upcoming semesters.

5. Next assessment of this SLO: This SLO will next be assessed during the 2021-22 academic year, when we will examine the results from our data collected for analysis.

demonstrated competence with this learning out (100%), matching the percentage of the previous years.

Areas where students met the target:
Examining the feedback the students received in completing this assignment, content was an area that all students met expectations, fully answering all parts of the museum exhibition critique. They successfully analyzed and assessed a museum exhibition virtually and the various objects that were part of that particular exhibition.

Areas where students did NOT meet the target:
Even though all students who completed the assignment successfully met the SLO outcome, the primary difference between students earning an A or B grade was based on writing quality. There were four students, though, who did not complete the assignment and therefore lowered the overall SLO numbers.

Student Learning Outcome 3: Students will explain the historical development of preservation law and its applications in local, state, and national government.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: HIS 181 – Intro to Historic Preservation **Direct Measure Used**: Virginia Department of Historic Resources Preliminary Information Form (VDHR PIF) Assignment / Research Paper and Project **SLO/Rubric Criteria or Question Concepts:** Instructor selected student groups visited a local site or building, approved by the instructor, and completed a Virginia Department of Historic Resources Preliminary Information Form (VDHR PIF), evaluating its suitability for inclusion in the National Register of Historic Places. During the course of developing the VDHR PIF, students were exposed to the history of the preservation movement at all three levels of government – local, state, and federal – and learned to navigate the nuances of preservation law and policy. To justify a potential site to the National Register, students must argue that it has historical importance and significance locally, regionally, or nationally, and understand that their approach must fit in with larger historical trends. Students also had the opportunity to work with local organizations and government agencies, such as Arlington County, Prince William County, and the Purcellville Historical Society. This report is scored holistically rather than by individual	**Semester/year data collected: Spring 2022** **Target:** 80% of students should demonstrate competence. **Results by Modality:** Overall Average/Mean Scores **Results by SLO Criteria:** [X] Average/Mean Score per criteria [ ] Percent of Students > target per criteria	**1. Changes put in place since previous assessment to improve student learning:** For Fall 2017, we offered a hybrid version of this course at our Loudoun campus, a first for the program and an opportunity to reach out to a potentially different student population. The flexibility of the hybrid course schedule gave students more time to research their historic site and allowed for greater instructor/student in-person progress reports. Because of the hybrid nature of the course, the Covid-19 situation made it easier to transition this course to a synchronous Zoom remote learning environment. Back in the Fall 2014/Spring 2015, this class was delivered online, so there were elements within the current hybrid course that originated with this previous online version. The instructor for both of these classes was the same, providing personal insight and guidance as the class was shifted to remote learning during this evaluation period. This was the third time we had used this particular assignment to measure this SLO during the past few years. **2. Impact of changes on current results:** The hybrid approach for this class seems to help provide students an opportunity to balance their real-world obligations, course requirements, and research goals related to the various assignments. With a heavy research focus for

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)	86%	100%
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	86%	100%
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
1. A	72%	84%
2. B	14%	0%
3. C	N/A	16%
4. D	N/A	N/A

components because of the complexity of the assignment.

This SLO was assessed using the following rubric. There were numerous due dates throughout the semester, helping students more along in the project and reaching important milestones. Since this was a group project, it was challenging to determine the exact contributions of each member. Here is a summarized version of the rubric used for this assignment:

- An "A" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by appropriate analysis and a good range of specific facts; and, the assignment is well written.
- A "B" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by adequate understanding of the text and common sense; and, the assignment is well written without major grammar errors.
- A "C" grade only answered part of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by some understanding of the text; there may include factual errors, or not demonstrate adequate understanding of the historical period; and, it maybe poorly written.
- A "D" grade is defined as an assignment that provided only opinions, or evaluations given are not called for in the question or are not supported by an understanding or the period; and, assignment may be poorly written, and contain many spelling and grammatical errors.
- A "F" grade is defined as an essay that ignores the question or questions; contains many serious factual errors; poorly written, making it difficult to understand; and, sentences directly copied from other sources.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	22
NOVA Online	N/A	N/A	N/A

5. F	14%	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
In the Fall 2014/Spring 2015 evaluation, this was assessed in an online course of HIS 181 and 6 out of 8 students demonstrated competence with this learning outcome (75%).

In the Fall 2016/Spring 2017 evaluation, this was assessed in an in-person course of HIS 181 and 10 out of 10 students demonstrated competence with this learning outcome.

In the Fall 2017/Spring 2018 evaluation, this was assessed in a hybrid course of HIS 181 and 10 out of 10 students demonstrated competence with this learning outcome

In the Fall 2019/Spring 2020 evaluation, this was assessed in a hybrid course of HIS 181 and 10 out of 10 students demonstrated competence with this learning outcome.

In the Fall 2020/Spring 2021 evaluation, this was assessed in a hybrid synchronous course of HIS 181 and 16 out of 19 students demonstrated competence with this learning outcome. The three students who did not reach full competency, though, had challenges in one of these areas: their group's ability to make a strong historical argument, support by relevant research material, and writing their work in a compelling manner

As the data showed, only a handful of students throughout the various reporting periods did not meet the threshold of earning a "C" in this SLO, which caused the percentage to dip below are target percentage. Students who did not earn at least a "C" typically did not complete the related assignment. That was the same for this reporting period in that students who did not work on the project failed and did not reach the minimum SLO requirement.

this particular assignment (and others in the course), the flexible hybrid approach provides students an opportunity to work outside the classroom on these projects.

After a year plus process, we have completed the guided pathway transfer with the University of Mary Washington's B.A. Historic Preservation program. This pathway went into effect for the Fall 2020 semester. This class will be one of the two direct transfer courses for their program. Students graduating in 2020-21 academic year will be able to matriculate into the University of Mary Washington program.

3. According to current results, areas needing improvement: The difference between the students obtaining an A or a C on the project was based on their group's ability to make a strong historical argument, supported by relevant research material, and written in a compelling manner. Typically, students who already have a strong background in these concepts succeed in this assignment, while students lacking practical research and writing experience need more guidance. During this reporting period, the professor provided more guidance, feedback, and meeting times to try to proactively address these concerns. Students who took advantage of these opportunities succeeded.

4. Based on current results, new actions to improve student learning: The Covid-19 situation caused some research issues, as various libraries, archives, and historical repositories were not fully open or available for all students. The return to normalcy will certainly address some of this concerning moving forward.

An area under consideration is how to address any issues concerning student writing quality. A more formal instructor review process for earlier drafts of the VDHR PIF project was implemented this year, which was proposed in last year's report. Student groups were required to meet at least once or twice during the draft process to answer questions, review research directions, and examine draft ideas. This was very helpful for many of the groups and will be implemented moving forward, as well.

5. Next assessment of this SLO:

Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	22

Areas where students met the target:
All students for this reporting period reached at least a C grade in this assignment. Each student group presented interesting and compelling various historic sites throughout the Northern Virginia region, working with local government partners, and completing this challenging project even with the Covid-19 pandemic.

Areas where students did NOT meet the target:
According to the data, 72% of the students earned an A on this assignment, with 14% of the students receiving a B. The difference between the students obtaining an A or a B on the project was based on their group's ability to make a strong historical argument, supported by relevant research material, and written in a compelling manner. The 14% of students who obtained the B had minor challenges in one of these areas. The 14% of students who earned an F did not complete the assignment.

This SLO will next be assessed during the 2021-22 academic year, when we will examine the results from our data collected for analysis.

Core Learning Outcome: [X] Civil Engagement [ ] Written Communication
Operationalized Definition: Students will explain the role and function of preservation in society.

Assessment Methods

Course Name/Number: HIS 181 – Intro to Historic Preservation

Direct Measure Used: Hybrid Discussion Board Assignment – Commission Meeting Review and Evaluation

CLO/Rubric Criteria or Question Concepts: This is the discussion assignment for the two Local Historic Preservation Committee or Architectural Review Board Meetings students had to attend during the course. The students' initial post answering the following questions were due Wednesday, April 7th, 6:59pm: what are the powers and jurisdiction of the commission, what role does the commission play in local preservation efforts, and what happened at the meetings? The post should be approximately 600 to 800 words in length, fully answering the questions mentioned above. Students had to reply to two of their fellow students by Sunday, April 11th, 11:59pm, providing additional insight into the commission process and comparison with their own meeting experience.

The best initial responses analyzed the situation regarding the question, added an opinion, or identified related issues. There are two tactics for replies: add to

Assessment Results

Semester/year data collected: Spring 2022

Target: 80% of students should demonstrate competence

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results N/A
All students assessed (weighted average)	86%	N/A
On-campus average	N/A	N/A
Synchronous hybrid (remote) average	86%	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results N/A
1. A	68%	
2. B	9%	
3. C	N/A	
4. D	4.5%	

Use of Results

1. Changes put in place since previous assessment to improve student learning: As a way to maintain institutional memory and records, we have kept information recorded here longer than a one year assessment window. Before the Fall 2015 semester, the program was revised and renamed, helping to streamline the learning process, scale back the required courses, and produce more graduates. During the past four years, we have hired a full-time faculty member with a Ph.D. in public history to teach these classes (hired in August 2015), revised our SLOs twice (Spring 2017 and Fall 2018), improved the curriculum map (Fall 2018), updated course content summaries (July 2016 and August 2018), and stabilized the program. We have used the SLOs as a way to measure the program's and courses' strengths and weaknesses, always looking for ways to improve, especially in regard to content delivery (on campus, hybrid, and online) and maintaining professional awareness. This was the first time we had assessed this particular CLO.

2. Impact of changes on current results: Again, this was the second time that this particular CLO was assessed. The SLO has been evaluated multiple times during the past few years with varying degrees of success.

the initial post or tactfully disagree with it and state the reasons why. Simply stating agreement or repeating the same thoughts as the initial post will not achieve a good score. Direct quotations should not be done for this assignment, students had to use their own words.

- An "A" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by appropriate analysis and a good range of specific facts; and, the assignment is well written.
- A "B" grade specifically and fully answers all parts of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by adequate understanding of the text and common sense; and, the assignment is well written without major grammar errors.
- A "C" grade only answered part of the questions asked; conclusions, opinions stated, or evaluations called for in the question are supported by some understanding of the text; there may include factual errors, or not demonstrate adequate understanding of the historical period; and, it maybe poorly written.
- A "D" grade is defined as an assignment that provided only opinions, or evaluations given are not called for in the question or are not supported by an understanding or the period; and, assignment may be poorly written, and contain many spelling and grammatical errors.
- A "F" grade is defined as an essay that ignores the question or questions; contains many serious factual errors; poorly written, making it difficult to understand; and, sentences directly copied from other sources.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	22
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	1	1	22

5. F	18%	

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:

This was the second time that we had assessed this CLO.

Previously, we assessed the SLO in Fall 2019 as a standalone evaluation with 14 students, but with a different course and assignment. At that time, eight students reached the threshold, but six students did not. This was because those six students did not complete the assignment.

In Spring 2021, we assessed this SLO as part of another CLO assessment with 19 students and 15 of them reached the threshold. The four students who did not either did not attend or watch online the local commission / architectural review board meetings, or did not address all of the assignment components.

In Spring 2022, this CLO was assessed, and we had 17 students successfully complete this SLO out of the 22 students enrolled. As with past reporting periods, the students who did not attend two of the local preservation or architectural review board meetings did not successfully reach the threshold.

Areas where students met the target:
For the most part, students succeeded with the assignment when they completed it, which mirrored the results from last year's assessment. Seventeen out of the twenty-two students completed the CLO successfully, while five of them failed to complete either part or all of the assignment.

Areas where students did NOT meet the target:
The primary reason students did not meet the target threshold was that they did not complete the assignment. Even giving students additional time to complete the work and submit it late did not work. For an unknown reason, a number of students just did not want to

3. According to current results, areas needing improvement: This was the second time we had assessed this particular CLO with this specific SLO component and with HIS 181. Previously, we had assessed this specific SLO in our HIS 180 and 183 courses. Students who did not complete the assignment and attend or watch online the local commission / architectural review board meetings were the ones who typically did not meet the threshold in successfully completing this SLO. Moving forward, we will try to identify why this happened.

4. Based on current results, new actions to improve student learning: We need to determine why students did not complete the assignment, which was detrimental to the SLO for this reporting period. Reaching out to students proactively about the importance of the assignment, reminding them of the various due dates, and informally communicating with them might provide the insight we need.

5. Next assessment of this CLO: This CLO will next be assessed during the 2023-24 academic year, when we will examine the results from our data collected for analysis.

<table>
<tr><td></td><td>complete it. Overall, those students should have dropped the class, because they continuously did not submit assignments.</td><td></td></tr>
<tr><td colspan="3">Program Goal on Graduation: To encourage students to complete their career studies certificate.</td></tr>
<tr><th>Assessment Method</th><th>Assessment Results</th><th>Use of Results</th></tr>
<tr>
<td>Short description of method(s) and/or source of data: Number of students graduated from the program. This data was collected from past APER reports, our internal student tracking, and OIR data: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html</td>
<td>Target: To maintain and increase the graduation total annually.

Results for Past 5 Academic Years:
<table>
<tr><th>Academic Year</th><th>Number of Graduates</th><th>Percentage Increase/ Decrease</th></tr>
<tr><td>2020-22</td><td>7</td><td>40%</td></tr>
<tr><td>2020-21</td><td>5</td><td>-28%</td></tr>
<tr><td>2019-20</td><td>7</td><td>-12.5%</td></tr>
<tr><td>2018-19</td><td>8</td><td>0%</td></tr>
<tr><td>2017-18</td><td>8</td><td>--</td></tr>
</table>
Results for Past 5 Academic Years - Parent Degree and Specializations: N/A

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year’s results:
This target has been maintained in some respects, but will need to be continuously watched and is tied to increased program participation. The more students we enroll in the program, the rise in graduates. Students continue to graduate at a consistent rate, demonstrating their dedication to complete the certificate program in a timely manner.

Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:
N/A</td>
<td>1. Changes put in place since previous assessment to improve graduation results: As a way to maintain institutional memory and records, we have kept information recorded here longer than a one year assessment window. Before the Fall 2015 semester, the program was revised and renamed, helping to streamline the learning process, scale back the required courses, and produce more graduates. During the past four years, we have hired a full-time faculty member with a Ph.D. in public history to teach these classes (hired in August 2015), revised our SLOs twice (Spring 2017 and Fall 2018), improved the curriculum map (Fall 2018), updated course content summaries (July 2016 and August 2018), and stabilized the program. We have used the SLOs as a way to measure the program’s and courses’ strengths and weaknesses, always looking for ways to improve, especially in regard to content delivery (on campus, hybrid, and online) and maintaining professional awareness. A challenge we have had is trying to recognize an appropriate sample size for the SLO assessment, using multiple years as a way to indicate whether the data collected is solid or not.

2. Impact of changes on current results: After a year plus process, we have completed the guided pathway transfer with the University of Mary Washington’s B.A. Historic Preservation program. This pathway went into effect for the Fall 2020 semester. This class will be one of the two direct transfer courses for their program. Students graduating in 2020-21 academic year will be able to matriculate into the University of Mary Washington program.

The program is currently working on providing this transfer pathway information to students, through our revised website, social media presence, and flyers.

3. According to current results, areas needing improvement: We need to maintain our enrollment in order to continue to produce graduates of the certificate program. The program saw an increase in enrollment, because of the shift to synchronous remote Zoom</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td>learning. This should help us maintain and potentially grow our graduation numbers over the next few semesters.

4. Based on the results, new actions to improve graduation/productivity results: (1) Increased communication with students to encourage them to complete the certificate, including contact through our blog, social media, and email.
(2) Make students aware of volunteer, employment, and academic options upon completion of the certificate.
(3) Increase the number of activities, such as speakers and local field trips that will further engage students with the profession. Some of these ideas are currently on hold due to the Covid-19 situation, but we plan to reengage these options as soon as possible. The shift to remote synchronous remote Zoom learning, though, allowed us to bring in guest speakers and lecturers at a sizeable increase.
(4) Continue to foster career development relationships with local institutions and organizations. A LinkedIn group has been created for alumni, supporters, and friends of the program to help promote this goal.

5. Next assessment of this goal: Assessed annually</td></tr>
<tr><td colspan="3">Program Goal on Program-Placed Students: Increase Program Enrollment</td></tr>
<tr><td>Assessment Method</td><td>Assessment Results</td><td>Use of Results</td></tr>
<tr><td>Short description of method(s) and/or source of data: Number of students enrolled in program courses. This data was collected from past APER reports, our internal student tracking, and OIR data: https://www.nvcc.edu/oiess/academic-assessment/slo-assessment/apers-data.html</td><td>Target: To increase the number of students enrolling in core classes for the program.

Results for Past 5 Academic Years - Headcount:
<table><tr><th>Academic Year</th><th>Number of Program-Placed Students</th><th>Percentage Increase/ Decrease</th></tr><tr><td>2020-22</td><td>35</td><td></td></tr><tr><td>2020-21</td><td>31</td><td>29%</td></tr><tr><td>2019-20</td><td>24</td><td>-27%</td></tr><tr><td>2018-19</td><td>33</td><td>-49%</td></tr><tr><td>2017-18</td><td>65</td><td>--</td></tr></table>
Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations: N/A

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A</td><td>1. Changes put in place since previous assessment to improve program placement results: As a way to maintain institutional memory and records, we have kept information recorded here longer than a one year assessment window. Before the Fall 2015 semester, the program was revised and renamed, helping to streamline the learning process, scale back the required courses, and produce more graduates. During the past four years, we have hired a full-time faculty member with a Ph.D. in public history to teach these classes (hired in August 2015), revised our SLOs twice (Spring 2017 and Fall 2018), improved the curriculum map (Fall 2018), updated course content summaries (July 2016 and August 2018), and stabilized the program. We have used the SLOs as a way to measure the program’s and courses’ strengths and weaknesses, always looking for ways to improve, especially in regard to content delivery (on campus, hybrid, and online) and maintaining professional awareness. A challenge we have had is trying to recognize an appropriate sample size for the SLO</td></tr>
</table>

Narrative comparison of current results to previous year's results:

The program continues to encourage students to enroll in the certificate program and complete as soon as they possibly can.

We have had numerous students within the measuring five-year window, totaling approximately 130, who have taken classes but may not have been program placed due to their own personal commitments. They have typically used our courses to fulfill General Electives, General Educational Electives, or to take courses on a limited, part-time basis. We have also had students enroll in various classes but are slow to add the program to their degree progress, or that the registrar's office had not successfully added it. Therefore, the numbers reported here are approximate and may not exactly match the data reported through OIR.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2020-22	7.6	36%
2020-21	5.6	100%
2019-20	2.7	-34%
2018-19	3.5	-49%
2017-18	6.9	--

Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
N/A

assessment, using multiple years as a way to indicate whether the data collected is solid or not.

We have also tried to promote the program through the Loudoun Campus History Club and by making in-class announcements during the registration period. The program has seen a growth of 18 to 25-year-old students in the past few years, which would seem to imply that these techniques are working. The new UMW transfer pathway will also help enrollment.

2. Impact of changes on current results: After a year plus process, we have completed the guided pathway transfer with the University of Mary Washington's B.A. Historic Preservation program. This pathway went into effect for the Fall 2020 semester. This class will be one of the two direct transfer courses for their program. Students graduating in 2020-21 academic year will be able to matriculate into the University of Mary Washington program.

The program is currently working on providing this transfer pathway information to students, through our revised website, social media presence, and flyers.

The program saw an increase in enrollment, because of the shift to synchronous remote Zoom learning. This should help us maintain and potentially grow our graduation numbers over the next few semesters.

3. According to current results, areas needing improvement: Our enrollment has decreased slightly in the past year, matching larger enrollment trends found at the college and at community colleges across the country. However, the change to synchronous remote Zoom learning saw an increase in enrollment numbers. Informal student polling during the past academic year mentioned their preference to the synchronous remote Zoom format and we have shifted to that delivery method for the foreseeable future.

4. Based on the results, new actions to improve program placement/productivity: In the past few years, a majority of our students have come from non-traditional demographic backgrounds, typically spanning the 30 to 65 year age bracket. Within the past few years, more of our students are 18 to 25-year-olds, current NOVA degree seeking students, and looking for transfer

		options. Our transfer pathway with UMW will help fulfill this need and match this emerging trend. The preference of our recent enrollees for the synchronous remote Zoom format have made us shift to that delivery method for the foreseeable future. This change will allow us to promote the program beyond our typically local footprint. **5. Next assessment of this goal:** Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Radiography, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed to prepare students to produce diagnostic images of the human body through safe application of x-radiation. The radiographer is a central member of the health care team and assists the radiologist, a physician specialized in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to take the American Registry of Radiologic Technology (ARRT) examination leading to certification as a Registered Technologist in Radiography: A.S., R.T. (R).

Student Learning Outcome 1: Students will demonstrate proper exposure factors to achieve optimum images of anatomical structures.

Assessment Methods

Course Name/Number: Principles of Radiographic Quality I – RAD 141

Direct Measure Used: Quiz 9: Chapter 16 – Kilovoltage Peak (kVP) – Tool found on Canvas

SLO/Rubric Criteria or Question Concepts: Question concepts:

1. Units for X-ray beam penetration and electric force.
2. Remnant beam signal and subject contrast.
3. Minimum kVp needed per body habitus/part.
4. Effects of increased kVp on X-ray tube output.
5. Calculating kVp changes utilizing the 15& rule.
6. kVp 15% rule advantage in lowering radiation dose and proper mAs compensation.
7. kVp attenuation per body part/field size.
8. kVp image qualities and scatter radiation.

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	2	2	70
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	70

Assessment Results

Semester/year data collected: Fall 2022

Target: 90% of students will score 85% or higher on topics to include kilovoltage peak, subject contrast, X-ray beam attenuation, and mAs compensation utilizing the 15% rule.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2022	Previous Results Fall 2021
All students assessed (weighted average)		
On-campus average	84.87	
Synchronous hybrid (remote) average		90.12

Results by SLO Criteria:

[ ] Average/Mean Score per criteria

[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2022	Previous Results Fall 2021
1. X-ray beam penetration and electric force	90	96
2. Remnant beam and Subject Contrast	66	93
3. Remnant beam intensity	96	83
4. kVp on X-ray tube output	87	86
5. kVp – 15% rule	89	96
6. 15% rule – lowering radiation dose	91	92
7. kVp attenuation	67	86

Use of Results

1. Changes put in place since previous assessment to improve student learning: This SLO was assessed in 2019-2020. The 2020 and 2021 application cycle did not require the TEAS Exam or the MTH placement exam, due to the Covid-19 Pandemics limit on the MEC testing center. The 2021-22 application cycle required MTH qualification but not the TEAS Exam.

2. Impact of changes on current results: Current results show a decline in the overall average/Mean scores for understanding of subject contrast, remnant beam, kVp attenuation and the kVp-15% rule.

3. According to current results, areas needing improvement: Current results indicate algebraic equations, exponent rules and graph interpretations for x-ray beam/kVp intensity need improvements.

4. Based on current results, new actions to improve student learning: Per RAD faculty discussion and the RAD Advisory Board suggestion, MTH 154 will be replaced with MTH 161 to better prepare student understanding of algebraic equations, exponent rules, graph interpretations, histograms, and scientific notions. MTH 154 change proposal submitted to the Curriculum Committee January 2023 for approval.

The RAD faculty will meet with the RAD Advisory Board to continue the comparison of remote instruction results (COVID-19 pandemic) to being back on campus for instruction in the Spring 2023 semester.

5. Next assessment of this SLO: 2025-2026

	8. kVp – scatter radiation | 93 | 89 **Target Met:** [ ] Yes [ ] No [X] Partially **Current Results Improved vs. Previous Results:** [ ] Yes [X] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous results:** decline in the overall average/Mean scores for understanding of subject contrast, remnant beam, kVp attenuation and the kVp-15% rule. **Areas where students met the target:** Remnant beam intensity, kVp on X-ray tube output, and kVp – scatter radiation **Areas where students did NOT meet the target:** algebraic equations, exponent rules and graph interpretations for x-ray beam/kVp intensity need improvements.	

Student Learning Outcome 2: Student will demonstrate communication skills effectively to serve the needs of community and other health care providers.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Elementary Clinical Procedures I – RAD 131 **Direct Measure Used**: Professional Development Evaluation Form for Semesters 2, 3, 4, and 5. Category: Professional Evaluation completed by clinical site preceptors for each assigned student. The tool is found at www.Trajecsys.com. **SLO/Rubric Criteria or Question Concepts:** Question Concepts: 1. Communication with hospital staff 2. Patient history collection 3. Communication with patients/families 4. Age-specific communication 5. Pre-Post exam instructions 6. Clinical information feedback 7. Communication under stress 8. Effective nonverbal communication **Other Method (if used): N/A** **Sample:**	**Semester/year data collected: Spring 2022** **Target:** 90% of students will score 87% or higher on topics on communicating effectively to serve the needs of the community and other health care providers. **Results by Modality:** Overall Average/Mean Scores	**Changes put in place since previous assessment to improve student learning:** 2018 -19 Improvements: **1.** RAD 196 pre-clinical activities were revised to include practical activities with an emphasis on verbal communication in the clinical environment. **2.** Faculty implemented additional lectures and practical assessments in RAD 125 Patient Care. 2020-21 Improvements: **3.** Developed additional simulation labs to address communication under stress and patient history collection in RAD 196 pre-clinical activities. **2. Impact of changes on current results:** Additional lectures and simulation assessments resulted in significantly improved communication during patient history collection, pre-post exam instructions, effective nonverbal communication, and communicating under stress. Simulation labs improved student comprehension of the importance of interpersonal relationships, professionalism, and patient rapport.

Campus/ Modality	Total # of	#	# Students Assessed

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)		
On-campus average	95.25	
Synchronous hybrid (remote) average		93.98

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
1. Communication with hospital staff	95.72	95.1

	Sections Offered	Sections Assessed	
ME	4	2	18
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	4	2	18

2.	Patient history collection	94.47	91.5
3.	Communication with patients/families	95.48	94.56
4.	Age-specific communication	95.17	94.38
5.	Pre-Post radiographic procedure instructions	94.56	94.48
6.	Clinical information feedback	96.25	96.25
7.	Communication under stress	93.86	90.5
8.	Effective nonverbal communication	96.76	95.1

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: significantly improved communication during patient history collection, pre-post exam instructions, effective nonverbal communication, and communicating under stress.

Areas where students met the target: patient history collection, pre-post exam instructions, effective nonverbal communication, and communicating under stress

Areas where students did NOT meet the target: No significant weaknesses were noted

3. According to current results, areas needing improvement: The results of this SLO demonstrate that the majority of students in the program demonstrate good communication skills. No significant weaknesses were noted so no suggestions for improvement are being made at this time.

4. Based on current results, new actions to improve student learning: In February 2023, faculty will meet to continue developing simulation labs for RAD 121, RAD 221, and RAD 196 to address communication in stressful clinical situations.

5. Next assessment of this SLO: 2023-2024

Student Learning Outcome 3: Students will apply ethical, legal, safe, and effective working standards in diagnostic imaging.

Assessment Methods

Course Name/Number: Advanced Clinical Procedures I – RAD 231

Direct Measure Used: Professional Development Evaluation Form for Semesters 2, 3, 4, and 5. Category: Professional Evaluation completed by clinical Instructors on each student. The tool is found at www.Trajecsys.com.

SLO/Rubric Criteria or Question Concepts: Question concepts:

Assessment Results

Semester/year data collected: Fall 2021

Target: 90% of students will score 87% or higher on the professional evaluation concepts regarding applying ethical, legal, safe, and effective working standards in diagnostic imaging.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2022	Previous Results Fall 2021
All students assessed (weighted average)		

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time we have assessed this particular SLO since Fall 2015. In 2015 - 2016 the following actions were taken. Revisions to the RAD 121/221 labs to include scenarios of ethical, legal, and behavioral situations related to the clinical setting. Actions taken in 2021, additional learning modules were introduced into RAD 125 to further introduce the ARRT Code of Ethics. Critical thinking scenarios/modules incorporated into RAD 125 to address ethical/legal situations that may arise in the clinical environment.

Radiography, A.A.S.

1. Adheres to HIPAA standards -patient confidentiality.
2. Effective patient care skills to ensure safety.
3. Applies radiation safety practices through minimal number of repeat procedures.
4. Exhibits consistent responsible attitude through reliability and punctuality.
5. Applies radiation safety practices with the use of collimation, shielding, while protecting self and others.
6. Preforms exams under direct and indirect supervision per program policy.
7. Effectively adjust to new clinical site, department staff and multiple technologists.
8. Produces appropriate amount of work.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	4	2	16
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	4	2	16

On-campus average	95.26	
Synchronous hybrid (remote) average		94.96
NOVA Online average		
Dual Enrollment average		

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2022	Previous Results Fall 2021
1. HIPAA Standards	96.81	96.75
2. Patient care skills/safety	94.97	95.72
3. Radiation safety/ALARA	94.05	91.5
4. Reliability-punctuality	96.47	96.98
5. Radiation safety-collimation/shielding	94.8	94.43
6. Direct/Indirect supervision	95.57	96.17
7. Adjustment to new faculty/equip/staff	94.85	92.94
8. Produces appropriate amount of work.	94.57	95.2

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Significant improvements in the majority of students evidenced by increased scores on question concepts
Areas where students met the target: applying ethical, legal, safe and effective working standards in diagnostic imaging.
Areas where students did NOT meet the target: Minimal decrease in direct/indirect supervision and producing appropriate amount of work.

2. Impact of changes on current results: Significant improvements in the majority of students evidenced by increased scores on question concepts related to applying ethical, legal, safe and effective working standards in diagnostic imaging.

3. According to current results, areas needing improvement: Minimal decrease in direct/indirect supervision and producing appropriate amount of work. This decrease may be related to the COVID-19 Pandemic impacting student clinical rotations during the 2021-2022 evaluation cycle.

4. Based on current results, new actions to improve student learning: Faculty will continue to discuss and monitor student restrictions in the clinical setting associated with the COVID-19 Pandemic - followed up by advisory board consultation.

5. Next assessment of this SLO: 2024-2025

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalized Definition: Students will develop and apply lifelong habits that reflect professional development.

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: Patient Care in radiography – RAD 125	**Semester/year data collected:** Fall 2022	**1. Changes put in place since previous assessment to improve student learning:** This is the first time we

Radiography, A.A.S.

Direct Measure Used: Quiz 1: Chapter 6, Professional attitudes and communications – Tool found on Canvas

CLO/Rubric Criteria or Question Concepts: Question concepts:

1. Global Healthcare Issues
2. Outcome differences in healthcare related to race and ethnicity.
3. Cultural diversity and nonverbal communication.
4. Legal and clinical requirements when communicating with patients
5. Certified Interpreter requirements in healthcare
6. Legal requirements when communicating with non-English speakers/patients
7. Importance of patient education in outcome success
8. Understanding grief and advanced directives.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
ME	2	2	76
NOVA Online	N/A	N/A	N/A
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	2	2	76

Target: Target 90% of students score 85% or higher on topics to include global healthcare, healthcare interpreters, legal requirements of communicating with patients, legal requirements for communicating with non-English/impaired patients and advanced directives.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2022	Previous Results Fall 2021
All students assessed (weighted average)		
On-campus average	90.62	
Synchronous hybrid (remote) average		89.75

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2022	Previous Results Fall 2021
1. Global Healthcare	80	90
2. Outcome differences due to race/ethnicity	95	95
3. Cultural diversity and nonverbal communication	94	90
4. Legal requirements during communication	90	92
5. Certified Interpreter requirements	83	92
6. Legal requirements communicating with non-English/impaired patients	98	86
7. Patient education and outcome success	97	92
8. Understanding grief and advanced directives	88	81

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

have assessed this particular SLO since 2015 - 2016. In 2017, faculty implemented additional didactic and laboratory assessments in RAD 125 to include communicating with different population groups, cultural diversity, and grief communication.

2. Impact of changes on current results: Current results indicate that the majority of students demonstrate the development and application of lifelong habits that reflect professional development. Significant increase in concepts of understanding grief and advanced directives, patient education outcome, legal requirements in communication with non-English/impaired patients and cultural diversity.

3. According to current results, areas needing improvement: Current results indicate the following areas need improvement. Global healthcare, legal requirements during communication and certified interpreter requirements.

4. Based on current results, new actions to improve student learning: Radiography students are encouraged to be active in both state and national professional societies. Students are encouraged to complete the ASRT Leadership development Program. ASRT Leadership Program topics include strategic planning, legal issues and affiliate compliance, governance overview and procedures for advocacy.
Additional lectures/modules will be introduced in RAD 196 and RAD 125 to address global healthcare, legal requirements during communication and certified interpreter requirements.

5. Next assessment of this CLO: 2023 -2024

Narrative comparison of current results to previous results: The majority of students demonstrate the development and application of lifelong habits that reflect professional development.

Areas where students met the target: Significant increase in concepts of understanding grief and advanced directives, patient education outcome, legal requirements in communication with non-English/impaired patients and cultural diversity.

Areas where students did NOT meet the target: Global healthcare, legal requirements during communication and certified interpreter requirements.

Program Goal on Graduation: Increase the number of graduates in the program

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: RAD 125 Fall roster - RAD 232 Spring 2022
Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: 90% graduation rate

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2020 - 2022	36 entered 28 graduated	-22.2
2019 - 2021	42 entered 36 graduated	-14.2
2018 - 2020	42 entered 35 graduated	-16.6
2016 - 2018	39 entered 32 graduated	-17.9
2015 - 2017	40 entered 35 graduated	-12.5

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Graduation rate decreased from 2019-2021 and 2020-2022

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes, the program exceeded the required 7 graduates.

1. Changes put in place since previous assessment to improve graduation results: Mandatory appointments with an academic success counselor to address high risk students earlier in the program - implemented 2019 -2020

2020 - 2021: The COVID-19 Pandemic resulted in all lectures being taught online. Online tutoring sessions by student appointment were instituted to provide extra study sessions with faculty.

2. Impact of changes on current results: There was a decrease in the graduation rate. Virtual learning environment, lack of on-campus reviews, COVID quarantines, illnesses, and family obligations may have influenced the graduation rate decrease.

3. According to current results, areas needing improvement: Faculty will continue to monitor progress of the student individually to evaluate student weaknesses early in the program.

4. Based on the results, new actions to improve graduation/productivity results: Online tutoring sessions will continue. Faculty have introduced more simulation labs to aid students in becoming more successful in the first year of the program.

5. Next assessment of this goal: Assessed annually

Radiography, A.A.S.

Program Goal on Program-Placed Students: Increase retention rates between first and second year in the Radiography Program

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target:

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
Fall 2021	81	6.5
Fall 2020	76	-3.8
Fall 2019	79	3.9
Fall 2018	76	-6.2
Fall 2017	81	-2.4

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Current rates show that retention has increased.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
	60.8	3.5
2020-21	58.7	-0.33
2019-20	58.9	1.7
2018-19	57.9	-10.3
2017-18	57.3	----

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: Yes the program exceeds the required 10 FTE

Use of Results

1. Changes put in place since previous assessment to improve program placement results: 2021 - increased student referrals to Student Services Academic success counselors in the first semester and the continuation of clinical counseling reports- tutor referrals.

2. Impact of changes on current results: Retention has increased.

3. According to current results, areas needing improvement: Early interactions with students remains the best way for improvement in retention rates. Faculty will continue to support and improve on changes that improve attrition rates due to student work-life challenges and academic failures.

4. Based on the results, new actions to improve program placement/productivity: Faculty will continue remediation procedures to include the following:

1. Tutor referrals
2. Clinical counseling reports
3. Student referral reports
4. Additional simulation labs
5. Additional open lab sessions
6. Clinical remediation sessions

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Science, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The curriculum is designed for individuals who are interested in a professional or scientific program and who plan to transfer to a four-year college or university to complete a baccalaureate degree with a major in one of the following fields: agriculture, biology, chemistry, pre-dentistry, forestry, geology, oceanography, pharmacy, physics, physical therapy, pre-medicine, science education, or mathematics.

Student Learning Outcome 1: (A.S. Science SLO 4): Students will be able to explain the atomic structure of basic chemical elements.

Assessment Methods

Course Name/Number: General Chemistry I / CHM 111

Direct Measure Used: A.S. Science SLO 4 assessment was administered online using a 5-question Canvas quiz. Each of the 5 questions was derived from a randomized bank of equivalent questions. Assessments were based on the students' use of and ability to interpret the Periodic Table. Students were expected to identify protons, neutrons, or electrons based on charge and on location within an atom. Students were expected to identify the number of protons in a specified element. Students were then expected to demonstrate understanding of the individual components and meaning of isotopic symbols and then determine the identity of a neutral element or ion based on a specified number of protons and neutrons.

SLO/Rubric Criteria or Question Concepts

#1: Identification of Concepts
- Identify the name of a subatomic particle based on its charge (positive, negative, or neutral).

#2: Identification of Concepts
- Identify the name of a subatomic particle based on its location within the atom (inside or outside of the nucleus).

#3: Scientific Literacy
- Use a Periodic Table to determine the number of protons in a specified element.

#4: Scientific Literacy
- Use a Periodic Table to identify the isotopic symbol for an element based on the number of protons and neutrons.

#5: Scientific Literacy
- Use a Periodic Table to determine the identity of a neutral molecule or an ion based on the number of subatomic particles.

Assessment Results

Semester/year data collected: Fall 2021

Target

1. Overall average (weighted) and individual modality average is set to 80%.
2. Average score for each criterion is set to 80%.
3. 80% of the students to achieve a total score of 80% or more.
4. To increase the number of sections participating in the evaluation to 70% for the results to be meaningful.

Results

Overall Average/Mean Score by On-Campus, Hybrid, Online (NOL), and Dual Enrollment:

Results by Modality	Fall 2020 Results	Current Results Fall 2021
All students assessed (weighted average)	0.916/1 (91.6%)	0.934/1 (93.4%)
On-campus average	N/A	0.931/1 (93.1%)
Synchronous/Asynchro-nous/Hybrid (remote) average*	0.912/1 (91.2%)	0.924/1 (92.4%) *
Online (NOL) average	0.953/1 (95.3%)	0.933/1 (93.3%)
Dual Enrollment average	0.921/1 (92.1%)	0.957/1 (95.7%)

* *Fall 2021 was hybrid only per SIS course designation.*

Results by SLO Criteria

[✓] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Fall 2020 Results	Current Results Fall 2021
1. Identification of Concepts	0.985/1 (98.5%)	0.988/1 (98.8%)
2. Identification of Concepts	0.964/1 (96.4%)	0.990/1 (99.0%)
3. Scientific Literacy	0.931/1 (93.1%)	0.961/1 (96.1%)
4. Scientific Literacy	0.852/1 (85.2%)	0.859/1 (85.9%)

Use of Results

1. Changes put in place since previous assessment to improve student learning: For the previous assessment in Fall 2020, all students were fully remote for the lecture and lab of CHM 111 due to the COVID-19 pandemic restrictions. Remote teaching methodologies included NOL, live synchronous remote, and live asynchronous remote learning. CHM 111 students were not offered in-person learning for this semester. The Fall 2021 assessment was given to a significant number of students that had returned to in-person modality. Specifically, of 722 students assessed, 441 (61%) were enrolled in in-person CHM 111 lecture sections, 110 (15%) were enrolled in Hybrid lecture sections, 54 (7%) were enrolled in NOL, and 117 (16%) were Dual Enrollment. All lab sections across the college were taught in-person on campus. Significant improvement across all SLO Criteria is attributed, in part, to the return to in-person instruction.

Faculty and campus participation has been a concern with past assessments. Several actions were taken to improve involvement in college-wide evaluations. To address this concern, the steering committee took a hands-on approach to reaching out to all full-time and adjunct faculty teaching CHM 111. The Chair sent multiple reminders of the assessment, with clear guidelines and expectations to both full-time and adjunct faculty through fellow steering committee members and associate deans, as well as the subject dean. The importance of collecting data and sharing the data with the steering committee was emphasized via multiple emails and individual campus MSTB/Chemistry meetings.

Recognizing the time and effort of faculty to administer and collect this data, the steering committee continued to use an updated the delivery method by providing a standardized quiz that was launched through Canvas to

Other Method (if used): No other method of assessment was used.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	7	136
AN	10	10	169
MA	5	5	78
LO	5	5	101
WO	7	7	67
NOL	3	3	54
Off-Site Dual Enrollment	8	8	117
Total	**45**	**45**	**722**

5. Scientific Literacy	0.847/1 (84.7%)	0.934/1 (93.4%)

Target Met: [✓] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results: [✓] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: The results of the Fall 2021 SLO assessment were compared with the same assessment administered in Fall 2020. Both Fall 2020 and Fall 2021 were assessed via a Canvas quiz for consistency. The target threshold of 80% (weighted average) of all students assessed was exceeded by a 13.4% margin for Fall 2021, compared with 11.6% in Fall 2020. Cumulatively, all students assessed showed a 1.8% improvement (from 91.6% to 93.4%, weighted) in identification of concepts and scientific literacy.

Modalities were further compared based on SIS course designations to include On Campus, NOL, and Hybrid course offerings. The Fall 2020 SOL was given during the COVID-19 pandemic, therefore there is no On Campus data with which to compare the Fall 2021 data. This modality will be pertinent to future comparisons. As a starting point, On Campus students scored 93.1% on this assessment.

The Fall 2020 Synchronous/Asynchronous/Hybrid (remote) category was compared with Hybrid-designated courses for the Fall 2021 assessment. An improvement of 1.2% was noted for non-NOL, remote learners (from 91.2% for Fall 2020 to 92.4% for Fall 2021).

NOL student data showed a weighted average of 93.3%, a decrease of 2% compared with Fall 2020.

Dual Enrollment students showed the most significant increase from 92.1% for Fall 2020 to 95.7% for Fall 2021 a 3.6% increase.

Areas where students met the target: All targets were met. In addition, improvement was demonstrated in all concepts in comparison with the Fall 2020 assessment of basic knowledge of the composition of an atom and use of the Periodic Table to determine the composition and identity of elements or ions, except for the NOL modality, all CHM 111 students by their respective course instructors. Scoring was simplified and unambiguous. An Excel spreadsheet with clear, updated explanations was provided to each faculty member to document their results. Mandatory participation in these assessments was stressed repeatedly to all faculty teaching CHM 111 by steering committee members and associate deans, as well as the subject dean. Response from faculty was very positive to this approach, which will be utilized again in future assessments.

2. Impact of changes on current results: Target number 4 refers to the impact of college-wide participation. As a result of the concerted effort to improve participation in these college-wide assessments, 100% (45/45) of all sections of CHM 111 submitted results for the Fall 2021 SOL assessment.

3. According to current results, areas needing improvement: While Fall 2021 showed significantly better participation, the goal is to continue to obtain 100% participation from all sections each semester.

Students showed a strong ability to memorize information, but less strength when asked to utilize the information. While overall improvement was demonstrated, interpretive skills and analysis remain the areas needing more improvement.

4. Based on current results, new actions to improve student learning: The data from Fall 2021 will be shared with all CHM 111 instructors collegewide, along with feedback from the steering committee to the faculty in time for next assessment. The need to continue to reinforce interpretive skills and analysis in CHEM 111 will be emphasized during Discipline meetings held in Fall 2023.

Questions on the SLO assessment that have demonstrated student mastery will be updated to be more challenging.

5. Next assessment of this SLO: SLO #4 will be administered again during the Fall 2023 semester to obtain comparative data.

	which showed an overall decrease in achievement while still exceeding the threshold. **Target 1. Overall average (weighted) and individual modality average is set to 80%** was met with all categories exceeding the target threshold of 80%. In addition, all targets exceeded Fall 2020 scores. Please refer to the "Narrative comparison of current results to previous results" above for the detailed analysis for Target number 1. **Target 2. Average score for each criterion is set to 80%** assessed the level of basic knowledge of atomic structure and ability to read and interpret the Periodic Table. Students in all categories exceeded the expectation of 80% proficiency. SLO Question numbers 1 and 2 addressed atomic structure and results exceeded the proposed threshold by 18.8% (compared with 18.5%, Fall 2020) and 19% (compared with 18.6%, Fall 2020), respectively. The weighted averages of 98.8% and 99%, respectively, indicate mastery in conceptual recognition. SLO Question numbers 3, 4, and 5 required the students to identify specific neutral elements or ions through the analysis of a set of parameters and interpretation of the Periodic Table. The expectations of 80% proficiency were again exceeded with improvements noted in all three categories. Question 3 responses exceeded the threshold by 16.1% compared with 13.1% (Fall 2020); Question 4 responses exceeded by 5.9% compared with 5.2% (Fall 2020); and Question 5 responses exceeded by 13.4% compared with 4.7% (Fall 2020). While there was significant improvement in Question 3 and 5 responses, Question 4 weighted average of 85.9% still indicates that students' conceptual recognition remains significantly better than their interpretive skills. **Target 3. 80% of the students to achieve a total score of 80% or more** was also met. Out of 722 students assessed, 685 (95%) obtained an average score of 80% or higher. **Target Number 4** is discussed in *Use of Results* section. **Areas where students did NOT meet the target:** N/A	

Science, A.S.

Student Learning Outcome 2: (AS Science SLO 1) Students will be able to use quantitative reasoning coupled with scientific knowledge to draw logical conclusions and make well-reasoned decisions.

Assessment Methods

Course Name/Number: College Physics 201

Direct Measure Used: All instructors turned in two exam grades per student that covered two main physics topics: dynamics and fluids.

SLO/Rubric Criteria or Question Concepts: Each instructor turned in grades for two exams per student: one that included dynamics questions and thus was at the beginning of the semester, and one that included fluids questions and thus was at the end of the semester.

Dynamics questions are based on only a few concepts but have multiple applications. These questions are used to measure students' abilities to analyze problems and find the correct steps needed to solve the problem.

Fluids problems are more conceptual questions that consist of more physical concepts. These types of problems are used to measure the students' abilities to identify different concepts within a section of physics.

Both dynamics and fluids involve problem solving, and so both exams were included in that evaluation.

The attached rubric was used to analyze the grade data given by the instructors.

	0	1	2
Identify Concepts	Fluids <60	Fluids 60 - 80	Fluids >80
Analysis	Dynamics <60	Dynamics 60 - 80	Dynamics
Problem Solving	Fluids+ Dynamics <60	Fluids+ Dynamics 60-80	Fluids+Dy

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed

Assessment Results

Semester/year data collected: Fall 2021

Target: 50% of the students should reach a score of (2/2) on each criterion in the rubric. The score of "2" is the highest ranked score for each criterion. Students with a score of 2 showed to be proficient with using scientific knowledge to problem solve.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

****There was no separation of on-campus vs hybrid/remote classes in data collection. ****

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed	43.75	N/A
On-campus/ Synchronous remote	32.75	N/A
NOVA Online	58.82	N/A
Dual Enrollment	53.29	N/A

Results by SLO Criteria:

In the following table, the numbers indicate the percentage of students that scored a perfect score of 2/2 on each criterion.

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Identify Concepts	56.6	N/A
2. Analysis	53.47	N/A
3. Problem Solving	54.17	N/A

Target Met: [ ] Yes [ ] No [X] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results:

Use of Results

1. Changes put in place since previous assessment to improve student learning and assessment:
This SLO has not been evaluated for physics before. A similar assessment was done in Fall 2015 and 2016 to evaluate how well "Students will be able to use mathematical reasoning to draw logical conclusions and make well-reasoned decisions (from APERs 2015 and 2016)." This SLO was evaluated using only a single thermodynamics problem to evaluate all aspects of problem solving.

2. Impact of changes on current results:
Changing from a single question to a full exam grade of similarly asked questions increases the uncertainties within the evaluations. This could in part cause the drop in results. We will need to compare again in Spring 2023 when we next assess this SLO.

3. According to current results, areas needing improvement:
In-person and Synchronous remote courses need to be evaluated separately in the next assessment of this SLO. Both modalities also need to increase the proficiency of students overall in using scientific knowledge to problem solve.

4. Based on current results, new actions to improve student learning:
The Physics Discipline will discuss having a set bank of questions for each exam to be evaluated, beginning Spring 2023. This will reduce the uncertainties and variables between instructors that could be seen in different exam levels and questions. The modalities of in person and synchronous remote will also need to be separated to be assessed fully.

5. Next assessment of this SLO:
Spring 2023.

AL	1	0	0
AN	2	2	21
MA	1	1	26
LO	2	2	43
WO	2	2	26
NOVA Online	1	1	20
Off-Site Dual Enrollment	9	9	152
Total	**18**	**17**	**288**

This is the first semester using this modality of evaluation for this SLO.

Areas where students met the target:

Overall, over 50% of students have shown proficiency in each criterion individually. Over 50% off Online and Dual enrollment students have shown overall proficiency in using scientific knowledge to problem solve.

Areas where students did NOT meet the target:

While over 50% of students were proficient in each individual criterion, most students were not proficient in all three criteria in the rubric. This is especially clear in the in-person and synchronous remote classes, that we were unable to separate in this data.

Student Learning Outcome 3 (AS Science SLO 2) Applying the scientific method, students will evaluate local, national, and/or global environmental issues

Assessment Methods

Course Name/Number: General Environmental Science I and II (ENV 121 and 122)

Direct Measure Used: Students were assessed by taking a five question quiz after watching a video about a bee foraging study.

SLO/Rubric Criteria or Question Concepts: 1. identify hypothesis; 2. independent v. dependent variable; 3. analyze graphical results; 4. explain experimental design; 5. identify research applications

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	2	39
AN	8	4	70
LO	9	2	36
WO	2	0	0
NOVA Online	2	0	0
Off-Site Dual Enrollment	11	6	113
Total	**40**	**14**	**258**

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will earn an average of 70% on the quiz.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	83.18%	77.80%
On-campus average	69.44%	N/A
Synchronous hybrid (remote) average	78.35%	77.80%
Dual Enrollment average	92.21%	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year Spring 2021
4. Identify hypothesis	75.19%	59.7%
5. Independent v. dependent variable	87.60%	79.6%

Use of Results

1. Changes put in place since previous assessment to improve student learning and assessment: Since the last semester this SLO was assessed (Spring 2021), we found that students did not meet the target for the SLO Criteria, "Identify hypothesis", we gave faculty a short video resource reminding students of the scientific method. Faculty has the option of showing this to their class before the assessment.

2. Impact of changes on current results: Though students still struggled the most on the "Identify hypothesis" SLO Criteria, their score improved (75.19% average score) when compared to the Spring 2021 assessment (59.7%).

3. According to current results, areas needing improvement: Students barely missed the target of a score of at least 70% in the on-campus courses. However, only two on-campus courses were assessed, and both were at the same campus. Due to low sample size, it is unlikely that missing the target is *because* the courses are taught on campus.

4. Based on current results, new actions to improve student learning: Since the Dual Enrollment students performed better than NOVA students, the Discipline Chair will ask the DE teachers what they do to prepare their students for this assessment.

6. Analyze graphical results	96.51%	92.9%
7. Explain experimental design	91.86%	91.5%
8. Identify research applications	94.57%	79.6%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results: Students improved in all concepts.

[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: This semester's results were better than the last time we did this assessment for all concepts. Most importantly, students did not meet the target for concept #1 (Identify hypothesis) last time, but did this time.

Areas where students met the target: Students met all of the targets.

Areas where students did NOT meet the target: Students met all of the targets.

5. Next assessment of this SLO: Fall 2022

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication

Operationalized Definition: Student will analyze their everyday behavior in the context of pressing environmental concerns at the local, national, and/or environmental level.

Assessment Methods

Course Name/Number: General Environmental Science I and II (ENV 121 and 122)

Direct Measure Used: Students calculated their ecological footprint using an online tool. Students answered questions to assess how well they understood their results.

CLO/Rubric Criteria or Question Concepts: 1. Meaning of Earth Overshoot Day (EOD). 2. Relationship between EOD and natural resource use. 3. How to reduce carbon footprint. 4. How to reduce food footprint. 5. Biocapacity creditors v. debtors. 6. Trends in biocapacity and footprint for USA. 7. Ways to reduce personal footprint.

Other Method (if used):

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will earn an average of 70% on the quiz.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Results 2017-2018*
All students assessed (weighted average)	89.78	N/A
On-campus average	88.75	N/A
Synchronous hybrid (remote) average	87.18	N/A
NOVA Online average	81.25	N/A
Dual Enrollment average	92.45	N/A

*Even if you used a different method/class/etc. Please include the assessment results from your 2017-2018 results and discuss

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is Environmental Science's first time assessing this CLO. The Discipline Chair wrote this assessment after receiving input from several ENV faculty members who had done a personal ecological footprint analysis with their students in the past. The Discipline Chair shared the assessment and allowed editing by ENV faculty. Students learn about the ecological footprint in both ENV 121 and 122.

2. Impact of changes on current results: This is Environmental Science's first time assessing this CLO.

3. According to current results, areas needing improvement: There was low participation by NOVA faculty in assessing this CLO despite the Discipline Chair emailing faculty, discussing it at meetings, and providing the assessment in Canvas.

Science, A.S.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	3	53
AN	8	0	0
MA	6	1	10
ME	0	0	0
LO	7	1	20
WO	1	0	0
NOVA Online	4	1	8
Off-Site Dual Enrollment	11	6	101
Total	**43**	**12**	**192**

:

them below. If you assessed the same CLO as you did in 2017-2018.

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by CLO Criteria/ Question Concepts	Current Results Semester Year	Results 2017-2018
1. Meaning of Earth Overshoot Day (EOD)	91.19	N/A
2. Relationship between EOD and natural resource use	80.83	N/A
3. How to reduce carbon footprint	80.83	N/A
4. How to reduce food footprint	94.82	N/A
5. Biocapacity creditors v. debtors	94.82	N/A
6. Trends in biocapacity and footprint for USA	79.79	N/A
7. Ways to reduce personal footprint	98.19	N/A

Target Met: [X] Yes [ ] No [ ] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: This is our first time assessing this CLO.

Areas where students met the target: Students met the target in all areas.

Areas where students did NOT meet the target: Students met the target in all areas.

4. Based on current results, new actions to improve student learning: Students met all targets. They earned the lowest score on concept #6 (Trends in biocapacity and footprint for USA). This concept requires students to interpret either a table or a graph. More emphasis on reading data should occur in classrooms in the future.

5. Next assessment of this CLO: Fall 2023

Program Goal on Graduation: Maintain or increase numbers of AS Science Graduates.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html	**Target:** Maintain or increase numbers of AS Science Graduates. **Results for Past 5 Academic Years:**	**1. Changes put in place since previous assessment to improve graduation results:** AS Biology was started in Spring 2021. This program drew students away from AS Science who could better connect with that major.

Science, A.S.

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	278	-14.7
2020-21	326	14.0
2019-20	286	-6.5
2018-19	306	-3.2
2017-18	316	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: AS Biology was introduced, and so students who were program placed in AS Science but could be more appropriately placed into AS BIO were more appropriately placed into AS BIO, reducing students in AS Science.

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? YES

Please explain: 278 graduates is higher than the required 17 by the VCCS.

Also, students are now able to self-place into MTH 161 and ENG 111.

2. Impact of changes on current results: AS Biology siphoned students from the AS Science program, reducing the AS Science numbers. In addition, students enrolled in ENG 111 and MTH 161 are having trouble passing these courses. This challenge could deleteriously impact graduation rates. While allowing direct enrollment prevents students from cycling through developmental classes prior to taking college-level classes and effectively holding these students back, not succeeding at basic courses like ENG 111 and MTH 161 negatively impacts graduation and student success.

3. According to current results, areas needing improvement: Graduation rates

4. Based on the results, new actions to improve graduation/productivity results: Suggest a Navigate campaign to reach out to students to register to increase Fall to Spring retention. Suggest starting conversations with Deans, Associate Deans, and faculty on ways to shore up success in gate-keeper classes like ENG 11 and MTH 161. These discussions can start at January 2023 discipline group meetings. Also, for Spring 2023, suggest a Navigate campaign to remind students who are approaching graduation to sign up by the deadline.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Maintain current levels of AS Science enrollments

Assessment Method

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18

Assessment Results

Target: Maintain current number of program-placed students

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	1,867	-23.8
2020-21	2,449	-8.1
2019-20	2,664	-10.8
2018-19	2,987	-3.1
2017-18	3,083	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:

Use of Results

1. Changes put in place since previous assessment to improve program placement results: The academic Pathway for AS Science was combined with Life Sciences. A new Pathway Council is being formed and no faculty lead for this assessment has been identified yet. No changes were made to the program curriculum except now there is a competing degree of AS BIO that may help students who are prospective BIO majors better achieve their academic goals without losing credits. This would reduce the number of students program placed in AS Science. Another change is students are now able to self-place into Math courses, helping them get on track for college level course work without having to test-in which might be deleterious for some students who don't test well. Another change that could be impacting program placement is the loss of New

A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Numbers of program placed students declined from the previous year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	1,279.1	-24.7
2020-21	1,697.8	-9.3
2019-20	1,871.7	-11.6
2018-19	2,117.1	-3.1
2017-18	2,185.9	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column? YES

Please explain: 1,279 FTES are program placed in AS Science. This exceeds the VCCS requirement of 24 FTES.

Student Orientation that directed students into appropriate majors.

2. Impact of changes on current results: Loss of New Student Orientation likely reduced the numbers of students correctly program placed because students are self-placing based on their application with no guidance that they would get at the Orientation. Regarding self-placement, it may initially inflate student numbers in a program due to self-placement into gate-keeper courses like ENG 111 and MTH 161. Students who self-place may not do so accurately. Students can self-report their high school courses, opening the door for students to try to rush to the highest level of placement possible to try to quickly complete the degree. This could lead to students struggling in courses that are essential for the degree and the building blocks of future courses and failing or not re-enrolling due to struggles with courses.

3. According to current results, areas needing improvement: Increased numbers of students in program through concerted advising campaign deployed through Navigate.

4. Based on the results, new actions to improve program placement/productivity: It would really help to have new student orientation that could direct students into the right major and program. Navigate campaign will be deployed to encourage fall to spring student retention.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Science: Mathematics Specialization, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement The curriculum is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree. This curriculum is designed to prepare students to major in one of the following fields: mathematics, mathematics education, statistics, operations research, applied mathematics, or computer science.

Student Learning Outcome 1: Use technology to solve problems (SLO 9)

Assessment Methods

Course Name/Number: MTH 154 Quantitative Reasoning

Direct Measure Used:
NOL sections: homework problem (assignment 4D #15) all other sections: common exercise to be given on a homework, quiz or exam. Specific exercise and grading rubric shared with faculty.

SLO/Rubric Criteria or Question Concepts:
(a) used technology to calculate interest correctly
(b) used technology to calculate new balance correctly

For each part:
1 = correct
0 = incorrect
<blank>: assessment not taken or exercise left blank
no partial credit

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	18	7	92
AN	31	9	130
MA	22	17	243
LO	19	5	205
WO	13	1	35
NOVA Online	20	6	99
Off-Site Dual Enrollment	4	0	0
Total	127	45	804

Assessment Results

Semester/year data collected: Fall 2021

Target: Average of 60%. (Setting baseline; first collection of data for this SLO for this course.)

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results not collected
All students assessed average	74.9%	NA
On-campus average	72.0%	NA
Synchronous (remote) average	80.1%	NA
NOVA Online average	68.7%	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results not collected
1. used technology to calculate interest correctly	74.9%	NA
2. used technology to calculate new balance correctly	60.4%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: NA

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time that this SLO has been assessed in MTH 154. This is a relatively new course, offered for the first time at NOVA in Fall 2018.

2. Impact of changes on current results: NA

3. According to current results, areas needing improvement: The data reveals that students were more able to use technology to calculate interest (average score of 74.9%) than they were able to use technology to calculate a new balance (60.4%). However, it is unclear if the students were not as successful on the second concept because they were unable to use technology, or because they did not know how to calculate the new balance. The MTH 154 course workgroup may want to revisit how this SLO is assessed prior to the next assessment. Data collection continues to be a challenge. Despite providing instructions, data is not provided from all sections. Further, formatting issues with SIS and excel contribute to lack of accurate data collection. There were 148 instances out of the 804 data points collected, that the student was reported to have earned a score of 0 on both concepts. This may or may not be accurate, i.e., a score of 0 (instead of a blank) may have been reported for students who did not take the assessment. The math discipline steering committee is taking suggestions from the math faculty in the fall 2022 semester to improve data collection for the spring 2023 semester.

4. Based on current results, new actions to improve student learning: SLO results will be shared with the MTH 154 workgroup to determine what (if any) steps should be taken to improve results. Collection of SLO data remains problematic. Instructors are encouraged to assess the SLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become

	Areas where students met the target: Students met target overall, and for both concepts. For students who met concept (a) with a score of 1, the average score on concept (b) is 71.8%. Out of the 602 students who met concept (a) with a score of 1, 432 met concept (b) with a score of 1, and 170 earned a score of 0 on concept (b). Out of the 202 students who did not meet concept (a) (scored a 0), the average score on concept (b) is 26.7%, with 148 meeting concept (b) (a score of 1) and 54 not meeting concept (b) (a score of 0). **Areas where students did NOT meet the target:** NA	increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards. **5. Next assessment of this SLO:** Fall 2024

Student Learning Outcome 2: Choose an appropriate method to solve problems. (SLO 1)

Assessment Methods	Assessment Results	Use of Results
Course Name/Number: MTH 161 Precalculus I **Direct Measure Used**: Question #1: Solve a system of 2 linear equations with fraction coefficients using any algebraic method. (Used SLO 163 – 1 – 3 from math SLO bank.) Not included in NOL sections. Question #2: Solve a logarithmic equation (requiring use of combining logarithmic terms). (Used SLO 163 – 1 – 4 from math SLO bank.) Part of NOL assessments. Faculty encouraged to pose the exercises as open ended problems on a proctored assessment and were provided with examples and a grading key. **SLO/Rubric Criteria or Question Concepts:** Question #1 (a) Attempted to use an algebraic method to solve. (b) Solved correctly for x. (c) Solved correctly for y. Question #2 (a) rewrite as a single logarithm (b) rewrite in exponential form (c) solve proportion For each part: 1 = correct 0 = incorrect <blank>: assessment not taken or exercise left blank no partial credit	**Semester/year data collected: Spring 2022** **Question #1:** **Target: Average score greater than 38%.** **Results by Modality:** Overall Average/Mean Scores | Results by Modality	Current Results Semester Year	Previous Results Spring 2015
All students assessed (weighted average)	49.5%	38%
On-campus average	47.3%	NA
Synchronous (remote) average	51.2%	NA | **Results by SLO Criteria:** [X] Average/Mean Score per criteria [ ] Percent of Students > target per criteria | Results by SLO Criteria/ Question Concepts	Current Results Semester Year
---	---
1. #1(a)	69.0%
2. #1(b)	40.0%
3. #1(c)	39.3% | **Target Met:** [X] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Question #2:** **Target: Average score greater than 39%.**	**1. Changes put in place since previous assessment to improve student learning:** Since the data was last collected (Spring 2015), the MTH 161 course has undergone a curriculum review at the system level, with the most significant change including the removal of prerequisite topics. In addition, placement standards have changed, which allow more students to take MTH 161 or MTH 161 paired with a co-requisite MDE 61 course. The data is not disaggregated by sections that are paired with the co-requisite MDE course. In Fall 2018, the Math discipline was unable to come to an agreement on a common textbook for precalculus, with 4 campuses and NOL using one resource, and another campus using another resource. Some sections use OER, regardless of campus. The data is not disaggregated by course resource (text). **2. Impact of changes on current results:** It is not possible to determine if the changes made have had an impact on the results of this SLO. **3. According to current results, areas needing improvement:** It appears that students were able to identify an appropriate method to solve a problem, which was directly assessed through Concept #1(a). Concepts #1(b) and #1(c) assess the application of the method selected. Collection of SLO data remains problematic. Instructors are encouraged to assess the SLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards.

Science: Mathematics Specialization, A.S.

Other Method (if used):

Sample: *Question #1 (Q1) and Question #2 (Q2)*

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed Q1/Q2
AL	17	8	124/126
AN	19	13	151/161
MA	10	2	39/39
ME	0	0	0
LO	14	4	68/73
WO	10	2	35/35
NOVA Online	9	0	0/29
Off-Site Dual Enrollment	0	NA	NA
Total	79		417/463

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2015
All students assessed (weighted average)	58.4%	39%
On-campus average	48.6%	NA
Synchronous (remote) average	67.33%	NA
NOVA Online average	75.9%	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results (NA)
1. #2(a)	69.5%	NA
2. #2(b)	54.4%	NA
3. #2(c)	51.2%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
This SLO was last assessed in Precalculus I in Spring 2015 (it was called MTH 163 at that point). For Question #1, the average score was a 38% in 2015. The overall average is 69.0%. For Question #2, the average score was 39% in 2015. The overall average for spring 2022 is 58.4%. For each of the questions, instructors in spring 2015 gave a score of 0 – 5, awarding credit for various concepts, but not reporting the data per concept. Therefore, it was difficult to determine which concepts were a challenge. Further, data was not disaggregated by modality, so that comparison is not possible. However, the overall average has improved for both questions from spring 2015 to spring 2022.

Areas where students met the target: Students met the target in all modalities: overall average, in-person, remote synchronous, and NOVA Online. Similarly, students met the target in all concepts for each question.

Areas where students did NOT meet the target: NA

4. Based on current results, new actions to improve student learning: SLO results will be presented to the pre-calculus workgroup in spring 2023 to determine what steps (if any) can be taken to improve results. To collect data in a more consistent way, faculty will be presented with a few options at the January 2023 discipline meeting.

5. Next assessment of this SLO:
Spring 2025

Science: Mathematics Specialization, A.S.

Student Learning Outcome 3: Solve Applied Problems (SLO 2)

Assessment Methods

Course Name/Number: MTH 263 Calculus I

Direct Measure Used:
Application problem given speed of cars. Asked to determine distance between cars at a certain point. Used question 173 – 2 – 2 from math SLO bank of questions.

Faculty asked to pose exercise as an open-ended question on a proctored assessment.

This question is included in NOL assessments.

SLO/Rubric Criteria or Question Concepts:
(a) Recognize use of Pythagorean Theorem
(b) Find z
(c) Take derivative.
(d) Solve for z' in terms of other variables.
(e) Solve for z'.

For each part:
1 = correct
0 = incorrect
<blank>: assessment not taken, or exercise left blank
no partial credit

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	3	76
AN	6	4	101
MA	7	6	131
LO	6	1	4
WO	3	1	27
NOVA Online	8	2	11
Off-Site Dual Enrollment	0	0	0
Total	37	17	362

Assessment Results

Semester/year data collected: Spring 2022

Target: Average score greater than 31%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Spring 2016
All students assessed (weighted average)	64.74% (3.237 out of 5)	31%
On-campus average	60.72% (3.036 out of 5)	NA
Synchronous hybrid (remote) average	65% (3.25 out of 5)	NA
NOVA Online average	79.32% (3.966 out of 5)	NA
Dual Enrollment average	NA	NA

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results (NA)
1. (a) recognize use of Pythagorean Theorem	83.27%	NA
2. (b) find z	69.72%	NA
3. (c) take derivative	65.34%	NA
4. (d) solve for z' in terms of other variables	55.78%	NA
5. (e) solve for z'	52.19%	NA

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
This SLO was last assessed in Calculus I in Spring 2016 (it was called MTH 173 at that point). The average score was a 31%. Instructors gave a score of 0 – 5, awarding credit for various concepts, but not reporting the data per concept. Therefore, it was difficult to determine which concepts were a challenge. Further, this SLO data was

Use of Results

1. Changes put in place since previous assessment to improve student learning: Since this SLO was last assessed, there have been significant changes to the mathematics discipline. System-wide, Calculus I (formerly MTH 173, now MTH 263) was reduced from 5-credits to 4-credits, which means that student receive one fewer academic hours of instruction per week (in a traditional 15-week session). Further, placement standards have changed, due to direct enrollment, which likely allows more students to enroll in Calculus I in Spring 2022 than were permitted to in Spring 2016. A consistent textbook for Calculus I has been implemented after Spring 2016. The NOL Calculus I course has been redesigned for improved assessments since that time. In addition, SLO questions have been embedded in the assessments in the NOL Calculus I courses to aid in the collection of data from these sections. No particular college-wide changes were made to improve the results of this SLO.

2. Impact of changes on current results: It is not possible to determine if the changes made have had an impact on the results of this SLO.

3. According to current results, areas needing improvement: According to the results, students are more able to apply processes that involve algebraic skills (concepts (a) and (b)) and introductory calculus skills (concept (c)), but are less able to complete more complex parts of the question (concepts (d) and (e)). These concepts are based in algebraic skills. Collection of SLO data remains problematic. Instructors are encouraged to assess the SLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards.

4. Based on current results, new actions to improve student learning: SLO results will be presented to the calculus workgroup in spring 2023 to determine what steps (if any) can be taken to improve results, particularly for concepts (d) and (e). To collect data in a more

not disaggregated by modality in Spring 2016, so no comparison can be made.

Areas where students met the target:
Student met the target (average score greater than 31%) overall, and for each particular concept.

Areas where students did NOT meet the target: NA

consistent way, faculty will be presented with a few options at the January 2023 discipline meeting.

5. Next assessment of this SLO:
This SLO is scheduled to be assessed again in Spring 2025.

Student Learning Outcome 4: Solve Applied Problems (SLO 2)

Assessment Methods

Course Name/Number: MTH 264 Calculus II

Direct Measure Used:
Students presented with an open-ended question. Includes a labeled diagram of a tank of water. Need to determine the work required to pump water through an opening at the top of the tank given the dimensions of the tank and the weight-density of water. This question is included in NOL assessments. This is question 174 – 2 – 1 from the bank of math SLO questions.

SLO/Rubric Criteria or Question Concepts:
(a) set up integral correctly
(b) calculate integral correctly
(c) state correct units

For each part:
1 = correct
0 = incorrect
<blank>: assessment not taken, or exercise left blank
no partial credit

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	2	28
AN	3	2	20
MA	7	4	62
LO	4	2	30
WO	1	1	20
NOVA Online	4	1	33
Off-Site Dual Enrollment	2	0	0
Total	27	12	193

Assessment Results

Semester/year data collected: Spring 2022

Target: Average score greater than 75%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results Spring 2016
All students assessed (weighted average)	1.80/3 = 59.97%	75%
On-campus average	1.46/3 = 48.6%	NA
Synchronous (remote) average	1.92/3 = 63.9%	NA
NOVA Online average	2.10/3 = 69.9%	NA
Dual Enrollment average	-	NA

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results (NA)
(a) set up integral correctly	63.23%	NA
(b) calculate integral correctly	72.79%	NA
(c) state correct units	47.79%	NA

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes X[ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
This SLO was last assessed in Calculus I in Spring 2016 (it was called MTH 174 at that point). The average score was a 75%. Instructors gave a score of 0 – 5, awarding

Use of Results

1. Changes put in place since previous assessment to improve student learning: Since this SLO was last assessed, there have been significant changes to the mathematics discipline. System-wide, Calculus I (formerly MTH 174, now MTH 264) was reduced from 5-credits to 4-credits, which means that student receive one fewer academic hours of instruction per week (in a traditional 15-week session). Further, placement standards have changed, due to direct enrollment, which likely allows more students to enroll in Calculus II in Spring 2022 than were permitted to in Spring 2016. A consistent textbook for Calculus II has been implemented after Spring 2016. The NOL Calculus II course has been redesigned for improved assessments since that time. In addition, SLO questions have been embedded in the assessments in the NOL Calculus II courses to aid in the collection of data from these sections. No particular college-wide changes were made to improve the results of this SLO

2. Impact of changes on current results: It is not possible to determine if the changes made have had an impact on the results of this SLO.

3. According to current results, areas needing improvement: Collection of SLO data remains problematic. Instructors are encouraged to assess the SLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards.

4. Based on current results, new actions to improve student learning: SLO results will be presented to the calculus workgroup in spring 2023 to determine what steps (if any) can be taken to improve results, particularly

<table>
<tr><td></td><td>credit for various concepts, but not reporting the data per concept. Therefore, it was difficult to determine which concepts were a challenge. Further, this SLO data was not disaggregated by modality in Spring 2016, so no comparison can be made.

Areas where students met the target: NA

Areas where students did NOT meet the target:
Students did not meet the target overall, or for any particular concept.
Students scored highest on concept (b), calculating the integral. Note that instructors gave students credit for solving the integral correctly, even if the integral was not set up correctly (this was assessed in concept (a).
Students scored lowest on the concept related to stating the correct units.</td><td>for concept (c). To collect data in a more consistent way, faculty will be presented with a few options at the January 2023 discipline meeting.

5. Next assessment of this SLO: This SLO is scheduled to be assessed again in Spring 2025.</td></tr>
<tr><td colspan="3">Student Learning Outcome 5: Communicate mathematical concepts (SLO 5)</td></tr>
<tr><td>Assessment Methods</td><td>Assessment Results</td><td>Use of Results</td></tr>
<tr><td>Course Name/Number: MTH 263 Calculus I

Direct Measure Used:
Common exercises shared with faculty to assess this SLO. Faculty encouraged to assess on a proctored assessment.

Question #1: Used question 173-5-1 from bank of math SLO questions.
(all parts not assessed completely in NOL sections; only parts a and b assessed)
Given a graph of y = f(x), asked a series of questions.

Question #2: Used question 173-5-2 from bank of math SLO questions. Application problem referring to the Mean Value Theorem.
NOL sections: Module 2, Exam 1, Question 9

SLO/Rubric Criteria or Question Concepts:
Question #1: (not assessed in NOL sections)
(a) interval(s) where first derivative positive and second derivative negative
(b) interval where slowing down up
(c) interval where speeding up
(d) maximum velocity
(e) explanation

Question #2:</td><td>Semester/year data collected: Fall 2021

Question #1:

Target: Average score greater than 43%.

Results by Modality: Overall Average/Mean Scores
<table><tr><th>Results by Modality</th><th>Current Results Fall 2021</th><th>Previous Results Spring 2016</th></tr><tr><td>All students assessed *(weighted average)</td><td>2.33/5 = 46.6%</td><td>43%</td></tr><tr><td>On-campus average</td><td>2.43/5 = 48.6%</td><td>NA</td></tr><tr><td>Synchronous (remote) average</td><td>2.145/5 = 42.9%</td><td>NA</td></tr><tr><td>NOVA Online average*</td><td>1.26/2 = 62.9%</td><td>NA</td></tr><tr><td>Dual Enrollment average</td><td>-</td><td>NA</td></tr></table>*NOL sections were only assessed on concepts (a) and (b) and were therefore not included in the “all students” calculation

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria
<table><tr><th>Results by SLO Criteria/ Question Concepts</th><th>Current Results Fall 2021</th><th>Previous Results (NA)</th></tr><tr><td>1. #1(a)</td><td>58.87%</td><td>NA</td></tr><tr><td>2. #1(b)</td><td>46.75%</td><td>NA</td></tr></table></td><td>1. Changes put in place since previous assessment to improve student learning: Since this SLO was last assessed, there have been significant changes to the mathematics discipline. System-wide, Calculus I (formerly MTH 173, now MTH 263) was reduced from 5-credits to 4-credits, which means that student receive one fewer academic hours of instruction per week (in a traditional 15-week session). Further, placement standards have changed, due to direct enrollment, which likely allows more students to enroll in Calculus I in Spring 2022 than were permitted to in Spring 2016. A consistent textbook for Calculus I has been implemented after Spring 2016. The NOL Calculus I course has been redesigned for improved assessments since that time. In addition, SLO questions have been embedded in the assessments in the NOL Calculus I courses to aid in the collection of data from these sections. No particular college-wide changes were made to improve the results of this SLO.

2. Impact of changes on current results: It is not possible to determine if the changes made have had an impact on the results of this SLO.

3. According to current results, areas needing improvement: According to these results, students exceeded the target for Question #1 (average score of 43%) for all modalities except synchronous remote,</td></tr>
</table>

Science: Mathematics Specialization, A.S.

(a) Correct rate of change
(b) Correct assumptions
(c) Correct conclusion

For each part:
1 = correct
0 = incorrect
<blank>: assessment not taken or exercise left blank
no partial credit

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	3	70
AN	8	4	76
MA	4	3	53
LO	5	4	77
WO	2	2	41
NOVA Online	7	3	79
Off-Site Dual Enrollment	7	0	0
Total	40	19	396

3. #1(c)	40.28%	NA
4. #1(d)	49.28%	NA
5. #1(e)	44.17%	NA

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Overall, students scored slightly higher on this question (46.6% compared to 43%). One concept (interval where speeding up) was the only concept that scored lower than 43%.

Question #2:

Target: Average score greater than 62%.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2016
All students assessed (weighted average)	51%	62%
On-campus average	49.3%	NA
Synchronous (remote) average	58%	NA
NOVA Online average	36%	NA
Dual Enrollment average	-	NA

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results NA
1. #2(a)	62.21%	NA
2. #2(b)	49.28%	NA
3. #2(c)	51.63%	NA

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

which scored 42.9%. It is not clear why this modality scored lowest. NOL sections scored significantly higher, but the question was not completely assessed. For Question #2, synchronous (remote) sections scored higher than other modalities, while NOL scored lowest. Analysis of data by concept indicates that students were more able to conduct processes (Question #1, concept (a) and Question #2, concept (a)) than they were able to communicate mathematical concepts (Question #1 concept (e) and Question #2, concept (c)). It is unclear why students were more successful on Concept 1(b) than they were on Concept 1(c), since the problem-solving processes are very similar. Collection of SLO data remains problematic. Instructors are encouraged to assess the SLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards.

4. Based on current results, new actions to improve student learning: SLO results will be presented to the calculus workgroup in spring 2023 to determine what steps (if any) can be taken to improve results, particularly for concepts (d) and (e). To collect data in a more consistent way, faculty will be presented with a few options at the January 2023 discipline meeting.

5. Next assessment of this SLO: This SLO is scheduled to be assessed again in Fall 2024.

	Narrative comparison of current results to previous results: This SLO was last assessed in Calculus I in Spring 2016 (it was called MTH 173 at that point). For Question #1, the average score was 43%. For Question #2, the average score was 62%. For each of the questions, instructors gave a score of 0 – 5, awarding credit for various concepts, but not reporting the data per concept. Therefore, it was difficult to determine which concepts were a challenge. Further, this SLO data was not disaggregated by modality in Spring 2016, so no comparison can be made. Overall, students did not reach the target for Question #2, with all students scoring an average of 51% (an average of 0.51 out of 1), compared to the previous results of 62%. The average score for concept #2(a) was slightly greater than the target (62.21% compared to the target of 62%). However, this SLO is focused on communicating mathematical concepts and the students did not meet the target of 62% for the concepts more directly related to this (concept #2(b) and concept #2(c)). **Areas where students met the target:** Students met the target for question #1, in nearly all concepts (exception is concept 1(c)). This SLO measures communication of mathematical concepts, so the focus is on Question #1 Concept (e): the score of 44.17% on this concept exceeded the target of 43%. **Areas where students did NOT meet the target:** The target score of 43% was not met on Question #1 concept (c), which is interesting. Students met the target for the closely related concept (b). It is not clear why there would be such a difference between the scores for concepts 1(b) and 1(c).	
Core Learning Outcome: [ ] Civic Engagement [X] Written Communication Operationalized Definition: [Operationalize your CLO here] Communicate mathematical concepts (SLO 5)		
Assessment Methods	**Assessment Results**	**Use of Results**
Course Name/Number: MTH 263 Calculus I **Direct Measure Used**: Common exercises shared with faculty to assess this SLO. The faculty encouraged to assess on a proctored assessment. Question: Used question 173-5-1 from bank of math SLO questions.	**Semester/year data collected: Fall 2021** **Question #1:** **Target: Average score greater than 43%.** **Results by Modality:** Overall Average/Mean Scores **Results by Modality** | **Current Results Fall 2021** | **Previous Results Spring 2016**	**1. Changes put in place since previous assessment to improve student learning:** Since this SLO was last assessed, there have been significant changes to the mathematics discipline. System-wide, Calculus I (formerly MTH 173, now MTH 263) was reduced from 5-credits to 4-credits, which means that student receive one fewer academic hours of instruction per week (in a traditional 15-week session). Further, placement standards have changed, due to direct enrollment, which likely allows more students to

Science: Mathematics Specialization, A.S.

(all parts not assessed completely in NOL sections; only parts a and b assessed)
Given a graph of y = f(x), asked a series of questions.

SLO/Rubric Criteria or Question Concepts:
Question #1: (not assessed in NOL sections)
(a) interval(s) where first derivative positive and second derivative negative
(b) interval where slowing down up
(c) interval where speeding up
(d) maximum velocity
(e) explanation

For each part:
1 = correct
0 = incorrect
<blank>: assessment not taken or exercise left blank
no partial credit

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	7	3	70
AN	8	4	76
MA	4	3	53
ME	0	0	0
LO	5	4	77
WO	2	2	41
NOVA Online	7	3	79
Off-Site Dual Enrollment	7	0	0
Total	40	19	396

All students assessed *(weighted average)	2.33/5 = 46.6%	43%
On-campus average	2.43/5 = 48.6%	NA
Synchronous (remote) average	2.145/5 = 42.9%	NA
NOVA Online average*	1.26/2 = 62.9%	NA
Dual Enrollment average	-	NA

*NOL sections were only assessed on concepts (a) and (b) and were therefore not included in the "all students" calculation

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results (NA)
1. #1(a)	58.87%	NA
2. #1(b)	46.75%	NA
3. #1(c)	40.28%	NA
4. #1(d)	49.28%	NA
5. #1(e)	44.17%	NA

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Overall, students scored slightly higher on this question (46.6% compared to 43%). One concept (interval where speeding up) was the only concept that scored lower than 43%.

Target Met: [ ] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: This CLO was last assessed in Calculus I in Spring 2016 (it was called MTH 173 at that point), although the focus was not on written communication, but the concept of communication of mathematical concepts in a general sense. For Question #1, the average score was 43%. Instructors gave a score of 0 – 5, awarding credit for various concepts, but not reporting the data per concept. Therefore, it was difficult to determine which concepts were a challenge. Further, this enroll in Calculus I in Spring 2022 than were permitted to in Spring 2016. A consistent textbook for Calculus I has been implemented after Spring 2016. The NOL Calculus I course has been redesigned for improved assessments since that time. In addition, SLO questions have been embedded in the assessments in the NOL Calculus I courses to aid in the collection of data from these sections. No particular college-wide changes were made to improve the results of this SLO.

2. Impact of changes on current results:
It is not possible to determine if the changes made have had an impact on the results of this SLO.

3. According to current results, areas needing improvement: According to these results, students exceeded the target (average score of 43%) for all modalities except synchronous remote, which scored 42.9%. It is not clear why this modality scored lowest. NOL sections scored significantly higher, but the question was not completely assessed. Analysis of data by concept indicates that students were more able to conduct processes (concept (a)) than they were able to communicate mathematical concepts (concept (e)). It is unclear why students were more successful on Concept 1(b) than they were on Concept 1(c), since the problem-solving processes are very similar. Collection of CLO data remains problematic. Instructors are encouraged to assess the CLO using a proctored assessment, but it is not clear if all instructors do that. Further, it has become increasingly more difficult to proctor remote assessments, due to the proliferation of tools that make it easier for students to violate academic integrity standards.

4. Based on current results, new actions to improve student learning:
CLO results will be presented to the calculus workgroup in spring 2023 to determine what steps (if any) can be taken to improve results, particularly to determine if written communication can be improved. To collect data in a more consistent way, faculty will be presented with a few options at the January 2023 discipline meeting.

5. Next assessment of this CLO:
This CLO is scheduled to be assessed again in Fall 2024.

Science: Mathematics Specialization, A.S.

SLO data was not disaggregated by modality in Spring 2016, so no comparison can be made.

Areas where students met the target:
Students met the target in nearly all concepts (exception is concept 1(c)). This CLO measures written communication, specifically communication of mathematical concepts, so the focus is on Question #1, Concept (e): the score of 44.17% on this concept exceeded the target of 43%.

Areas where students did NOT meet the target:
The target score of 43% was not met on Question #1 concept (c), which is interesting. Students met the target for the closely related concept (b). It is not clear why there would be such a difference between the scores for concepts 1(b) and 1(c).

Program Goal on Graduation: Increase the number of students graduating with an AS Science, Mathematics Specialization.

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: 4% increase in number of graduates per year

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	40	-2.4
2020-21	41	13.9
2019-20	36	-2.7
2018-19	37	-7.5
2017-18	40	-4.8
2016-17	42	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results The number of graduates decreased by 2.4%.

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2021-2022 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes, 40 students graduated in

1. Changes put in place since previous assessment to improve graduation results: The math discipline has completed the first draft of the discipline review, which includes an investigation of the data related to students pursuing this degree. This is currently under review by Curriculum Committee.

2. Impact of changes on current results: The changes related to the discipline review have not been completed. Depending on the outcome of the review, a number of changes may be put in place for the upcoming academic year.

3. According to current results, areas needing improvement: Once the discipline review is completed (expectation of Spring 2023), areas needing improvement will be clearer. Of particular note is the decision by the VCCS to discontinue all specializations and convert them to "pathways." The impact on the math specialization is not clear at this time.

4. Based on the results, new actions to improve graduation/productivity results: Actions are pending the outcome of the discipline review in Spring 2023, and guidance from VCCS regarding the discontinuation of specializations.

5. Next assessment of this goal: Assessed annually

Science: Mathematics Specialization, A.S.

	2021-2022, which surpasses the required number of 17 students.	

Program Goal on Program-Placed Students: Increase the number of students placed in the AS Science, Mathematics Specialization

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target: 4% increase in number of program-placed students per year.

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	132	-29.4
2020-21	187	-8.8
2019-20	205	-10.1
2018-19	228	-11.3
2017-18	257	0
2016-17	257	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The number of students program-placed in this degree continues to decline. The decline for the 2021-2022 academic year was larger than past declines.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	88.3	-25.4
2020-21	118.3	-13.6
2019-20	136.9	-12.8
2018-19	157.0	-10.3
2017-18	175.0	-3.2
2016-17	180.8	--

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2021-2022 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: The FTES enrollment of students who are program placed in the AS Science Mathematics Specialization is 88.3, which surpasses the VCCS standard of 24.

1. Changes put in place since previous assessment to improve program placement results: The math discipline has completed the first draft of the discipline review, which includes an investigation of the data related to students pursuing this degree. This is currently under review by Curriculum Committee.

2. Impact of changes on current results: The changes related to the discipline review are pending the review by Curriculum Committee and have not yet been put into place.

3. According to current results, areas needing improvement: Further promotion of the degree, such as development of communications to students in related degrees to consider adding it as a second program of study. While the website changes are helpful, the page specific to the degree needs more work. Students may be unaware of the variety of four-year degrees that the specialization may lead to. It is unclear if students pursuing related degrees such as the AS Engineering or the AS Computer Science are also pursing the Math Specialization at a decreasing rate. This work has been postponed, pending the decision by the VCCS to discontinue specializations. Once that process is launched, the math discipline will investigate if a "math pathway" is sufficient or if a separate AS Mathematics is needed.

4. Based on the results, new actions to improve program placement/productivity: It may be helpful to promote the degree through a video similar to the one that was created for Computer Science https://youtu.be/dCp7zF2BnI4. New actions will be determined after Program Review is complete, tentatively in Spring 2023. The Mathematics and Engineering Pathway Council will consider the target to determine if it is reasonable, given current trends in enrollment at community colleges.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Social Sciences, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: The Associate of Science degree in Social Sciences focuses on how human beings interact with each other in the past and present. It emphasizes, through quantitative and qualitative research methods, how social scientists develop an understanding of the ways in which humans relate to themselves and each other through beliefs, customs, organizations, and institutions. The Associate of Science degree in Social Sciences prepares students for transfer to a broad range of Bachelor of Science and Bachelor of Arts programs, in fields such as economics, geography, geographic information systems, history, political science, psychology, sociology, teacher education, and more.

Student Learning Outcome 1: Identify relevant historical ideas, figures, and/or developments for American history

Assessment Methods

Course Name/Number: HIS 122 (United States History Since 1865)

Direct Measure Used: Students were given a variety of assignments, authentic to each section of HIS 122, to evaluate their understanding of Reconstruction

SLO/Rubric Criteria or Question Concepts:

1. Does the student differentiate diverse meaning of 'freedom' between African Americans and Anglo-American effectively?
2. Can the student describe the actions of the national government during Presidential Reconstruction effectively?
3. Can the student identify the ways in which Reconstruction ended (both officially and unofficially)?

Each student's response to those questions was evaluated on a three-point scale:

- Score of 3 = Student fully understands the material.
- Score of 2 = Student somewhat understands the material.
- Score of 1 = Student struggled to understand the material.
- Score of 0 = Student did not understand the material at all.

Other Method (if used): N/A

Assessment Results

Semester/year data collected: Fall 2021

Target: Each section will average a score of at least 2.85 for each question.

Results: Overall Average/Mean Score by On-Campus, Online, and Dual Enrollment:

Results by Modality	Current Results Semester Year	Previous Results Semester Year
All students assessed (weighted average)	2.44	N/A
On-campus average	2.67	N/A
Synchronous hybrid (remote) average	2.33	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Does the student differentiate diverse meaning of 'freedom' between African Americans and Anglo-American effectively?	2.54	N/A
2. Can the student describe the actions of the national government during Presidential Reconstruction effectively?	2.32	N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning and assessment: N/A – This is the first time this SLO was assessed using Reconstruction as the topic.

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Students need to improve in all categories, but they were challenged by the actions of the national government particularly.

4. Based on current results, new actions to improve student learning: The target was ambitious, as it would indicate almost every student understood Reconstruction fully. It may be wise to re-evaluate our expectations as a discipline given the current results. Moving forward, a goal of 2.75 seems more realistic and achievable, yet it still requires most students to fully understand the material. This will be the new goal when this is assessed again in Fall 2026.

Also, this assessment would benefit from an improved and detailed rubric. While this basic rubric was easy to use in assessment, data compilation and data comparison, it really left gaps in determining where students fell short of understanding the material. From faculty statements, it is clear that students are better at identifying terms and facts than understanding deeper historical connections.

5. Next assessment of this SLO: Fall 2026

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	14
AN	3	3	60
MA	3	1	20
LO	1	0	0
WO	3	0	0
NOVA Online	3	0	0
Off-Site Dual Enrollment	0	0	0
Total	**14**	**5**	**94**

3.	Can the student identify the ways in which Reconstruction ended (both officially and unofficially)?	2.47	N/A

Target Met: [ ] Yes [X] No [ ] Partially

Current Results improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: N/A

Areas where students met the target: N/A

Areas where students did NOT meet the target:
Students did not meet the ambitious target.

Student Learning Outcome 2: Students will express personal meaning by creating with the language.

Assessment Methods

Course Name/Number: 202 in World Languages (ARA 202, CHI 202, FRE 202, GER 202, JPN 202, RUS 202, SPA 202)

Direct Measure Used: A writing prompt in the final exam for the spring semester of 2022.

Short description of the writing task: Students were asked to write an email with 6-8 sentences in the target language, to a congressperson or a city council member about a couple of ecological (or any other) problems that affect the community. The email should include students' feelings about the current situation, what may happen if we do not do anything about the current situation, as well as their hopes for a better future. Students were also instructed to ask the congressperson or city council member to do things to better the environment and/or community.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas which were scored at 4 points each:
1. Task Completion
2. Content
3. Vocabulary
4. Grammar

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will score 12-13 points out of 20 points.

Results for On-campus and Remote Sections:
Average/Mean Score per criteria

Courses	Spanish	Japanese	Chinese	Arabic
# of sections	**6**	**2**	**1**	**2**
# of students	**89**	**19**	**13**	**38**
Results by SLO Criteria/ Question Concepts				
1. Task Completion	2.7	3.4	3.2	3.6
2. Content	3.0	3.3	3.2	3.3
3. Vocabulary	2.9	3.1	2.9	3.5
4. Grammar	2.8	3.1	2.5	3.4
5. Spelling and Mechanics	3.1	3.0	2.8	3.4
Total (20 pts)	**14.4**	**15.9**	**14.7**	**17.3**

Results for Dual Enrollment Sections: Average/Mean Score per criteria

Courses	Spanish DE	Chinese DE
# of sections	**1**	**1**
# of students	**26**	**4**
Results by SLO Criteria/ Question Concepts		
1. Task Completion	3.2	4.0

Use of Results

1.Changes put in place since previous assessment to improve student learning and assessment:
We did not make any changes for this academic year other than adding more resources and spending more instructional time on grammar concepts and related practices in communicative situations.

2.Impact of changes on current results:
We as a discipline for the most part continue to face challenges in grammar.

3.According to current results, areas needing improvement: In addition to starting to focus more on the content areas of our instruction, we should put continued emphasis in teaching grammar in context so students will have ample opportunities to practice and apply the grammar concepts.

4.Based on current results, new actions to improve student learning: In the Spring of 2023, the discipline group members will have an opportunity to share best practices in helping students develop strong content in their writing and "teaching grammar as a concept and use in context" which is one of the six Core Practices for World

5. Spelling and Mechanics

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
Spanish	7	6	89
Japanese	2	2	19
Arabic	1	1	17
Arabic NOL	1	1	21
Chinese NOL	1	1	13
Chinese Off-Site Dual Enrollment	1	1	4
Spanish Off-Site Dual Enrollment	12	1	26
Total	**25**	**13**	**189**

2. Content	3.9	4.0
3. Vocabulary	3.7	3.5
4. Grammar	2.9	3.0
5. Spelling and Mechanics	3.5	3.75
Total (20 pts)	**17.2**	**18.25**

Target Met: [X] Yes [ ] No [ ] Partially

Areas where students met the target: All areas.

Areas where students did NOT meet the target: Although students meet the target in the content and grammar areas, students scored comparatively lower than the other three areas.

Language Learning" from ACTFL (the American Council on the Teaching of Foreign Languages).

5.Next assessment of this SLO:
2024-2025 Academic Year.

Student Learning Outcome 3: Students will <u>differentiate</u> elements of the scientific method, types of research methodology, and skills and errors in critical thinking and problem-solving.

Assessment Methods

Course Name/Number: PSY 200

Direct Measure Used: Methods Multiple choice. This is a ten-item multiple choice assessment designed to measure how well students can recognize the three research designs used in Psychology.

SLO/Rubric Criteria or Question Concepts: The SLO assesses identification of the following research designs: Descriptive, Correlation, and Experiment.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	6	2	49
AN	14	6	201
MA	13	6	155
ME	0	0	0

Assessment Results

Semester/year data collected: Fall 2021

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Fall 2019
All students assessed (weighted average)	81.3%	84.76%
On-campus average	81.6%	85.94%
Synchronous hybrid (remote) average	81.7%	N/A
NOVA Online average	80.0%	79.91%
Dual Enrollment average	N/A	N/A

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Fall 2019

Use of Results

1. Changes put in place since previous assessment to improve student learning: The chair of the DG reminded online instructors to collect and report on the assessment twice during the semester. This resulted in slightly more online class assessments. The steering committees also reminded instructors on their campuses.

2. Impact of changes on current results: Online instructors responded at slightly higher rates. However, in person and synchronous remote instructors responded at lower rates.

3. According to current results, areas needing improvement: Response rates need to improve. Students need more instruction about Descriptive designs.

4. Based on current results, new actions to improve student learning: While students are exceeding the target for this assessment, instructors should continue to highlight

LO	14	7	180
WO	7	6	143
NOVA Online	13	7	152
Off-Site Dual Enrollment	0	0	0
Total	67	34	880

1. Descriptive Design	78%	78.6%
2. Experimental Design	84%	86.4%
3. Correlational Design	86%	89.7%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [] Partially [ ] N/A

Narrative comparison of current results to previous results: Scores were slightly lower across all methods of teaching. We had 2 more on-line professors assess their classes, but overall response rates were lower than the previous assessment.

Areas where students met the target: Students met target in all areas. The lowest scores were about the descriptive design.

Areas where students did NOT meet the target: Students met target in all areas. The lowest scores were about the descriptive design.

the differences among the designs, descriptive in particular and provide more practice for identifying the designs.

5. Next assessment of this SLO: Fall 2025

Core Learning Outcome: [ ] Written Communication [X] Civic Engagement
Operationalized Definition: Students will identify &/or apply ethical standards to evaluate psychological science and practice.

Assessment Methods

Course Name/Number: Research Methods for the Behavioral Sciences, PSY 211

Direct Measure Used: Ethics Assessment

CLO/Rubric Criteria or Question Concepts: This 10 question multiple choice test assesses the following concepts: risk, consent, confidentiality, fraud, IRB, plagiarism, and deception.

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	7
AN	2	2	38
MA	1	0	0
ME	0	0	0
LO	2	1	19
WO	1	1	19

Assessment Results

Semester/year data collected: Spring 2022

Target: Students will have an average of over 70%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2020
All students assessed (weighted average)	81.6%	84%
On-campus average	79.3%	84%
Synchronous hybrid (remote) average	84.1%	N/A
NOVA Online average	N/A	N/A
Dual Enrollment average	N/A	N/A

Results by CLO Criteria:
[X] Average/Mean Score per criteria or
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2020
1. Risk	78%	82%

Use of Results

1. Changes put in place since previous assessment to improve student learning: To increase reporting, SLO questions were posted on Canvas in order to make it easier to collect the data. To improve student learning regarding the concept of deception after the last assessment, faculty said they would spend more time covering debriefing as a tool to mitigate the effects of deception

2. Impact of changes on current results: The response rate improved from 50% to 71% after we made the assessment accessible via Canvas. The increased time spent on debriefing did not seem to help the students to understand the concept of deception.

3. According to current results, areas needing improvement: The use of deception in research is the only area that needs improvement as students performed well above target on most of the other concepts.

4. Based on current results, new actions to improve student learning: The faculty needs to spend more time

NOVA Online	0	0	0
Off-Site Dual Enrollment	0	0	0
Total	7	5	83

2. Consent	79%	87%
3. Confidentiality	84%	91%
4. Fraud	88%	86%
5. IRB	89%	86%
6. Plagiarism	94%	88%
7. Deception	67%	75%

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous results: Two of the concepts increased since the last assessment (Plagiarism and Fraud), while the remaining five concepts decreased.

Areas where students met the target: The students met the criteria for six of the seven criteria (risk, consent, confidentiality, fraud, IRB, and plagiarism).

Areas where students did NOT meet the target: The students did not meet the target for the concept of deception.

clarifying the concept of deception in research. The use of deception in psychological research is more context dependent than the other concepts so faculty needs to provide more examples of when deception is a problem for research and what can be done to minimize the problem.

5. Next assessment of this CLO: Fall 2023 (as SLO)

Program Goal on Graduation: Increase the number who graduate with a Social Science AS each year.

Assessment Method

Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Assessment Results

Target: Graduation totals for the AS in Social Sciences program will increase by 2%

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	180	-25.0
2020-21	240	-10.4
2019-20	268	-12.1
2018-19	305	-14.6
2017-18	357	--

Target Met: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: As always with these SLO reports, the data is one year behind the current semester. It is hard to know the impact of changes made during the period from 2020 to

Use of Results

1. Changes put in place since previous assessment to improve graduation results: A reorganization of the College pathway structure was implemented last summer. The consequence of this action was that the Social Science parent degree and its specializations were placed under the Education and Social Sciences Pathway with a new college-wide Dean. The E&SS Council continued efforts to better align the degree requirements with transfer institutions. There are many more specializations offered at GMU's than at NOVA and each was examined with an intent to better prepare students to take on those majors after transfer. In many cases, a world language option was added to the pathway since the BA degrees in social science at GMU and other four-year institutions have WL as a core requirement. Representatives of the social sciences met with GMU counterparts at the ADVANCE Summit to establish a more collaborative relationship and discuss acceptance of NOVA courses.

2. Impact of changes on current results: The graduation rate continues its decline.

	spring of 2023. Previous year results also include a time when there was a specialization in psychology. As this specialization has been phased out enrollment in the Psychology degree that replaced it has increased. This distorts the results for the Social Science AS. The specializations are scheduled to disappear within the next five years. This will likely have a negative effect on graduation results. **For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:** The degree, while declining in enrollment, remains a strong degree with more than ten times the required number of graduates.	**3. According to current results, areas needing improvement: T**he trend is moving in a direction contrary to the goal. **4. Based on the results, new actions to improve graduation/productivity results:** A letter is sent by the Office of Academic Affairs on behalf of the pathway Deans for the Social Sciences and Liberal Arts degrees to each General Studies major recommending the Liberal Arts and Social Science degrees. It has been done for the past three years. That should continue. In addition, a letter should be sent to Social Science majors emphasizing the value of earning the degree before transfer. A new letter will need to be drafted for next year by the Deans given the position transitions and reorganization. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: To increase the number of program-placed students

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards	**Target:** Program placements for the AS in Social Sciences program will increase by 2% **Results for Past 5 Academic Years - Headcount:**	**1. Changes put in place since previous assessment to improve program placement results:** The decline in program placement is an indication of the absence at the College of an effective student advising process. Faculty members advise students who are program placed. They have less opportunity to advise students to become program placed. The Pathway Councils have done much to establish viable pathways to transfer institution.

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	833	-29.5
2020-21	1,181	-22.0
2019-20	1,515	-14.9
2018-19	1,780	-11.4
2017-18	2,008	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [X] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: As always with these SLO reports, the data is one year behind the current semester. It is hard to know the impact of changes made during the period from 2020 to spring of 2023. The percentage of decline in program placement is slightly greater than the decline in graduates which likely signals a further decline in graduation rates for next year.

2. Impact of changes on current results: The impact has is not observable in the short run, there is no way to discover whether the decline in program placement would have been even greater had the steps taken by the pathway councils in recent year not been attempted.

3. According to current results, areas needing improvement: The College is preparing a new advising model. Program placement will improve if there is an effective advising system.

4. Based on the results, new actions to improve program placement/productivity: A letter should continue to be sent to all students who select general studies as a major encouraging them to major in social science or liberal arts since these degrees transfer better to four-year institutions. This should be done at the beginning of each semester and sent to all GS students who have

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	526.7	-30.5
2020-21	758.3	-22.3
2019-20	975.4	-17.2
2018-19	1,178.1	-12.1
2017-18	1,340.7	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2021-22 FTES meet the VCCS Productivity Standards from the previous column?
Please explain: The degree far exceeds the VCCS productivity standard.

selected GS as a major since the previous letter was sent. Any new advising model should stress the possibilities of the social science degree

5. Next assessment of this goal: This goal has been pursued without noticeable success for five years. Under current conditions, it appears to be unreachable. Since faculty and pathway council have limited control over whether students decide to declare themselves a social science major, the goal should be discontinued and a new goal set.

Student Learning Outcome Assessment Report: 2021-2022
Social Sciences: Teacher Education Specialization, A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This curriculum prepares students to transfer to a four-year college or university teacher preparation program. It is specifically designed for students who plan to seek endorsement and licensure as teachers in PK-3, PK-6, middle school, or special education.

Student Learning Outcome 1: Students will apply knowledge of child development, culture, and classroom design to develop a positive behavior classroom management plan.

Assessment Methods

Course Name/Number: Teaching Basic Academic Skills to Exceptional Children - EDU 254

Direct Measure Used: Positive Behavior Classroom Management Plan

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

- Positively Phrased Rules
- Routines
- Attention Signal
- Positive Reinforcement
- Consequence

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA only	2	2	36
NOVA Online	1	1	21
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**57**

Assessment Results

Semester/year data collected: Spring 2022

Target: At least 85% of students will successfully design a positive behavior classroom management plan.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	94.7%	N/A
On-campus average	100%	N/A
Synchronous hybrid (remote) average	95%	NA
NOVA Online average	90%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022
1. Positively Phrased Rules	92%
2. Routines	100%
3. Attention Signal	100%
4. Positive Reinforcement	100%
5. Consequence	94%

Target Met: [X] Yes [ ] No [ ] Partially

Narrative comparison of current results to previous results: This is the first time this SLO has been assessed in our program.

Areas where students met the target: Students met the target in all four areas. The target can be raised to 90% beginning in Fall 2022.

Areas where students did NOT meet the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: Because EDU 254 was added into the Teacher Education degree as a required class in Fall 2021, this is the first time this SLO has been assessed. Prior to this assignment, we asked students to complete an observation of classroom management in their EDU 200 course, which is a prerequisite for EDU 254. This assignment extends student learning from their EDU 200 field placement by introducing research-based practices.

2. Impact of changes on current results: N/A - Data on this assessment was collected for the first time in Spring 2022.

3. According to current results, areas needing improvement: There are two areas for improvement:

1. Helping students develop positively phrased rules. For example, “Students will walk quietly in the halls. Instead of “No talking in the hallway.”
2. Students need help developing suitable consequences. This is particularly challenging because we believe taking away recess should not be used as a punishment. We are also not accepting contacting the parents or administration as the first choice of consequence. We want our future educators to have a plan for natural consequences held within their room. Only for those who have failed repeatedly should parents or administrators be contacted.

We also need to consider culturally responsive consequences and expectations. Beginning in Fall 2023, this will be introduced in EDU 204.

Social Sciences: Teacher Education Specialization, A.S.

4. Based on current results, new actions to improve student learning: Beginning in Fall 2022, we will provide students with an opportunity to peer review their positively phrased rules and consequences on a discussion board before submitting the final assignment. This will give instructors the opportunity to clarify misconceptions and provide research supporting culturally affirming rules and consequences.

5. Next assessment of this SLO: Spring 2024

Student Learning Outcome 2: Students will plan differentiated lessons for diverse learners.

Assessment Methods

Course Name/Number: Teaching Basic Academic Skills to Exceptional Children - EDU 254

Direct Measure Used: Differentiated Planning Pyramid

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

Content and Grade Level
VA Standards of Learning (SOL)
Tier I Instruction for All
Tier II Instruction for Some
Tier III Instruction for Few

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
MA	2	2	36
NOVA Online	1	1	21
Off-Site Dual Enrollment	N/A	N/A	N/A
Total	**3**	**3**	**57**

Assessment Results

Semester/year data collected: Spring 2022

Target: 85% of students will successfully plan a differentiated unit of study based on the Virginia SOL.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results
All students assessed (weighted average)	80.7%	N/A
On-campus average	95%	N/A
Synchronous hybrid (remote) average	92.9%	N/A
NOVA Online average	76%	N/A

Results by SLO Criteria: Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022
1. Content and Grade Level	100%
2. VA SOL	100%
3. Tier I Instruction for All	100%
4. Tier II Instruction for Some	85%
5. Tier III Instruction for Few	70%

Target Met: [ ] Yes [ ] No [X] Partially

Narrative comparison of current results to previous results: This is the first time assessing this SLO using the differentiated planning pyramid in EDU 254.

Areas where students met the target: Students were able to successfully identify a content area and SOL. When developing the planning pyramid, students were able to list objectives and outcomes that all students should meet in the lesson.

Use of Results

1. Changes put in place since previous assessment to improve student learning: This is the first time assessing this SLO using the differentiated planning pyramid.

2. Impact of changes on current results: N/A - This is the first time assessing SLO 2 using the differentiated planning pyramid.

3. According to current results, areas needing improvement: We need to help students better plan for targeted areas of differentiation. First, students were confused about whether their planning pyramid should extend learning for gifted students or remediate for lower learners. Instructors should have students select one method for differentiation: extension or remediation before planning. Next, instructors should teach students how to locate similar SOLs in the grade level above or below to help plan for differentiation. These extension SOLs could be used to help students plan for differentiation. Finally, instructors should relate differentiated learning back to the field placement completed in EDU 200.

4. Based on current results, new actions to improve student learning: Beginning in Spring 2023, instructors will:

- Ensure all students have the EDU 200 prerequisite before taking EDU 254.
- Access background knowledge related to differentiated instruction in EDU 200.
- Have students identify their pyramid as extension or remediation.

Areas where students did NOT meet the target: With the differentiated planning pyramid, students had difficulty planning for the higher tiers of the pyramid. Tier II is for objectives that most students should learn, and Tier III is for objectives that only a few students will learn.

- Locate SOLs above and below identified grade-level content.

5. Next assessment of this SLO: Fall 2024

Student Learning Outcome 3: Students will summarize, reflect upon, and outline their field experiences in the public-school systems during their 40 field placement hours.

Assessment Methods

Course Name/Number: Introduction to Teaching as a Profession - EDU 200

Direct Measure Used: Field Placement Notes

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

Classroom Design
Classroom Management
Assessment
Instructional Grouping
Instructional Strategies
Instructional Technology
Student's Role

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	20
AN	1	1	23
MA	2	2	38
LO	1	1	18
WO	1	1	12
NOVA Online	3	3	42
Off-Site Dual Enrollment	5	5	75
Total	**14**	**14**	**228**

Assessment Results

Semester/year data collected: Fall 2021

Target: At least 90% of students will successfully reflect and summarize upon their field experiences in the public school system.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Semester Year
All students assessed (weighted average)	95%	91%
On-campus average	98%	N/A
Synchronous hybrid (remote) average	97%	N/A
NOVA Online average	90%	90%
Dual Enrollment average	95%	N/A

Results by SLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. Classroom Design	98%
2. Classroom Management	95%
3. Assessment	95%
4. Instructional Grouping	88%
5. Instructional Strategies	90%
6. Instructional Technology	98%
7. Student's Role	100%

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [ ] Partially [X] N/A - Beginning in Fall 2021, we redesigned this assignment to be more specific. Now, students reflect on specific items related to the field placement. For this reason, we cannot compare previous results by SLO criteria.

Use of Results

1. Changes put in place since previous assessment to improve student learning: Beginning in Fall 2022, we created a notes format that is more specific. Before, students reflected without much guidance. Now, students are given reflection prompts such as "I wonder why the teacher…," "One thing I observed that I would like to try as a future educator," and "One thing I observe that I do not think would work for my style of teaching."

2. Impact of changes on current results: These prompts have helped students be more reflective and detailed.

3. According to current results, areas needing improvement: Students still need help understanding instructional grouping.

4. Based on current results, new actions to improve student learning: Beginning in Spring 2023, we will add an interview about instructional grouping. We want students to understand why teachers make decisions regarding grouping.

5. Next assessment of this SLO: Spring 2024

Social Sciences: Teacher Education Specialization, A.S.

Areas where students met the target: Students met the target in the following areas: classroom design, classroom management, assessment, instructional strategies, instructional technology, and the student's role in the lesson.

Areas where students did NOT meet the target: Students did not meet the target for instructional grouping.

Core Learning Outcome: **[X] Civic Engagement** **[ ] Written Communication**
Operationalized Definition: [Operationalize your CLO here]

Assessment Methods

Course Name/Number: Introduction to Teaching as a Profession - EDU 200

Direct Measure Used: Field Placement Reflection Notes

CLO/Rubric Criteria or Question Concepts: Please see attached.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	1	1	20
AN	1	1	23
MA	2	2	38
LO	1	1	18
WO	1	1	12
NOVA Online	3	3	42
Off-Site Dual Enrollment	5	5	75
Total	**14**	**14**	**228**

Assessment Results

Semester/year data collected: Fall 2021

Target: At least 90% of students will successfully reflect and summarize upon their field experiences in the public school system.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Semester Year
All students assessed (weighted average)	95%	91%
On-campus average	98%	N/A
Synchronous hybrid (remote) average	97%	N/A
NOVA Online average	90%	90%
Dual Enrollment average	95%	N/A

Results by CLO Criteria: Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021
1. Classroom Design	98%
2. Classroom Management	95%
3. Assessment	95%
4. Instructional Grouping	88%
5. Instructional Strategies	90%
6. Instructional Technology	98%
7. Student's Role	100%

Target Met: [ ] Yes [ ] No [X] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [ ] Partially [X] N/A - Beginning in Fall 2021, we redesigned this assignment to be more specific. Now, students reflect on specific items related to

Use of Results

1. Changes put in place since previous assessment to improve student learning: Beginning in Fall 2022, we created a notes format that is more specific. Before, students reflected without much guidance. Now, students are given reflection prompts such as "I wonder why the teacher…," "One thing I observed that I would like to try as a future educator," and "One thing I observe that I do not think would work for my style of teaching."

2. Impact of changes on current results: These prompts have helped students be more reflective and detailed.

3. According to current results, areas needing improvement: Students still need help understanding instructional grouping.

4. Based on current results, new actions to improve student learning: Beginning in Spring 2023, we will add an interview about instructional grouping. We want students to understand why teachers make decisions regarding grouping.

5. Next assessment of this SLO: Spring 2024

	the field placement. For this reason, we cannot compare previous results by SLO criteria. **Areas where students met the target:** Students met the target in the following areas including classroom design, classroom management, assessment, instructional strategies, instructional technology, and the student's role in the lesson. **Areas where students did NOT meet the target:** Students did not meet the target for instructional grouping.	

Program Goal on Graduation: Increase graduation rates by 2%

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html **VCCS Associate Degree Productivity Standards** Transfer (A.A., A.S., A.A.&S.) — 17 A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies — 12 A.A.S. in Engineering, Mechanical, and Industrial Technologies — 9 A.A.S. in Health Technologies — 7 Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.	**Target:** We will increase graduation rates by 2% **Results for Past 5 Academic Years:** 2021-22: 92 graduates, -15.6 2020-21: 109 graduates, 34.6 2019-20: 81 graduates, 2.5 2018-19: 79 graduates, 17.9 2017-18: 67 graduates, 6.3 **Target Met:** [ ] Yes [X] No [ ] Partially **Current Results Improved vs. Previous Results:** [ ] Yes [X] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results:** Teacher Education saw a slight decrease in graduates during the 2020-2021 academic year. This could be due to unusually high numbers for 2020-2021. **For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:** Yes, teacher education is above the VCCS productivity standards with 92 graduates.	**1. Changes put in place since previous assessment to improve graduation results:** Beginning in Spring 2020, we have implemented collaborative advising with George Mason and our local school districts. We have hosted informational nights where students can interact with both school districts and transfer institutions. We also provide advising opportunities through Zoom. **2. Impact of changes on current results:** Over the last five years, our graduation rates have continued to improve. **3. According to current results, areas needing improvement:** We need to consider the graduation rates for our diverse learners. We want all students to graduate at equal rates. **4. Based on the results, new actions to improve graduation/productivity results:** Beginning in Spring 2023, we will work to provide perspectives from diverse teachers in education. We want our students to see themselves as teachers. We will also provide more information to students on available scholarships. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: Increase program-placed students by 2% each year.

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html	**Target:** We will increase the number of program-placed students by 2%. **Results for Past 5 Academic Years - Headcount:**	**1. Changes put in place since previous assessment to improve program placement results:** Beginning in Spring 2020, the G3 Bill granted free college tuition for 2-year students completing an AAS Child Development

Social Sciences: Teacher Education Specialization, A.S.

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	531	-13.9
2020-19	617	-3.9
2019-18	642	6.3
2018-17	604	5.4
2017-16	573	--

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A

Narrative comparison of current results to previous year's results: We have fewer students placed in the Teacher Education Specialization than last year.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	350.0	-15.8
2020-21	415.8	-0.5
2019-20	417.9	6.0
2018-19	394.2	7.1
2017-18	367.9	--

For Associate-Degree Granting Programs only (N/A for Certificates): Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain: Yes. Teacher Education has more than the required FTEs for productivity standards.

degree. Some of our Teacher Education students may have decided to go through this program instead of Teacher Education due to the available financial aid.

2. Impact of changes on current results: For the 2021-22 academic year, we saw a reduction in the amount of students who were program placed in Teacher Education.

3. According to current results, areas needing improvement: We need to increase program-placed students.

4. Based on the results, new actions to improve program placement/productivity: We are implementing a Radical Innovation Grant during the 2022-2023 academic year. We are providing $500 scholarships to 20 non-education majors to substitute in the public school system with the hopes of 1) serving the community, 2) increasing interest in teaching as a profession, and 3) providing financial support to students.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Veterinary Technology, A.A.S.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: Our program is accredited by the American Veterinary Medical Association (AVMA) Committee on Veterinary Technician Education and Activities (CVTEA). We award an Associate of Applied Science (A.A.S.) degree and prepare you for the Veterinary Technician National Examination (VTNE), an entry-level national licensing exam

Student Learning Outcome 1: SLO #4: Properly collect, accurately prepare, and analyze laboratory specimens

Assessment Methods

Course Name/Number: VET 131

Direct Measure Used: Laboratory Practical Exam

SLO/Rubric Criteria or Question Concepts:
See examination "Lab Practical FINAL VET 131 (Sp10)

Other Method (if used): N/A

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	2	2	23
NOVA Online	1	1	14
Off-Site Dual Enrollment			
Total	3	3	37

Assessment Results

Semester/year data collected: Spring 2022

Target: >70% pass with score of 70% or higher

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2022
All students assessed (weighted average)	93.67%	Unavailable
On-campus average	93.76%	Unavailable
Synchronous hybrid (remote) average	NA	Unavailable
NOVA Online average	93.56%	Unavailable
Dual Enrollment average	NA	Unavailable

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Semester Year
1. CBC Analysis	>70% pass rate	Unavailable
2. Urine Analysis	>70% pass rate	Unavailable

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: Not available

Areas where students met the target: All students met the target.

Areas where students did NOT meet the target: N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning: None.
*****NOTE: Previous results from Spring 2022 not available as faculty member is no longer with college, and did not turn over examinations prior to departure.

2. Impact of changes on current results: No change in current results.

3. According to current results, areas needing improvement: Students performed very well. Currently re-evaluating assessment methodology to incorporate as pass/fail essential skills exam. This would require students to pass the essential skills components with one opportunity at remediation before continuing in the program.

4. Based on current results, new actions to improve student learning: Discussion to implement this as a pass/fail essential skills exam. Essential skills are required by the AVMA, our accrediting body, to be mastered prior to graduation. The pass/fail essential skills exam would allow one opportunity for remediation; if student fails remediation attempt, they will be required to repeat the course and may not continue on in the program.

5. Next assessment of this SLO: 2024-2025

Veterinary Technology, A.A.S.

Student Learning Outcome 2: SLO #7 Safely and effectively administer and monitor animal patient anesthesia

Assessment Methods

Course Name/Number: Anesthesia of Domestic Animals - VET 135

Direct Measure Used: Lab Practical #1 - for students to demonstrate proficient understanding and usage of anesthetic machine to induce and maintain a live animal under a good plane of anesthesia while patient is undergoing a surgical procedure.

SLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:

Properly identification of anesthetic machine components including breathing and non-rebreathing systems, influence of patient size on selection of equipment, proper testing of equipment prior to use, troubleshooting potential issues with equipment and demonstration of how equipment is properly used.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	2	2	17
NOVA Online	1	1	3
Off-Site Dual Enrollment			
Total	3	3	20

Assessment Results

Semester/year data collected: Spring 2022

Target: Pass/Fail Examination; target is for >90% of students to pass the exam**.**

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Spring 2021
All students assessed (weighted average)	100%	98.5%
On-campus average	100%	97.3%
NOVA Online average	100%	100%

Results by SLO Criteria:

[ ] Average/Mean Score per criteria

[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Spring 2021
1. Properly identify parts of the anesthesia machine 02 line, flow meter, vaporizer, soda lime canister, uni-directional valves, pop-off valve, pressure gauge, reservoir bag, scavenging line, oxygen flush	37/37	37/38 *pop-off valve was not correctly identified on 2 attempts
2. Set up a non-rebreathing system. What size animal is this used for?	37/37	38/38
3. Run the anesthetic circuit. Properly show and verbalize the flow of oxygen starting from the overhead oxygen line to the patient and out the scavenging line.	37/37	38/38
4.Demonstrate how you would test for leaks with a non-rebreathing system	37/37	38/38
5.Set up a rebreathing system. What size animal is this used for?	37/37	38/38
6.Run the anesthetic circuit. Properly show and verbalize the flow of oxygen starting from the overhead oxygen	37/37	38/38

Use of Results

1. Changes put in place since previous assessment to improve student learning: None.

2. Impact of changes on current results: None.

3. According to current results, areas needing improvement: Students improved from previous evaluation.

4. Based on current results, new actions to improve student learning: None at this time.

5. Next assessment of this SLO: 2023-2024

line to the patient and out the scavenging line.		
7.Demonstrate how you would test for leaks with a rebreathing system	37/37	38/38
8.Demonstrate how you would test for leaks with a rebreathing system	37/37	38/38

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Increased pass rate. This may be due to more time hands on to practice with equipment prior to examination**.**

Areas where students met the target: Target met in all areas.

Areas where students did NOT meet the target: N/A

Student Learning Outcome 3: 1. Safely and accurately prepare, dispense, administer, and explain use of prescribed medications

Assessment Methods

Course Name/Number: VET 216/Animal Pharmacology

Direct Measure Used: Essential Skills Exam

SLO/Rubric Criteria or Question Concepts: See Examination "VET 216 Essential Skills Exam"

Other Method (if used):

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	36
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	36

Assessment Results

Semester/year data collected: Spring 2022

Target: >70% pass rate. Pass/Fail exam with one attempt at remediation.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Semester Year
All students assessed (weighted average)	100%	First year evaluated with this exam
On-campus average	100%	""
Synchronous hybrid (remote) average	0	""
NOVA Online average	0	""
Dual Enrollment average	0	""

Results by SLO Criteria:
[ ] Average/Mean Score per criteria
[X] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Semester Year

Use of Results

1. Changes put in place since previous assessment to improve student learning: N/A

2. Impact of changes on current results: N/A

3. According to current results, areas needing improvement: Students need hands on experience with drawing up calculated amounts of medication.

4. Based on current results, new actions to improve student learning: Incorporating application assignments in class to practice this skillset.

5. Next assessment of this SLO: 2023-2024

1.	Drug Calculations	100%	Not assessed; first time for this exam.
2.	Drug Interactions/Side Effects	100%	""
3.	Controlled Substance Log	100%	""
4.	Calculating drug dose, choosing correct drug and drawing up correct quantity.	100% (16% failed first attempt and passed remediation)	""

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [ ] Partially [X] N/A

Narrative comparison of current results to previous results: No previous results for comparison.

Areas where students met the target: Target met.

Areas where students did NOT meet the target:
Students who underwent remediation struggled with the calculation of the medication and obtaining the proper amount of medication to administer on the first attempt but passed the second.

Core Learning Outcome: [X] Civic Engagement [ ] Written Communication
Operationalized Definition: Communicate effectively in an ethical, legal, and professional manner with clients and the veterinary health care team

Assessment Methods

Course Name/Number: VET 235/Animal Practice Management

Direct Measure Used: Communication Videos – students were assessed on whether they are able to maintain strong and effective communication with a professional tone and body posture while dealing with confrontational topics. Scenarios included one with a client and one with a co-worker.

CLO/Rubric Criteria or Question Concepts: Students were assessed on the following areas:
1. Responds to client with a professional, non-threatening tone of voice and verbal communication
2. Responds to client with professional, non-threatening and open body posture
3. Maintains legal obligations to client and facility

Assessment Results

Semester/year data collected: Spring 2022

Target: Passing Grade >85%

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	27/27	39/39
On-campus average	96%	91%
Synchronous hybrid (remote) average	NA	NA
NOVA Online average	NA	NA
Dual Enrollment average	NA	NA

Results by CLO Criteria:
[ ] Average/Mean Score per criteria or
[X] Percent of Students > target per criteria

Use of Results

1. Changes put in place since previous assessment to improve student learning: None

2. Impact of changes on current results: None

3. According to current results, areas needing improvement: For current year, 2 students failed to submit their staff video. This may be due to students not understanding that two videos were due: one for client, one for staff. For previous results, issues were inaudible portions of video, inaccurate information being conveyed to the client (therefore not maintaining legal obligations), the video was not submitted, and the client conflict was not resolved by the end of the video (the "client" was still noticeably upset),

4. Ethical integrity of the veterinary profession is kept intact
5. Client issue is either resolved, client is in a noticeably more positive frame of mind or client is removed from establishment appropriately (if deemed a threat)
6. Addresses staff members with a professional, non-threatening tone of voice and verbal communication
7. Addresses staff members with professional, non-threatening and open body posture
8. Maintains legal obligations to the staff members and the facility
9. Ethical integrity of the veterinary profession is kept intact
10. Staff member issue is resolved, or is closer to resolution

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
LO	1	1	27
WO			
NOVA Online			
Off-Site Dual Enrollment			
Total	1	1	27

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Results Semester Year
1. Responds to client with a professional, non-threatening tone of voice and verbal communication	27/27	33/39
2. Responds to client with professional, non-threatening and open body posture	27/27	33/39
3. Maintains legal obligations to client and facility	27/27	33/39
4. Ethical integrity of the veterinary profession is kept intact	27/27	33/39
5. Client issue is either resolved, client is in a noticeably more positive frame of mind or client is removed from establishment appropriately (if deemed a threat)	27/27	33/39
6. Addresses staff members with a professional, non-threatening tone of voice and verbal communication	25/27	35/39
7. Maintains legal obligations to the staff members and the facility	25/27	35/39
8. 35/Ethical integrity of the veterinary profession is kept intact	25/27	35/39
9. Staff member issue is resolved, or is closer to resolution	25/27	35/39

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results: Greater compliance with students submitting

4. Based on current results, new actions to improve student learning: More time spent role playing in class; showing video examples of what is expected and a more detailed rubric for the student.

5. Next assessment of this CLO: VET 116 2024-2025; VET 235 2026-2027

	video, and greater understanding by students of the assignment is needed. **Areas where students met the target:** All areas met except for the students who did not submit their videos. **Areas where students did NOT meet the target:** All areas met except for the students who did not submit their videos.	

Program Goal on Graduation: Increase attrition rate

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Graduation data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html VCCS Associate Degree Productivity Standards **Degree Program** / **Required Number of Graduates (for Institutions with 5,000 or more students)** Transfer (A.A., A.S., A.A.&S.) — 17 A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies — 12 A.A.S. in Engineering, Mechanical, and Industrial Technologies — 9 A.A.S. in Health Technologies — 7 Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.	**Target: Increase incoming student body by 10% each year** **Results for Past 5 Academic Years: (FTES DATA)** **Academic Year** / **Number of Graduates** / **Increase/ Decrease** 2021-22 — 40.5 — +19.4 2020-21 — 21.1 — -5.4 2019-20 — 42.4 — -26.5 2018-19 — 68.9 — -15.8 2017-18 — 84.7 — -- **Results for Past 5 Academic Years - Parent Degree and Specializations: Do not have this data.** **Target Met:** [X] Yes [ ] No [ ] Partially **Current Results Improved vs. Previous Results:** [X] Yes [ ] No [ ] Partially [ ] N/A **Narrative comparison of current results to previous year's results: Increased attrition rate.** **For Associate-Degree Granting Programs only (N/A for Certificates):** **Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain:** Yes; > 7 students graduated.	**1. Changes put in place since previous assessment to improve graduation results:** Students are allowed to drop from the full-time curriculum to the part time curriculum. This allows full time students to transition to part time and continue their education if they fail a course while enrolled full time; previously, students had to reapply and wait a full year to rejoin the program. Some students simply did not return. **2. Impact of changes on current results:** Increased graduation rate, though full-time cohorts are smaller than part time. **3. According to current results, areas needing improvement:** Greater evaluation of students prior to beginning program, including interviews to determine whether they will succeed better as full time or part time, on campus or online. **4. Based on the results, new actions to improve graduation/productivity results:** Begin interview process of potential students. **5. Next assessment of this goal:** Assessed annually

Program Goal on Program-Placed Students: Increase pass rate of VTNE for first time test takers

Assessment Method	Assessment Results	Use of Results
Short description of method(s) and/or source of data: Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html	**Target: >90% pass rate on VTNE** **Results for Past 5 Academic Years - Headcount:**	**1. Changes put in place since previous assessment to improve program placement results:** NOVA has purchased practice board exam software. This is now incorporated into VET 235 and students receive a large portion of their grade depending on how they utilize the

Veterinary Technology, A.A.S.

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and Industrial Technologies	13
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Academic Year	Pass Rate of First Time Test Takers	Increase/ Decrease
2021-22	83.75%	+19.16
2020-21	64.59%	-17.4
2019-20	81.99%	+7.48
2018-19	74.51%	-11.62
2017-18	86.13%	----

Results for Past 5 Academic Years – Headcount for Parent Degree and Specializations:
Do not have this data.

Target Met for Headcount: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: Increased pass rate for first time test takers of VTNE. This is likely due to software purchased to help students prep for this exam, though the low scores in 2020-2021 may also be contributed to the COVID pandemic's effect on education.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Increase/ Decrease
2021-22	40.5	+19.4
2020-21	21.1	-5.4
2019-20	42.4	-26.5
2018-19	68.9	-15.8
2017-18	84.7	--

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
Yes; we are at >10 students.

software. They are required to answer 150 questions correctly each week. They are given a mock exam at the beginning of the semester and just before their national board exam window period opens. This allows students to see their performance, where their strengths are and where they need to improve.

2. Impact of changes on current results: a 19% increase in pass rates from 2021 to 2022. Spring 2022 was the first semester we implemented this change, and the results are phenomenal.

3. According to current results, areas needing improvement: Continue to provide prep for national board exam.

4. Based on the results, new actions to improve program placement/productivity: Evaluate data from mock exams and VTNE for each domain; see where instruction needs to be more robust.

5. Next assessment of this goal: Assessed annually

Student Learning Outcome Assessment Report: 2021-2022
Visual Art, A.F.A.

NOVA Mission Statement: With commitment to the values of access, opportunity, student success, and excellence, the mission of Northern Virginia Community College is to deliver world-class in-person and online post-secondary teaching, learning, and workforce development to ensure our region and the Commonwealth of Virginia have an educated population and globally competitive workforce.

Program/Discipline Purpose Statement: This studio arts intensive curriculum is designed for students who seek transfer into a Bachelor of Fine Arts (BFA) program or similar baccalaureate program in fine arts at a college or university.

Student Learning Outcome 1: Apply technical skills of craftsmanship to craft a two or three-dimensional artwork.

Assessment Methods:

Course Name/Number: ART 121 Drawing I

Direct Measure Used: Students created an artwork that uses thoughtful proportions, well-considered composition, deliberate use of medium, and a conceptual awareness.

SLO/Rubric Criteria or Question Concepts: Students were instructed to create an artwork that uses thoughtful proportions, well-considered composition, deliberate use of medium, and a conceptual awareness. Instructor evaluation of this assignment should consider the merits of the drawing based on proportion, composition, mark-making, and conceptual awareness using a provided rubric. Each of the four criteria is worth 25 points. Results by SLO Criteria scores in the next column are out of 25 points

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	5	0	0
AN	5	0	0
MA	4	4	0
ME	0	0	0
LO	4	0	67
WO	3	1	8
NOVA Online			
Off-Site Dual Enrollment	0	0	0
Total	21	5	75

Assessment Results

Semester/year data collected: Fall 2021

Targets:

1) At least 80% of students will earn a score of 70 or better. A score of 70 or better is "Competent" as reflected on the attached General Rubric.
2) At least 60% of students will earn a score of 80 or better. A score of 80 or better is "Proficient" as reflected on the attached General Rubric.

Results by Modality: Mean Scores

Results by Modality	Current Results Fall 2021	Previous Results Spring 2020
All students assessed (weighted average)	85.5	85.7
On-campus average	85.5	85.7
Synchronous hybrid (remote) average	NA	NA
NOVA Online average	NA	NA
Dual Enrollment average	NA	NA

Results by SLO Criteria:
Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Fall 2021	Previous Results Spring 2020
1. Proportion	20.9	21.4
2. Composition	21.4	21.4
3. Mark-making	21.4	21.4
4. Concept	21.8	21.4

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [X] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve student learning:
1) This SLO was previously assessed in Spring 2020. In March of that semester, the college shifted to an online learning modality and this assessment took place during remote learning.

Since that time, much of the college has returned to face-to-face (traditional), or hybrid (50% face-to-face) modalities, but have incorporated the use of online content that was developed while classes were remote.
Instructors felt that student access to online materials would complement in person instruction and enrich the student's learning experience.

2) The fine arts program consistently has a set of lower preforming students and very high performing students. Lower performing students often do not successfully complete the class and are frequently not assessed. The set of high performing students, then, often raise the assessment score averages and the data does not truly represent the "average" student.

As a result, the discipline group has added a secondary goal of Proficient to reflect the performance of more specific groups of students: the "average performing" student vs. "high performing" students in this assessment. For the purposes of this assessment, "average performing" students are those that score 70 or better and are considered "Competent." "High performing students are those who score 80 or higher. These students are considered "Proficient."

2. Impact of changes on current results:
It is difficult to determine if the addition of online supplements has aided instruction because there has been a negligible impact on overall scores.

	Narrative comparison of current results to previous results: Scores from this assessment fell overall by 0.2 points from 85.7 to 85.5. By SLO Criteria, scores in proportion fell by 0.5 points. In both Composition and Mark-making, scores were flat at 21.4 points. Concept increased by 0.4 points. **Areas where students met the target:** In this assessment (Fall 2021) 69 of 75 students (or 92%) met the target, earning a score of 70 or better (Competent). 57 students (or 76%) scored 80 or better (Proficient). **Areas where students did NOT meet the target:** All targets were met.	Due to insufficient data from the previous Spring 2020 assessment, unable compare and assess impact of second target (At least 60% of students will earn a score of 80 or better. A score of 80 or better is "Proficient" as reflected on the attached General Rubric.). **3. According to current results, areas needing improvement:** The score in SLO criteria, Proportion, fell 0.5 points from the previous assessment in Spring 2020. This suggests faculty should begin to put more focus on instructing proportion. However, the college moved instruction online in Spring 2020 (due to COVID pandemic) and this assessment was conducted virtually. The fine art faculty discussed this decline. All strongly feel instruction is much better in a face-to-face modality when compared to virtual delivery. Anecdotally, student artwork was much weaker when the college was virtual. The faculty made the conjecture that these higher scores from Spring 2020 are likely an anomaly due to an easing of standards and expectations while instruction was remote during the height of the COVID pandemic. **4. Based on current results, new actions to improve student learning:** 1) The inflated scores of Spring 2020 make it difficult to suggest new actions. Discussions with the Fine Art Discipline Group in October 2020 and Spring 2021 determined that our criteria for evaluation needs no adjustment. The Fine Arts Discipline Group is now considering new ways to determine if these supplementary materials influence student success and engagement. This is an ongoing discussion and actions will be implemented as our strategies develop. 2) The discipline group has added an overall target score of 85, and a target score of 21 for each SLO criterion. Effective Fall 2022 and Spring 2023 SLO cycle. 3) This particular SLO suggests an evaluation of skill rather than concept. As a result, the criteria, "Concept" will be eliminated from the assessment. Effective Spring 2023.

4) In the next assessment, the SLO criteria will have the following values: Proportion 40 points, Mark Making 30 points, Composition 30 points. Effective Spring 2023.

5) Re-examine scores of "high performing" and "average performing" students to determine if target needs adjustment. Discussions ongoing. Adjustment will be implemented concluding discussions.

5. Next assessment of this SLO: Spring 2023

Student Learning Outcome 2: Create an artwork from direct observation.

Assessment Methods

Course Name/Number: ART 121 Drawing I

Direct Measure Used: Students created an artwork from observation that used thoughtful proportions, well considered composition, mark making/deliberate use of medium, and a conceptual awareness.

SLO/Rubric Criteria or Question Concepts: Students were instructed to create an artwork from observation that used thoughtful proportions, well-considered composition, mark making/deliberate use of medium, and a conceptual awareness. Each of the four criteria is worth 25 points. Results by SLO Criteria scores in the next column are out of 25 points.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	0	0
AN	6	0	0
MA	3	3	49
ME	0	0	0
LO	5	0	0
WO	3	1	14
NOVA Online	0		
Off-Site Dual Enrollment		0	0
Total	19	4	63

Assessment Results

Semester/year data collected: Spring 2022

Target:

1) At least 80% of students will earn a score of 70 or better. A score of 70 or better is "Competent" s reflected on the attached General Rubric.

2) At least 60% of students will earn a score of 80 or better . A score of 80 or better is "Proficient" as reflected on the attached General Rubric.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Fall 2020
All students assessed (weighted average)	84.4	85.7
On-campus average	84.4	NA
Synchronous hybrid (remote) average	NA	85.7
NOVA Online average	NA	NA
Dual Enrollment average	NA	NA

Results by SLO Criteria:
Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2020
1. Proportion	20.9	21.7
2. Composition	21.0	21.6
3. Mark Making	21.1	20.6
4. Concept	21.3	22.3

Target Met: [X] Yes [ ] No [ ] Partially

Use of Results

1. Changes put in place since previous assessment to improve student learning:

1) This SLO was previously assessed in Fall 2020. In March of that semester, the college shifted to an online learning modality and this assessment took place during remote learning.

Since that time, much of the college has returned to face-to-face (traditional), or hybrid (50% face-to-face) modalities, but have incorporated the use of online content that was developed while classes were remote.
Instructors felt that student access to online materials would complement in person instruction and enrich the student's learning experience.

2) Criteria for this SLO (SLO 3) and SLO 1 (Apply technical skills of craftmanship to create a two or three-dimensional artwork) are the same. In Fall 2021, the Fine Art Discipline Group maintained that the criteria in both assessments accurately reflected the criteria that should be assessed, and it should remain unchanged. Therefore, no change was made to the criteria.

3) The fine arts program consistently has a set of lower preforming students and very high performing students. Lower performing students often do not successfully complete the class and are frequently not assessed. The set of high performing students, then, often raise the assessment score averages and the data does not truly represent the "average" student.

As a result, the discipline group has added a secondary goal of Proficient to reflect the performance of more

	Current Results Improved vs. Previous Results: [ ] Yes [ ] No [X] Partially [ ] N/A **Narrative comparison of current results to previous results:** Scores from this assessment fell overall by 1.3 points from 85.7 to 84.4. By SLO Criteria, scores in Proportion fell by 0.8 points, Composition fell by 0.6, Concept fell by 1.0 points. Scores in Mark-making rose by 0.5 points. **Areas where students met the target:** All targets met. In this assessment (Spring 2022) 57 of 63 students (or 90.5%) met the target earning a score of 70 or better (Competent). 44 of 63 students (or 69.8%) scored 80 or better (Proficient). **Areas where students did NOT meet the target:** All targets were met.	specific groups of students: the "average performing" student vs. "high performing" students in this assessment. For the purposes of this assessment, "average performing" students are those that score 70 or better and are considered "Competent." "High performing students are those who score 80 or higher. These students are considered "Proficient." **2. Impact of changes on current results:** Due to insufficient data from the previous Fall 2020 assessment, unable compare and assess impact of second target (At least 60% of students will earn a score of 80 or better. A score of 80 or better is "Proficient" as reflected on the attached General Rubric.). It is difficult to determine if supplementary online materials had an impact. Scores in Proportion, Composition, and Concept all fell. Scores in Mark Making rose. **3. According to current results, areas needing improvement:** The data indicates scores in Proportion, Composition, and Concept need improvement. This suggests faculty should begin to put more focus on instructing proportion, composition, and concept; however, as with Spring 2020, the college conducted instruction online (due to COVID pandemic) and this assessment was conducted virtually. The fine art faculty discussed this decline in student scores from Fall 2020 to Spring 2022. All strongly feel instruction is much better in a face-to-face modality when compared to virtual delivery. Anecdotally, student artwork was much weaker when the college was virtual, and these low scores in SLO criteria contradict faculty observations. The faculty made the conjecture that these higher scores from Fall 2020, are likely an anomaly due to an easing of standards and expectations while instruction was remote during the height of the COVID pandemic. **4. Based on current results, new actions to improve student learning:** 1) The Fine Art Discipline Group will continue to monitor the delivery of online content and its impact on student learning by comparing overall target scores across virtual, hybrid, and face-to-face (FTF) modalities. This action will be implemented beginning Fall 2022 and Spring 2023.

2) The discipline group has added an overall target score of 85, and a target score of 21 for each SLO criteria. Effective Fall 2022 and Spring 2023.

3) This SLO evaluates skills in observational drawing rather than concept. As a result, the criteria, "Concept" will be eliminated from the assessment. Effective Spring 2023.

4) In the next assessment, the SLO criteria will be worth the following: Proportion 40 points, Mark Making 30 points, Composition 30 points. Effective Spring 2023.

5) Re-examine scores of "high performing" and "average performing" students to determine if target needs adjustment.

5. Next assessment of this SLO: Fall 2023

Student Learning Outcome 3: Recognize the role of social, community and global connections to understand historical and/or contemporary art.

Assessment Methods

Course Name/Number:
ART 131 Fundamentals of Design I

Direct Measure Used: Students created an artwork that explored social/cultural concepts that used thoughtful proportions, well-considered composition, and deliberate use of medium.

SLO/Rubric Criteria or Question Concepts: Students were instructed to create an artwork that explored social/cultural concepts using thoughtful proportions, well-considered composition, and deliberate use of medium/technical competence. Each of the four criteria is worth 25 points. Results by SLO Criteria scores in the next column are out of 25 points.

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	1	9
AN	2	0	0
MA	3	3	60
ME	0	0	0
LO	4	0	0
WO	4	2	12
NOVA Online			
Off-Site Dual Enrollment	0	0	0
Total	15	6	81

Assessment Results

Semester/year data collected: Spring 2022

Target:

1) At least 80% of students will earn a score of 70 or better. A score of 70 or better is "Competent" s reflected on the attached General Rubric.
2) At least 60% of students will earn a score of 80 or better. A score of 80 or better is "Proficient" as reflected on the attached General Rubric.

Results by Modality: Overall Average/Mean Scores

Results by Modality	Current Results Spring 2022	Previous Results Fall 2020
All students assessed (weighted average)	87.7	87.8
On-campus average	87.7	NA
Synchronous hybrid (remote) average	NA	87.8

Results by SLO Criteria:
[X] Average/Mean Score per criteria
[ ] Percent of Students > target per criteria

Results by SLO Criteria/ Question Concepts	Current Results Spring 2022	Previous Results Fall 2020
1. Proportion	21.5	22.4
2. Composition	21.5	22.0

Use of Results

1. Changes put in place since previous assessment to improve student learning: 1) This SLO was previously assessed in Fall 2020. In March of that semester, the college shifted to an online learning modality and this assessment took place during remote learning.

Since that time, much of the college has returned to face-to-face (traditional), or hybrid (50% face-to-face) modalities, but have incorporated the use of online content that was developed while classes were remote.
Instructors felt that student access to online materials would complement in person instruction and enrich the student's learning experience.

2) The fine arts program consistently has a set of lower preforming students and very high performing students. Lower performing students often do not successfully complete the class and are frequently not assessed. The set of high performing students, then, often raise the assessment score averages and the data does not truly represent the "average" student.

As a result, the discipline group has added a secondary goal of Proficient to reflect the performance of more specific groups of students: the "average performing" student vs. "high performing" students in this assessment. For the purposes of this assessment, "average performing" students are those that score 70 or better and are

3.	Technical Competence	22.1	21.3
4.	Social/Cultural Understanding	22.8	22.0

Target Met: [x] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[ ] Yes [ ] No [x] Partially [ ] N/A

Narrative comparison of current results to previous results: Scores from this assessment fell overall by 0.1 points from 87.8 to 87.7. By SLO Criteria, scores in Proportion fell by 0.9 points, Composition fell by 0.5, Technical Competence fell by 0.2 points. Scores in Social/Cultural Understanding rose by 0.8 points.

Areas where students met the target: All targets met. In this assessment (Spring 2022) 79 of 81 students (or 97.5%) met the target earning a score of 70 or better (Competent). 73 of 81 students (or 90.1%) scored 80 or better (Proficient).

Areas where students did NOT meet the target:
All targets were met.

considered "Competent." "High performing students are those who score 80 or higher. These students are considered "Proficient."

2. Impact of changes on current results: Due to insufficient data from the previous Fall 2020 assessment, unable compare and assess impact of second target (At least 60% of students will earn a score of 80 or better. A score of 80 or better is "Proficient" as reflected on the attached General Rubric.).

It is difficult to determine if the addition of online supplements has aided instruction. When compared to the previous results in Fall 2020, current (Spring 2022) results show a decrease in 3 of the 4 SLO criteria. Social/Cultural Understanding did improve while scores in Proportion, Composition, and Technical Competence fell. This would suggest instructors did a better job of engaging students in Social/Cultural understanding in a face-to-face or hybrid modality.

3. According to current results, areas needing improvement: The fine art faculty strongly feel instruction is much better in a face-to-face modality when compared to virtual delivery. Anecdotally, student artwork was much weaker when the college was virtual, and lower or equal scores in Spring 2022 SLO criteria contradict faculty observations. The faculty made the conjecture that these higher scores from Fall 2020, are likely an anomaly due to an easing of standards and expectations while instruction was remote during the height of the COVID pandemic.

Though scores in Social/Cultural Understanding improved, faculty felt more student engagement is necessary in this area.

4. Based on current results, new actions to improve student learning: 1) The Fine Art Discipline Group will continue to monitor the delivery of online content and its impact on student learning by comparing overall target scores across virtual, hybrid, and face-to-face (FTF) modalities.

2) The discipline group has added an overall target score of 85, and a target score of 21 for each SLO criteria.

		3) Faculty within the discipline will also attempt to improve student understanding of social/cultural understanding and its connection to aesthetic choices (as assessed through proportion, composition, and technical competence). 4) Re-examine scores of "high performing" and "average performing" students to determine if target needs adjustment. Discussions ongoing. Adjustment will be implemented concluding discussions. **5. Next assessment of this SLO:** Fall 2023

Core Learning Outcome: **[ ] Civic Engagement** **[X] Written Communication**
Operationalized Definition: Evaluate a work of art using critical thinking and an accurate vocabulary.

Assessment Methods

Course Name/Number:
ART 131 Fundamentals of Design I

Direct Measure Used: Complete a written evaluation of a work of art that has been created in class. This work may have been created by you or one of your peers. Use appropriate vocabulary to describe the elements and principles of design, and how the work of art may or may not effectively communicate a concept or idea.

CLO/Rubric Criteria or Question Concepts: Instruct students to complete a written evaluation of a work that has been created in class. The work may have been created by themselves or one of their peers. Instructor evaluation of this assignment should consider the merits of the student's written remarks based on description, analysis, interpretation, and judgment of the work. Descriptions should accurately reflect a student's knowledge of the elements and principles of design and how they are used to communicate a concept or idea. Instructors were provided a rubric for evaluation of student assignment. (See attached rubrics.)

Sample:

Campus/ Modality	Total # of Sections Offered	# Sections Assessed	# Students Assessed
AL	2	0	0
AN	4	0	0
MA	3	2	29
ME	0	0	0
LO	4	0	0
WO	4	0	0
NOVA Online	0	0	0

Assessment Results

Semester/year data collected: Fall 2021

Target:
1) At least 80% of students will earn a score of 70 or better. A score of 70 or better is "Competent" s reflected on the attached General Rubric.
2) At least 60% of students will earn a score of 80 or better . A score of 80 or better is "Proficient" as reflected on the attached General Rubric.

Results by Modality: Mean Scores

Results by Modality	Current Results Semester Year	Previous Results
All students assessed (weighted average)	91	86.1
On-campus average	91	86.1
Synchronous hybrid (remote) average	NA	NA
NOVA Online average	NA	NA
Dual Enrollment average	NA	NA

Results by CLO Criteria:
Average/Mean Score per criteria

Results by SLO Criteria/ Question Concepts	Current Results Semester Year	Previous Spring 2020
1. Description	23.2	21.1
2. Analysis	23.4	20.9
3. Interpretation	22.8	21.5
4. Judgement	21.6	20.9

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:

Use of Results

1. Changes put in place since previous assessment to improve student learning:
1) Instructors defined the basic design elements and provided more in-depth instruction in this area.
2) Specific art terms for student usage were identified
3) Instruction involved more critique which requires the development of an arts-specific vocabulary.
4) Instructors emphasized the importance of correct terminology and identification of design elements as it relates to professional readiness.
5) The fine arts program consistently has a set of lower preforming students and very high performing students. Lower performing students often do not successfully complete the class and are frequently not assessed. The set of high performing students, then, often raise the assessment score averages and the data does not truly represent the "average" student. As a result, the discipline group has added a secondary goal of Proficient to reflect the performance of more specific groups of students: the "average performing" student vs. "high performing" students in this assessment.
6) For the purposes of this assessment, "average performing" students are those that score 70 or better and are considered "Competent." "High performing students are those who score 80 or higher. These students are considered "Proficient."

2. Impact of changes on current results: Scores improved dramatically from 86.1 to 91; however only 2 of 17 sections were assessed.

Off-Site Dual Enrollment			
Total	17	2	29

[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous results:
Scores improved in all four SLO Criteria from previous assessment in Spring 2020.

Areas where students met the target:
In this assessment 29 of 29 students (or 100%) met the target.

Areas where students did NOT meet the target:
All students met targets.

3. According to current results, areas needing improvement: The number of reporting sections was very low. This does not give us good data to suggest changes to curriculum.

4. Based on current results, new actions to improve student learning: Due to the very low number of assessed students, it is difficult to suggest new actions. A list of adjunct faculty has been compiled to ensure all faculty are aware of assessment and assessment practices. Associate Deans will also be notified of assessments and assessment schedule to encourage faculty to participate.

Scores for assessed students suggest previous actions resulted in greater student learning. No new actions will be taken at this point however the actions below will be re-emphasized:

1) Instructors will continue to define the basic design elements and provide in-depth instruction in these areas.
2) Instruction will continue to involve the practice of critique requiring student development of an arts-specific vocabulary.
3) Instructors will continue to emphasize the importance of correct terminology and identification of design elements as it relates to professional readiness.
4) Re-examine scores of “high performing” and “average performing” students to determine if target needs adjustment.

5. Next assessment of this CLO: Spring 2023

Program Goal on Graduation: Bring Awareness to the Associate of Fine Art degree to increase graduation

Assessment Method	Assessment Results	Use of Results

Short description of method(s) and/or source of data:
Graduation data obtained from OIR:
https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	Required Number of Graduates (for Institutions with 5,000 or more students)

Target: 60 graduates

Results for Past 5 Academic Years:

Academic Year	Number of Graduates	Percentage Increase/ Decrease
2021-22	88	22.2
2020-21	72	67.4
2019-20	43	330
2018-19	10	----
2017-18		----

1. Changes put in place since previous assessment to improve graduation results: The program has worked with Transfer VA and Advance to ensure all classes within the AFA will transfer to a majority of Virginia state colleges and universities.

The program has continued to familiarize students with the importance of taking ART 199 and 299 in sequence and have worked with our primary transfer partner, George Mason, to accept these classes as part of their curriculum.

Transfer (A.A., A.S., A.A.&S.)	17
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	12
A.A.S. in Engineering, Mechanical, and Industrial Technologies	9
A.A.S. in Health Technologies	7

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Target Met: [X] Yes [ ] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Narrative comparison of current results to previous year's results: The program continues to meet its goal of 60 students while increasing its number of graduates.

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 graduation total surpass the VCCS Productivity Standards from the previous column? Please explain: Yes. AFA in Visual Art FTES far exceeds VCCS FTES Productivity Requirements for Associates degrees.

In addition, we have added additional pre-approved electives to the degree path and worked with George Mason in this regard as well, to ensure course transfer.

2. Impact of changes on current results: We have no data that suggests how many of our graduates transfer to George Mason, but graduation rates are very strong.

3. According to current results, areas needing improvement: Graduation is strong and it is difficult to determine what areas need improving.

4. Based on the results, new actions to improve graduation/productivity results:1) Many of our students are curious about programs outside of the state but within the region. The program can continue to reach out and develop pathways for transfer to college other than George Mason.

2) Despite faculty efforts, students continue to self-advise. This results in students losing credit upon transfer, taking courses out of sequence, and a multitude of other problems. As a small way to combat these issues and help students that refuse to reach out to advisors and/or faculty, the AFA degree requirements have been distributed and will be posted in all studio art rooms beginning Fall 2022.

5. Next assessment of this goal: Assessed annually

Program Goal on Program-Placed Students: Bring awareness to the Associate of Fine Art degree to increase program-placed students.

Assessment Method

Short description of method(s) and/or source of data:
Program placement data obtained from OIR: https://www.nvcc.edu/osi/assessment/slo-assessment/apers-data.html

VCCS Associate Degree Productivity Standards

Degree Program	FTES Requirement (for Institutions with 5,000 or more students)
Transfer (A.A., A.S., A.A.&S.)	24
A.A.S. in Agriculture & Natural Resources, Business, Arts & Design, Public Service Technologies	18
A.A.S. in Engineering, Mechanical, and	13

Assessment Results

Target: 600 Program Placed Students

Results for Past 5 Academic Years - Headcount:

Academic Year	Number of Program-Placed Students	Percentage Increase/ Decrease
2021-22	590	7.4
2020-21	549	14.4
2019-20	480	158.1
2018-19	186	----
2017-18	---	----

Target Met for Headcount: [ ] Yes [X] No [ ] Partially

Current Results Improved vs. Previous Results:
[X] Yes [ ] No [ ] Partially [ ] N/A

Use of Results

1. Changes put in place since previous assessment to improve program placement results: The program attempted to Improve high school outreach, but with many schools returning to in-person instruction AY 2021-22, many of the opportunities faculty engaged in no longer existed, or the format of existing events have changed making it not possible to engage high school students as we did before Spring 2020.

The program worked with the college's Associate Deans to increase the number of the program's online and hybrid course offerings.

2. Impact of changes on current results: The program did see a slight increase in program-placed students and FTES.

Visual Art, A.F.A.

Industrial Technologies	
A.A.S. in Health Technologies	10

Source: Virginia Public Higher Education Policy on Program Productivity (schev.edu). Technical Updates: October 2019.

Narrative comparison of current results to previous year's results: There is some increase in program-placed students (from 549 to 590) but it is still short of our target of 600 program-placed students.

Results for Past 5 Academic Years - FTES:

Academic Year	Number of Program-Placed FTES	Percentage Increase/ Decrease
2021-22	389.3	6.6
2020-21	365.3	8.9
2019-20	335.4	143.9
2018-19	137.5	----
2017-18	----	----

For Associate-Degree Granting Programs only (N/A for Certificates):
Does the 2020-2021 FTES meet the VCCS Productivity Standards from the previous column? Please explain:
Yes. AFA in Visual Art FTES far exceeds VCCS FTES Productivity Requirements for Associates degrees.

3. According to current results, areas needing improvement: Anecdotally, many students are not advised correctly or given incorrect information when declaring their major with college counselors. Though there was an increase in program-placed students and FTES, the Fine Arts Discipline Group feels it is necessary to work with student services advisors and counselors to help them understand the AFA degree to advise and place incoming students more effectively.

4. Based on the results, new actions to improve program placement/productivity:1) The Discipline Group feels the program has not reached its potential and is underperforming given the enrollment in visual art classes and the former popularity of the AA in Fine Arts. (Office of Strategic Insights Fact Book notes that Fall 2015 the AA and AAA in Fine Art had a combined 821 program-placed students and 961 FTES compared to 389 program-placed students and 590 FTES in the current assessment).

2) Our primary action is to develop an on-going relationship and dialogue with student services to help their staff deliver more accurate information and help students make more informed decisions.

3) The program will continue to explore high school outreach to recruit new students and build interest in the program.

5. Next assessment of this goal: Assessed annually

PATHWAY TO THE AMERICAN DREAM—NOVA'S STRATEGIC PLAN 2017-2023

THE NOVA COMMITMENT

As its primary contributions to meeting the needs of the Commonwealth of Virginia, Northern Virginia Community College pledges to advance the social and economic mobility of its students while producing an educated citizenry for the 21st Century.

THE STRATEGIC PLAN GOALS AND OBJECTIVES[1]

To deliver on this commitment, NOVA will focus its creativity and talent, its effort and energy, and its resources and persistence, on achieving three overarching goals—success, achievement, and prosperity. It will strive to enable **Every Student to Succeed, Every Program to Achieve,** and **Every Community to Prosper.** These strategic goals are grounded in our college's commitment to equity, excellence, empathy, evidence, and economic and social mobility (NOVA's 5Es).

GOAL 1: Every Student Succeeds

- **Objective 1:** Adopt a college-wide approach to advising
- **Objective 2:** Achieve equity in student outcomes

GOAL 2: Every Program Achieves

- **Objective 3:** Establish comprehensive, fully-integrated, Informed Pathways (high school to NOVA to four-year college/university) for every program
- **Objective 4:** Sustain and, where needed, establish effective, equity-minded NOVA collegewide processes, protocols, policies, and accountabilities for services and programs
- **Objective 5:** Align NOVA's culture, structure, and talent management/development with its access and equity mission and commitment to inclusive excellence
- **Objective 6:** Stabilize, grow, and sustain resources required to support mission and innovation

GOAL 3: Every Community Prospers

- **Objective 7:** Elevate and empower NOVA as the region's leading workforce provider across all essential and high demand industry sectors

[1] Strategic Plan Objectives were revised in Fall 2020.

NOVA | Northern Virginia Community College