

**CURRICULUM COMMITTEE**  
**Approved February 2, 2017**

**Members Present:** Ms. Aida Brhane, Mr. Paul Chapman, Ms. Mary Charleza, Dr. Maggie Emblom-Callahan, Dr. Anne Loochtan, Ms. Mitra Jahangeri, Dr. Diane Mucci, Mr. Frederick Markham, Dr. Jimmie McClellan, Dr. Mary Mosely, Dr. Sheri Robertson, Dr. John Sound, and Mr. Scott Wood.

**Members Absent:** Dr. Nathan Carter, Ms. Carolyn Davis, Dr. Pamela Hilbert, Dr. Julie Leidig, Ms. Maryellen Ryan, Dr. Mel Schiavelli, Mr. Bernard Schmidt, and Mr. Fernando Seminario.

**Guests:** Dr. Barb Canfield, Mr. Gregory Eckler, Ms. Paula Ford, Ms. Sharon Karkehabadi, Dr. Chad Knights, Mr. Rodolfo Napisa, Mr. Robert Woodke

**Minutes of the December 2016 Meeting**

Minutes of the December 8, 2016 meeting were approved as distributed. Dr. Robertson provided an update on the status of previously approved items.

**Revise IT and Cybersecurity Curricula**

Ms. Paula Ford (IT, WO), chair of the IT Cluster, explained that the faculty considered the needs of students using financial aid as the faculty reviewed the IT AS, IST AAS, Cybersecurity and all related career studies certificates' curricula. With the support of their advisory committee and deans, they recommend several changes that will reduce the total number of credits required and improve transfer of the degree programs by removing the PED requirement from each. The course additions and deletions for the career studies programs are designed to avoid hidden prerequisites, remove courses not needed for students to sit for industry certifications, and add courses to improve students' preparation to sit for industry certification exams. Ms. Ford reported that each career studies certificate prepares students for at least one industry certification exam.

With support from Dr. Barbara Canfield (dean, LO), Ms. Ford outlined the curricular revisions summarized here:

Program	Proposed Revision	Rationale
Cybersecurity AAS	Remove PED 116	It does not transfer to the colleges and universities that accept this degree.
Information Systems Technology AAS	Remove PED 116 and PED/RPK elective	Although not a transfer degree, IST AAS students do transfer. The senior institutions that accept this degree do not require PED.
Information Technology AS	Remove PED 116	PED does not transfer well.
Cyber Security Career Studies Certificate	<ul style="list-style-type: none"> <li>• Remove ENG 111</li> <li>• Add ITE 115</li> </ul>	<ul style="list-style-type: none"> <li>• ENG 111 is not required for the certification exam. Many students in this program already have a degree anyway.</li> </ul>

	<ul style="list-style-type: none"> <li>• Add ITN 101 or ITN 100</li> <li>• Add ITN 276, 277, 290 and 295 as an elective</li> </ul>	<ul style="list-style-type: none"> <li>• It is a prerequisite for ITN 100 and 101, which are being added.</li> <li>• These are prerequisites for ITN 260.</li> <li>• These are electives in the Cybersecurity AAS.</li> </ul>
Database Career Studies Certificate	<ul style="list-style-type: none"> <li>• Add MTH 151</li> <li>• Add ITD 256 as an option for ITD 260</li> </ul>	<ul style="list-style-type: none"> <li>• MTH 151 is a prerequisite for ITP 100.</li> <li>• ITD 260 is not offered on all campuses.</li> </ul>
Network Administration Career Studies Certificate	<ul style="list-style-type: none"> <li>• Remove ITN 100</li> <li>• Remove ITN 208</li> <li>• Remove ITN 245</li> <li>• Add ITN 171 or ITN 170</li> <li>• Add 3 certifications in the Purpose section.</li> </ul>	<ul style="list-style-type: none"> <li>• ITN 101 is required; students do not need both courses.</li> <li>• Much of the ITN 208 content already is covered in ITN 100.</li> <li>• Students do not need both ITN 200 and 245.</li> <li>• They provide Window Server and Linux/Unix experience.</li> <li>• This program prepares students to sit for Windows Server, Security + and Linux+ exams as well as those already listed.</li> </ul>
Application Programming Career Studies Certificate	<ul style="list-style-type: none"> <li>• Remove ITP 112 and 212</li> </ul>	<ul style="list-style-type: none"> <li>• These courses teach Visual Basic, which is not needed by most students. The courses are not offered on any campus.</li> </ul>
IT Technical Support Career Studies Certificate	<ul style="list-style-type: none"> <li>• Move ITE 180 to the first semester</li> </ul>	<ul style="list-style-type: none"> <li>• ITE 180 is a prerequisite for ITE 182.</li> </ul>
Web Design & Development Career Studies Certificate	<ul style="list-style-type: none"> <li>• Remove ITE 130</li> <li>• Add MTH 151</li> </ul>	<ul style="list-style-type: none"> <li>• Most topics are covered in ITE 115.</li> <li>• MTH 151 is a prerequisite for ITP 100</li> </ul>

In addition to the curricular changes, the faculty updated the locations that offer the Cybersecurity, Database and Network Administration career studies certificates.

Although originally the IT faculty had hoped to have the changes in place for Spring 2017, given the date the proposal was presented, the Curriculum Committee approved the changes to be effective for Fall 2017.

**Computer Aided Drafting and Design Career Studies Certificate Revisions**

Dr. Chad Knights (dean, AL) introduced Mr. Robert Woodke (MEC, AN) and Mr. Rodolfo Napisa (EGR, AN), who presented the Engineering Technology faculty’s proposal to revise the Computer Aided Drafting and Design career studies certificate. With the support of their deans and advisory

committee, the faculty propose adding a 2-3-credit technical elective to the Computer Aided Drafting and Design career studies certificate. The elective may be selected from Architecture Technology, Building, Civil Engineering, Computer Aided Drafting and Design, Engineering, and Mechanical Engineering courses, or Precalculus. Any of these courses will be useful to students, most of whom are already working in the field. The additional 2-3 credits will make the career studies certificate, which currently requires only 14 credits, require 16-17 credits; thus, students placed in the program will be eligible for federal financial aid. The two-campus program reliably produces double-digit numbers of graduates annually (15 in 2016), but the number of graduates has been declining slightly. The ability of CADD students to use financial aid may help strengthen the completion rate.

Dr. Loochtan recommended that future proposals lead with the academic and student success benefits rather than indicating that courses are being added just so students can use financial aid.

Asked about the audience for this program, Mr. Woodke stated that most students are already working and use the career studies certificate for promotion. Mr. Scott Wood noted that Workforce offers some related CADD courses. Dr. Knights added that this overlap is being discussed by the Applied Technologies learning council.

It was observed that CAD 201 has several prerequisites that are not part of the program. Mr. Woodke and Dr. Knights stated that students are usually enrolled with division approval.

The Curriculum Committee approved the proposed revision to the Computer Aided Drafting and Design career studies certificate.

### **Science AS Revisions**

Dr. Knights and Dr. Canfield presented the science deans' proposal to revise the Science AS. These proposed changes align the Science AS curriculum with the transfer requirements of NOVA's top 4-year transfer universities and address the need to include hidden mathematics prerequisites into the degree. The proposed changes will add flexibility to address the transfer needs of students who wish to transfer into a Life Science or a Physical Science 4-year program. In addition, the changes improve the Science AS curriculum's first semester with that of the Engineering AS, which is helpful since students often switch from one program to the other. These proposed changes are supported by the two science-related Learning Councils and the math and science clusters. The changes are not intended to be applied to the Mathematics specialization.

The major proposed changes include the following, which will guide transfer to George Mason University (GMU), Virginia Commonwealth University, Virginia Tech, Old Dominion University, University of Virginia and James Madison University.

- Add precalculus as an option for students who need it  
Data provided by OIR showed that many students entering the Science program do not qualify for calculus and must complete precalculus, which is currently not part of the degree. To address this issue, the 5-credit MTH 166 Pre-calculus with Trigonometry has been added to the degree as an option for the first Physical or Life Science elective. Students who place directly into calculus are directed to take a laboratory science course instead of MTH 166.

Science electives are 4 credits, so this option the requirement is listed as 4-5 credits. This increases the maximum credits in the degree by one credit (addressed below). A footnote explains that students who need precalculus may take MTH 163-164 Pre-calculus I - II in place of MTH 166. Students who need both courses would complete a total of 6 credits, but those who only need MTH 164 would only have to take 3 credits of Pre-calculus. The footnote states that students who place into calculus may not use pre-calculus to satisfy an A.S. in Science degree requirement.

- Remove PED and one General Education Elective credit  
The Science degree currently requires 60-64 credits; 64 exceeds the maximum credit limit of 63 allowed by VCCS policy. Adding the 5-credit MTH 166 increases the credit count by one credit, creating a maximum credit total of 65 if nothing is removed. To maintain a total degree credit count between 60 and 63, PED 116 and the 1-credit General Education Elective should be removed. These credits are not required for the degree and PED credits do not transfer to senior institutions.
- Standardize the Mathematics requirement to MTH 173 and MTH 174  
Currently the Science degree allows students to complete MTH 271-272 Applied Calculus I and II or MTH 173-174 Calculus with Analytic Geometry I-II. However, most of the senior institutions do not accept MTH 271-272 for their Science curricula so those courses should be removed as options in our degree. There is a footnote stating that since some universities accept MTH 241 Statistics I for their Biology majors, students may substitute MTH 241 for MTH 174.
- Include higher level mathematics as an option in place of science electives  
Baccalaureate Physical Science programs require additional higher level mathematics and fewer Science elective courses than are required in the Science AS. To address this concern, the deans recommend allowing higher level mathematics as an option for up to three Physical or Life Science Electives. VCCS policy only requires that AS degrees include at least 6 credits of math and at least 7 credits of lab science. Since two of the optional math courses are 3 credit courses this requires that two of the six science or math electives be listed as variable credit from 3 to 4. This change establishes the credit floor of the Science degree at 60 credits.
- Replace CSC 110 with ITE 115 or general education elective  
A prior Curriculum Committee proposal (Dec 2016, Attachment D) was approved allowing ITE 115 to be co-listed with CSC 110 in the A.S. in Science degree. This change was put in place due to transferability issues seen with CSC 110. However, the science-related learning councils found that many universities have moved to integrate computer literacy throughout other courses and no longer require a dedicated computer literacy course.

Specifically, CSC 110 is not accepted or required by any of NOVA's major transfer universities and therefore will be removed from the A.S. in Science degree. ITE 115 is not accepted for transfer or required by any of NOVA's major transfer universities except George Mason University. At Mason, it is only required for students not admitted under the Guaranteed Admissions Agreement. This is a significant number of students, but requiring ITE 115 of

everyone would cause many students who do not transfer to Mason to take a course that would not be applied toward their baccalaureate degree. To allow students some flexibility the deans recommend changing the requirement to ITE 11r or a 3 credit General Education Elective. It is possible that students who need precalculus might satisfy this requirement with MTH 163.

Although ITE 115 is not required by policy to be included in an AS degree, it has been included to satisfy the VCCS computer literacy requirement outlined in the VCCS policy manual 5.1.0.1. To maintain compliance with this policy, SLOs to demonstrate the computer literacy of students in the Science program will be implemented in Fall 2017 and assessed annually.

- Remove BIO141/142, ENV 121/122 and BIO 107 as science electives  
BIO 141/142 Anatomy and Physiology I and II, ENV 121/122 Environmental Science I and II and BIO 107 Biology of the Environment do not transfer as Physical or Life Science electives to NOVA's primary receiving institutions.

ENV 121 and 122 are well accepted as General Education courses in non-science degrees at all of NOVA's major transfer universities. Enrollment in these courses across the college is strong, and almost exclusively made up of students in non-science degrees. These courses should be maintained as General Education Electives. Conversely, BIO 107 has not been successfully offered since the fall of 2006. The science deans recommend that this course be deleted from the catalog.

BIO 141-142 is most often taken by pre-nursing or pre-allied health students in the General Studies degree plan. This change will not impact these students.

- Revise the degree Purpose statement  
In the current catalog layout, the Purpose statement for the Science program says that this degree should be chosen by students intent on transferring into a 4-year program in home economics and nursing. Those careers should be removed from the Purpose statement because they do not align well with the Science degree.

The Curriculum Committee approved the proposed revisions to the Science AS program, to be effective Fall 2017.

### **Communication Design Title Change and Curriculum Revisions**

Dr. McClellan summarized the need to change the title and curriculum of the Communication Design program. The faculty, their deans, and their program advisory committee recommend that the program's title be changed to Graphic Design. Mr. Gregory Eckler (Communication Design, AL) explained that this change reflects industry standards and is consistent with the Bureau of Labor Statistics' use of "Graphic Designers" as an occupation for which it provides data. It also is consistent with similar name changes already made by Blue Ridge, Piedmont and Tidewater Community Colleges; Virginia Western and Central Virginia still use "Communication Design" but supported NOVA's proposal to change our program's name. In addition, Virginia public and other local senior

institutions have Graphic Design programs. Students report that they look for a Graphic, not Communication, Design program and are not sure what a communication designer would do. Finally, the name change reduces confusion among students and others at NOVA, who think Communication Design is part of Communication Studies and Theatre (CST).

Mr. Eckler stated that the faculty also propose removing PED 116 from the AAS and its specialization. The faculty will add a topic to a core course regarding developing and refining personal wellness goals given there are potential problems associated with having a fairly sedentary job.

The faculty recommend eliminating ART 207 3-D Model Rendering and ART 230 Multimedia II from the Multimedia certificate. Mr. Eckler reported that due to low enrollment, neither course has run for many years and faculty have routinely had to approve substitutions. ART 207 and 230 would be replaced by ART 140 Introduction to Graphic Skills and ART 251 Communication Design I. In these two courses, students attain skills that are fundamental in creating vector and raster screen-based graphics needed for multimedia design.

Faculty also propose adding PHT 130 Video as an alternative class for ART 208 Video Techniques in the Multimedia certificate. It covers the essential objectives and topics. Unlike ART 208, PHT 130 is rarely cancelled.

In the Web Design Specialist career studies certificate, faculty propose offering ART263 Interactive Design I as an alternative class for ART 220 Advanced Web Design. Unlike ART 220, ART 263 is rarely cancelled.

Throughout the curricula, the number of credits for fine arts courses must be changed from 4 to 3 as recommended by the Fine Arts faculty. This was done to align with senior institutions.

The Curriculum Committee approved changing the title of Communication Design to Graphic Design. The committee also approved the proposed revisions to the Communication Design AAS, its Interactive Design specialization, the Multimedia certificate, and the Web Design Specialist career studies certificate. In addition, as recommended by Mr. Markham, Dr. Robertson will move the social science from the second to the first semester in order to make the semester loads more balanced.

### **Reduce the Number of Credits Required for Most Beginning World Language Courses**

Drs. McClellan and Peretti presented the World Languages Cluster's proposal to change the number of credits required for most Beginning (101-102) world language courses. Specifically, although Beginning Arabic and Beginning Chinese would remain 5 credits each, other world languages offered at NOVA would use the 4-credit version of 101-102 (except Latin, which is already only 3 credits because it lacks an oral component). The VCCS Master Course File allows each of these courses to be offered for 4 or 5 credits. These changes are recommended for two reasons. First, as prerequisites for the Intermediate world languages, reducing them from 5 to 4 credits each would reduce the number of credits that must be set aside in every AA program to avoid having hidden prerequisites. Second, when students transfer, they are likely to receive only 3 credits per course.

The cluster did not unanimously agree that only Arabic and Chinese should remain at 5 credits. Some cluster members and some Curriculum Committee members questioned the logic of doing so for these two languages but not the others that also require students to learn different characters as well as new vocabulary and grammar. The memorandum sent to the Curriculum Committee from Dr. Franklin requests that Beginning Japanese and Russian also remain 5-credit courses, but subsequent emails from cluster members led to agreement that only Arabic and Chinese should remain at 5 credits. Since Hindi, Japanese, Korean, Russian and Vietnamese have not run much if at all in several years, this is a moot point.

The Curriculum Committee approved the use of the 4-credit version of all World Language 101-102 courses except for Arabic and Chinese.

### **Liberal Arts AA Revisions**

Dr. Peretti explained that in response to the VCCS mandate that all programs be rid of hidden prerequisites by Fall 2017, the Liberal Arts and Social Sciences Learning Council carefully considered ways to make room for Beginning World Language in the Liberal Arts AA and its specializations. The use of 4-credit Beginning World Language courses, as proposed above, was one of the Learning Council's recommendations. The Council also proposes removing PED 116 from all specializations to be consistent with the parent degree and to keep the total number of credits within the allowable limits.

Recently reaffirmed VCCS policy requires that all AA degrees include 6 credits of Intermediate World Language. Some students place directly into Intermediate World Language, but many need at least one semester of Beginning World Language. Students who place directly into an intermediate level foreign language or ASL may take any transfer-oriented course to meet the credit requirement. Some foreign languages require 5 credits for each Beginning course and 4 credits for each Intermediate course, while others require 4 credits for each Beginning course and 3 credits for each Intermediate course.

The Liberal Arts AA curriculum currently includes 12 credits of General Electives. A footnote explains that students who need to take one or two semesters of Beginning World Language in order to be prepared for the required Intermediate World Language may use Beginning World Language to meet 10 of those elective credits. However, students and advisors frequently do not realize this until students already have taken other courses to meet the elective requirements. Thus, Beginning World Language may be considered a hidden, or at least not very obvious, prerequisite for some Liberal Arts students. This problem is compounded in some of the Liberal Arts specializations, which include fewer elective credits.

The Curriculum Committee approved the revised Liberal Arts AA curriculum to highlight the potential need for Beginning World Languages, to be effective Fall 2017. The committee also approved the revised curricula for the Liberal Arts specializations to remove PED 116 and other courses as needed to make room for Beginning World Languages, to be effective Fall 2017. After the changes are made, Dr. Robertson will double-check to be sure that each specialization still differs from the parent Liberal Arts degree by 9-15 credits.

**Discontinue the Fine Arts AA and the Music AA**

Dr. Robertson introduced the Fine Arts and Music faculty recommendations to discontinue the Fine Arts AA and the Music AA. Dr. McClellan explained that the discontinuances are supported by the related clusters, as voted upon at the January 2017 arts meta-cluster meeting, the deans, and the Arts Learning Council. With the Associate of Fine Arts (AFA) in Visual Art proposal being reviewed by System Office staff now, and a Music AFA proposal being nearly ready for Curriculum Committee consideration, the AA degrees will no longer be needed. The Committee was reminded that a major reason for developing the AFA type of degree was to improve transfer, which is not adequately supported by the AA programs.

Hundreds of students are placed in each of the AA programs, but there were only 31 graduates of the Fine Arts AA and 11 graduates of the Music AA in 2016. Students will be advised that they have three years to complete the AA degree if they wish. If they have not completed much of the AA, students will be advised to change their placement to the AFA instead.

The Curriculum Committee approved the discontinuance of the Fine Arts AA, to be effective Fall 2017. The Committee also approved the discontinuance of the Music AA to be effective with the implementation of a Music AFA.