

# ADVANCE

A NOVA | MASON PARTNERSHIP

A.S. Science / B.A. Chemistry - All Concentrations Pathway  
2021-2022

## A.S Science

### ADVANCE Program Milestones

**ADVANCE Milestone Requirements:** All ADVANCE students must adhere to the following requirements. For Milestones #1-#3, failure to meet these milestones will prevent a student from matriculating to Mason and/or result in termination from ADVANCE. For Milestones #4-#6, failure to meet these milestones may delay matriculation to Mason.

1. Students must complete their NOVA degree within 4 years of being admitted into ADVANCE. Students are highly encouraged to be continuously enrolled at NOVA/Mason to support progress towards degree completion.
2. Students must maintain a minimum 2.5 cumulative GPA at NOVA and must have a minimum 2.5 GPA upon matriculation to Mason.
3. Students who wish to enroll at Mason for the fall semester must apply for NOVA graduation by March 1 for spring graduation or June 1 for summer graduation. Students who wish to enroll at Mason for the spring semester must apply for NOVA graduation by October 1 for winter graduation.
4. Students must begin developmental coursework in no later than the first semester in ADVANCE at NOVA.
5. Students must take first college-level MTH course and ENG 111 in the semester immediately following the completion of any MDE or EDE courses (excluding summer).
6. In the first 30 credits, students must:
  - a. Complete ENG 111 and ENG 112 with a C or better.
  - b. Complete the first college-level MTH course with a C or better.

**Program Notes:** Students in the B.A. Chemistry program can choose between a Biochemistry Concentration or No Concentration. Students may wish to speak with a Mason Chemistry advisor to help select the appropriate concentration: chem@gmu.edu.

	NOVA DEGREE REQUIREMENT	Credits	Courses	MASON TRANSFER EQUIVALENT	MASON CORE/DEGREE EQUIVALENT
1	SDV Course	1	SDV 100 College Success Skills <b>OR</b> SDV 101 Orientation to XXX	UNIV 100	General Elective
2	ENG 111	3	ENG 111 College Composition I	ENGH 101	Written Comm
3	ITE 115 or ITE 119 or General Education Elective	4	CHM 111 General Chemistry I	CHEM 211-213	Major
4	MTH 167	5	MTH 167 Pre-Calculus with Trigonometry	MATH 105	General Elective
5	MTH 263	4	MTH 263 Calculus I	MATH 113	Quantitative
6	ENG 112	3	ENG 112 College Composition II	ENGH XXX	General Elective
7	MTH 264	4	MTH 264 Calculus II	MATH 114	General Elective
8	Science Course #1	4	CHM 112 General Chemistry II	CHEM 212-214	Major
9	Social/Behavioral Sciences #1	3	ECO 201 Principles of Macroeconomics <b>OR</b> ECO 202 Principles of Microeconomics <b>OR</b> GEO 210 Introduction to Cultural Geography <b>OR</b> HIS 121 United States History I <b>OR</b> HIS 122 United States History II <b>OR</b> PLS 135 American National Politics <b>OR</b> PSY 200 Principles of Psychology <b>OR</b> PSY 230 Developmental Psychology <b>OR</b> SOC 200 Principles of Sociology <b>OR</b> SOC 211 Principles of Anthropology I	ECON 104 ECON 103 GGS 103 HIST 121 HIST 122 GOVT 103 PSYC 100 PSYC 211 SOCI 101 ANTH 114	Soc/Behav
10	HIS Course	3	HIS 101 History of Western Civilization I <b>OR</b> HIS 102 History of Western Civilization II <b>OR</b> HIS 112 History of World Civilization II	HIST 101 HIST 102 HIST 125	Western Civ
11	Humanities/Fine Arts #1	3	ART 100 Art Appreciation <b>OR</b> ART 101 History and Appreciation of Art I <b>OR</b> ART 102 History and Appreciation of Art II <b>OR</b> CST 130 Introduction to Theatre <b>OR</b> CST 151 Film Appreciation I <b>OR</b> MUS 121 Music Appreciation I	ARTH 101 ARTH 200 ARTH 201 THR 101 ENGL L372 MUSI 101	Arts
12	Math or Science #1	4	BIO 101 General Biology I	BIOL 103/105	Nat Science

13	Math or Science #2	4-5	<b>Biochemistry Concentration:</b> PHY 201 General College Physics I <b>No Concentration:</b> PHY 201 General College Physics I <b>OR</b> PHY 231 General University Physics I	PHYS 243-244 PHYS 243-244 PHYS 160-161-266	Nat Science
14	Social/Behavioral Sciences #2 (Must select discipline different from Soc/Behav above)	3	GEO 220 World Regional Geography <b>OR</b> PLS 140 Introduction to Comparative Politics <b>OR</b> PLS 241 International Relations I	GGS 101 GOVT 133 GOVT 132	Global & COS Soc/Behav
15	CST Course	3	CST 100 Principles of Public Speaking <b>OR</b> CST 110 Introduction to Communication	COMM 100 COMM 101	Oral Comm
16	Humanities/Fine Arts #2	3	ENG 236 Introduction to the Short Story <b>OR</b> ENG 241 Survey of American Literature I <b>OR</b> ENG 242 Survey of American Literature II <b>OR</b> ENG 251 Survey of World Literature I <b>OR</b> ENG 252 Survey of World Literature II <b>OR</b> ENG 253 Survey of African-American Literature I	ENGH 202	Literature
17	Math or Science #3	4-5	<b>Biochemistry Concentration:</b> PHY 202 General College Physics I <b>No Concentration:</b> PHY 202 General College Physics I <b>OR</b> PHY 232 General University Physics I	PHYS 245-246 PHYS 245-246 PHYS 260-261-XXX	Major
18	Science Course #2	4	BIO 206 Cell Biology	BIOL 213	Major

**A.S. SCIENCE DEGREE TOTAL 62-64**

For academic policies and procedures, please see NOVA catalog - <http://www.nvcc.edu/catalog/index.html>

## B.A. Chemistry

**Concentrations:** Biochemistry Concentration or No Concentration.

MASON DEGREE REQUIREMENT	Credits	Course	MASON CORE/DEGREE EQUIVALENT
19 Chemistry Courses	5	CHEM 313 Organic Chemistry I <b>AND</b> CHEM 315 Organic Chemistry Lab I	Major
20 College Requirement: Phil/Reli & Non-Western Course	3	Approved Phil/Reli & Non-Western Course (Upper-level See: Advisor)	COS Phil/Rel & Non-Western
21 Mathematics Courses	3	<b>No Concentration:</b> MATH 213 Analytical Geometry and Calculus III <b>Biochemistry Concentration:</b> STAT 250 Statistics I	Major
22 College Requirement: Foreign Language	6	Approved foreign language course <sup>1</sup> <b>Students may opt to take a two course, 101/102 sequence if available</b>	Major
23 Gen Ed: Written Communication (Upper-level)	3	ENGH 302 Advanced Composition	Written Comm
24 Chemistry Courses	4	CHEM 321 Elementary Quantitative Analysis	Major
25 Chemistry Courses	5	CHEM 314 Organic Chemistry II <b>AND</b> CHEM 318 Organic Chemistry Lab II	Major
26 College Requirement: Foreign Language	3	Approved foreign language course <sup>1</sup>	Major
27 Chemistry Courses	5	CHEM 331 Physical Chemistry I <b>AND</b> CHEM 336 Physical Chemistry Lab I	CHEM 331: Fall Only Writing Intensive
28 Chemistry Courses	4-5	<b>No Concentration:</b> Any 5 credits of electives in CHEM (Upper-level See: Advisor) <b>Biochemistry Concentration:</b> CHEM 463 General Biochemistry I	Major

29	Chemistry Courses	5	<b>No Concentration:</b> CHEM 332 Physical Chemistry II <b>AND</b> CHEM 337 Physical Chemistry Lab II <b>Biochemistry Concentration:</b> CHEM 464 General Biochemistry II <b>AND</b> CHEM 465 Biochemistry Lab	CHEM 332, CHEM 337, & CHEM 464: Spring Only	Major
30	Gen Ed: Information Technology	3	Approved Information Technology course <sup>2</sup> (Upper-level See: Advisor)		Info Tech
31	Chemistry Courses	3	<b>Biochemistry Concentration:</b> CHEM 446 Bioinorganic Chemistry <b>No Concentration:</b> General Electives (Upper-level See: Advisor)	CHEM 446: Fall Only	Major or General Elective
32	College Requirement: Foreign Language	3	Approved foreign language course <sup>1</sup>		Major
33	General Elective	1-2	General Electives (Upper-level See: Advisor)		General Elective
34	Gen Ed: Synthesis	3	Approved Synthesis Course <sup>2</sup>		Synthesis

**B.A. CHEMISTRY DEGREE**
**122-124**
**TOTAL**
**Important Academic Information:**
<sup>1</sup>For approved Foreign Language Courses, please visit - <https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-ba/#requirements-text>
<sup>2</sup>For approved Mason Core courses, please visit - <https://catalog.gmu.edu/mason-core/>
**Additional General Notes & Resources:**

- Students majoring in chemistry must complete the chemistry program requirements with a minimum GPA of 2.30 and present no more than two courses with a grade of 'D' (1.00) in CHEM coursework at graduation.
- Students interested in Pre-Health Professions (Pre-Med, Pre-Dentistry, Pre-Podiatry, Pre-Optometry, Pre-Veterinary, Pre-Pharmacy, Pre-Physician Assistant, Pre-Occupational Therapy, and Pre-Physical Therapy) are strongly encouraged to meet with the Health Professions Advisor regarding the appropriate prerequisite courses for their field of choice. For more information, please visit: <https://prehealth.gmu.edu/>
- Students interested in pursuing licensure to teach at the secondary level may add the Undergraduate Certificate: Secondary Education - Chemistry to this degree. For more information visit: <https://education.gmu.edu/secondary-education-6-12/academics/>. Some certificate courses can be used to fulfill general elective requirements, but additional credits may be needed to complete the certificate. Students interested in teacher licensure should meet with a Mason pre-teacher advisor. Contact information: <https://cehd.gmu.edu/teacher/advising/advising-appointment/>
- ADVANCE students who earn at least a 2.85 cumulative GPA and no more than 9 credits of unrepeatable D/F grades may be eligible to receive a waiver for any lower-level Mason Core courses not already completed. To be eligible for the core waiver, students must also complete the requirements of the AA or AS degree listed on their pathway, and apply to graduate from NOVA by the deadline (see milestone #3). Students must meet these criteria by the time of matriculation to Mason and provide the Office of Admissions a final, official transcript reflecting the degree conferral date.
- For academic policies and procedures, please see Mason catalog - <https://catalog.gmu.edu/policies/>
- Students seeking a bachelor's degree must apply at least 45 credits of upper-level courses (numbered 300 or above) toward graduation.