

ADVANCE

A NOVA | MASON PARTNERSHIP

A.S. Science / B.A. Chemistry - All
Concentrations Pathway
2024-2025

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-#7, 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 spring graduation by March 1 or summer graduation by June 1. Students who wish to enroll at Mason for the spring semester must apply for NOVA fall graduation by October 1.
4. Students must begin developmental coursework 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 complete ENG 111 and ENG 112 with a C or better.
7. Students must complete a Mason Core Quantitative Reasoning course equivalent with a C or better no later than one semester before NOVA graduation. Refer to your pathway to select the appropriate MTH course(s).

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: chemug@gmu.edu.

	NOVA DEGREE REQUIREMENT	Credits	Courses	MASON TRANSFER EQUIVALENT	MASON CORE/DEGREE EQUIVALENT
1	SDV Course	1	SDV 100 College Success Skills OR SDV 101 Orientation to XXX	UNIV 100	General Elective
2	ENG 111	3	ENG 111 College Composition I ¹	ENGH XXX	General Elective
3	ITE 152 or General Education Elective	4	CHM 111 General Chemistry I	CHEM 211-213	Major
4	MTH 167	5	MTH 167 PreCalculus with Trigonometry	MATH 105	General Elective
5	MTH 263	4	MTH 263 Calculus I	MATH 113	Major & Quantitative
6	ENG 112	3	ENG 112 College Composition II ¹	ENGH 101	Written Comm
7	MTH 264	4	MTH 264 Calculus II	MATH 114	Major
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 OR ECO 202 Principles of Microeconomics OR GEO 210 People and the Land: An Introduction to Cultural Geography OR HIS 121 United States History to 1877 OR HIS 122 United States History Since 1865 OR PLS 135 U.S. Government and Politics OR PSY 200 Principles of Psychology OR PSY 230 Developmental Psychology OR SOC 200 Introduction to Sociology OR SOC 211 Cultural Anthropology	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 Western Civilizations Pre-1600 CE OR HIS 102 Western Civilizations Post-1600 CE OR HIS 112 World Civilizations Post-1500 CE (<i>recommended</i>)	HIST 101T HIST 102T HIST 125	Global History

11	Humanities/Fine Arts #1	3	ART 100 Art Appreciation OR ART 101 History of Art: Prehistoric to Gothic OR ART 102 History of Art: Renaissance to Modern OR CST 130 Introduction to Theatre OR CST 151 Film Appreciation I OR MUS 121 Music in Society	ARTH 101 ARTH 200 ARTH 201 THR 101 ENGH 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	Biochemistry Concentration: PHY 201 General College Physics I No Concentration: PHY 201 General College Physics I OR PHY 241 University Physics I	PHYS 243-244 PHYS 243-244 PHYS 160-161	Major & Nat Science
14	Social/Behavioral Sciences #2 (Must select discipline different from Soc/Behav above)	3	GEO 220 World Regional Geography OR PLS 140 Introduction to Comparative Politics OR PLS 241 Introduction to International Relations	GGG 101 GOVT 133 GOVT 132	General Elective
15	CST Course	3	CST 100 Principles of Public Speaking OR CST 110 Introduction to Human Communication	COMM 100 COMM 101	Oral Comm
16	Humanities/Fine Arts #2	3	ENG 225 Reading Literature: Culture and Ideas OR ENG 245 British Literature OR ENG 246 American Literature OR ENG 255 World Literature OR ENG 258 African American Literature OR ENG 275 Women in Literature OR Any 200-Level ENG Literature course ²	ENGH 202 or FRLN L330 (ENG 255 only)	Literature
17	Math or Science #3	4	Biochemistry Concentration: PHY 202 General College Physics II No Concentration: PHY 202 General College Physics II OR PHY 242 University Physics II	PHYS 245-246 PHYS 245-246 PHYS 260-261	Major
18	Science Course #2	4	BIO 206 Cell Biology	BIOL 213	Major

A.S. SCIENCE DEGREE TOTAL 62

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
19	Chemistry Courses	5	CHEM 313 Organic Chemistry I AND CHEM 315 Organic Chemistry Lab I	Major
20	College BA Requirement	3	Select additional Upper Level Mason Core Arts, Global Contexts, Literature, or Social and Behavioral Sciences ³	COS BA Requirement
21	Mathematics Courses	3	No Concentration: MATH 213 Analytical Geometry and Calculus III Biochemistry Concentration: STAT 250 Statistics I	Major
22	College Requirement: Foreign Language	6	Approved foreign language course ⁴ <i>Students may opt to take a two course, 101/102 sequence if available</i>	Major
23	Gen Ed: Written Communication (Upper-level)	3	ENGH 302 Advanced Composition	Written Comm
24	Chemistry Courses	4	CHEM 321 Quantitative Chemical Analysis	Major
25	Chemistry Courses	5	CHEM 314 Organic Chemistry II AND CHEM 318 Organic Chemistry Lab II	Major

26	College Requirement: Foreign Language	3	Approved foreign language course ⁴ Students may opt to take a two course, 101/102 sequence if available		Major
27	Chemistry Courses	5	CHEM 331 Physical Chemistry I AND CHEM 336 Physical Chemistry Lab I	CHEM 331: Fall Only	Writing Intensive
28	Chemistry Courses	4-5	No Concentration: Any 5 credits of electives in CHEM (Upper-level See: Advisor) Biochemistry Concentration: CHEM 463 General Biochemistry I		Major
29	Chemistry Courses	5	No Concentration: CHEM 332 Physical Chemistry II AND CHEM 337 Physical Chemistry Lab II Biochemistry Concentration: CHEM 464 General Biochemistry II AND CHEM 465 Biochemistry Lab	CHEM 332, CHEM 337, & CHEM 464: Spring Only	Major
30	Chemistry Courses	3	Biochemistry Concentration: CHEM 446 Bioinorganic Chemistry No Concentration: General Electives (Upper-level See: Advisor)	CHEM 446: Fall Only	Major or General Elective
31	College Requirement: Foreign Language	3	Approved foreign language course ⁴ Students may opt to take a two course, 101/102 sequence if available		Major
32	College BA Requirement	3	Select additional Mason Core Arts, Global Contexts, Literature, or Social and Behavioral Sciences ³ (<i>Course must be in a different category than selected in line 20</i>)		COS BA Requirement
33	Gen Ed: Apex	3	Approved Apex Course ⁵		Apex

B.A. CHEMISTRY DEGREE

120-121

TOTAL

Important Academic Information:

¹Students who complete ENG 111 after Spring 2024 will earn ENGH elective for ENG 111 and ENGH 101 for ENG 112.

²200-level ENG literature classes include: ENG 225, ENG 230, ENG 236, ENG 237, ENG 245, ENG 246, ENG 250, ENG 255, ENG 256, ENG 257, ENG 258, ENG 271, ENG 275, and ENG 279.

³For approved additional Mason Core courses for the COS College BA Requirement, please visit - <https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-ba/#requirements-text>

⁴For approved Foreign Language Courses, please visit - <https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-ba/#requirements-text>

⁵For approved Mason Core courses, please visit - <https://catalog.gmu.edu/mason-core/>

General Education Waiver Policy and Guidance:

- Students who complete a VCCS transfer associate degree (AS, AA, or AFA) will receive a waiver of the Foundation and Exploration (lower division) Mason Core general education categories, which can be found here: <https://catalog.gmu.edu/mason-core/>. To be eligible for the waiver, the students must provide the Mason Office of Admissions with a final, official transcript reflecting the degree conferral date. As a prerequisite for ENGH 302, ENGH 101 is not waived. Students must complete ENGH 100 or ENGH 101, or an equivalent, with a C or higher.
- When a course fulfills a Mason Core requirement **and** a major or college requirement (e.g. Major & Quant), students must complete the course listed on the pathway to fulfill the major/college requirement. Courses that fulfill only Mason Core Foundation and Exploration categories are recommendations. In most pathways, ADVANCE students must complete a Quantitative Reasoning course to matriculate through ADVANCE.
- ADVANCE students must complete the associate degree indicated on their pathway (see the ADVANCE Program Milestones listed above). Students who withdraw from ADVANCE and transfer without the associate degree or UCGS are required to complete each Mason Core general education category.

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/current-students/advising/>
- Students seeking a bachelor's degree must apply at least 45 credits of upper-level courses (numbered 300 or above) toward graduation.