ADVANCE
A NOVA | MASON PARTNERSHIP

A.S. Science/ B.S. Chemistry - Analytical Chemistry Concentration Pathway
2020-2021

A.S. Science

ADVANCE Program Milestones

1. Students must take SDV 100 or SDV 101 in the first semester at NOVA.
2. Students must begin Developmental coursework in the first semester in ADVANCE at NOVA.
3. Students must take first college-level MTH course and ENG 111 in the semester immediately following the completion of any MTT or ENF courses (excluding summer).
4. 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.
5. Students must complete at least six degree-applicable credits with a C or better each fall and spring semester.
6. Students must maintain a 2.5 cumulative GPA.
7. Students must apply for NOVA graduation and complete their Associate's degree.

	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	Elective
2	**ENG 111**	3	ENG 111 College Composition I	ENGH 101	Written Comm
3	**HIS Course**	3	HIS 101 History of Western Civilization I **OR** HIS 102 History of Western Civilization II **OR** HIS 112 History of World Civilization II	HIST 101 HIST 102 HIST 125	Western Civ
4	**MTH 167 or Science**	5	MTH 167 Pre-Calculus with Trigonometry **OR** PHY 231 General University Physics I ***(Only take PHY 231 at NOVA if placed directly into MTH 263 and MTH 167 is not needed)***	MATH 105 PHYS 160/161	Elective or Major
5	**MTH 263**	4	MTH 263 Calculus I	MATH 113	Quantitative
6	**ENG 112**	3	ENG 112 College Composition II	ENGH XXX	Elective
7	**CST Course**	3	CST 100 Principles of Public Speaking **OR** CST 110 Introduction to Communication	COMM 100 COMM 101	Oral Comm
8	**MTH 264**	4	MTH 264 Calculus II	MATH 114	Major
9	**ITE 115 or General Education**	4	CHM 111 General Chemistry I	CHEM 211-213	Nat Science
10	**Science Course #1**	4	CHM 112 General Chemistry II	CHEM 212-214	Major
11	**Humanities/Fine Arts #1**	3	ART 100 Art Appreciation **OR** ART 101 History and Appreciation of Art I **OR** ART 102 History and Appreciation of Art II **OR** CST 130 Introduction to Theatre **OR** CST 151 Film Appreciation I **OR** MUS 121 Music Appreciation I	ARTH 101 ARTH 200 ARTH 201 THR 101 ENGH L372 MUSI 101	Arts
12	**Social/Behavioral Sciences #1**	3	ECO 201 Principles of Macroeconomics **OR** ECO 202 Principles of Microeconomics **OR** GEO 210 Introduction to Cultural Geography **OR** HIS 121 United States History I **OR** HIS 122 United States History II **OR** PLS 135 American National Politics **OR** PLS 211 United States Government I **OR** PSY 200 Principles of Psychology **OR** PSY 230 Developmental Psychology **OR** SOC 200 Principles of Sociology **OR** SOC 211 Principles of Anthropology I	ECON 104 ECON 103 GGS 103 HIST 121 HIST 122 GOVT 103 GOVT 103 PSYC 100 PSYC 211 SOCI 101 ANTH 114	Soc/Behav
13	**Science Course #2**	3	CHM 241 Organic Chemistry I-Lecture	CHEM L313	Major

14	**Math or Science #2 (with lab below under line #19)**	2	CHM 245 Organic Chemistry I - Laboratory	CHEM L315	Major
15	**Math or Science #1**	4	MTH 265 Calculus III	MTH 213	Major
16	**Social/Behavioral Sciences #2**	3	GEO 220 World Regional Geography **OR** HIS 111 History of World Civilization **OR** PLS 140 Introduction to Comp Govt **OR** PLS 241 International Relations I **OR** PSY 219 Cross-Cultural Psychology **OR** SSC 115 Introduction to Global Affairs	GGS 101 HIST L387 GOVT 133 GOVT 132 PSYC L379 GLOA 101	Global
17	**Humanities/Fine Arts #2**	3	ENG 236 Introduction to the Short Story OR ENG 241 Survey of American Literature I OR ENG 242 Survey of American Literature II OR ENG 251 Survey of World Literature I OR ENG 252 Survey of World Literature II OR ENG 253 Survey of African-American Literature I	ENGH 202	Literature
18	**Math or Science #3**	3	CHM 242 Organic Chemistry II - Lecture	CHEM L314	Major
19	**Math or Science #2 (with lab above under line #14)**	2	CHM 246 Organic Chemistry II - Laboratory	CHEM L318	Major
A.S. SCIENCE DEGREE TOTAL		**60**			

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

B.S. Chemistry - Analytical Chemistry Concentration

	MASON DEGREE REQUIREMENT	Credits	Course	MASON CORE/DEGREE EQUIVALENT
20	**Physics Requirement**	0-4	PHYS 160/161 University Physics I with Lab ***(if Physics course not already taken)***	Major
21	**Physics Requirement**	4	PHYS 260/261 University Physics II with Lab	Major
22	**Chemistry Courses**	4	CHEM 321 Elementary Quantitative Analysis	Major
23	**Prerequisite**	4	BIOL 213 Cell Structure and Function	Prerequisite
24	**Chemistry Courses**	5	CHEM 331 Physical Chemistry I **AND** CHEM 336 Physical Chemistry Lab I	Writing Intensive
25	**Chemistry Courses**	4	CHEM 463 General Biochemistry I	Major
26	**Supporting Science Electives**	3	Approved Supporting Science Elective*	Major
27	**Gen Ed: Written Communication (UL)**	3	ENGH 302 Advanced Composition	Written Comm
28	**Chemistry Courses**	5	CHEM 332 Physical Chemistry I **AND** CHEM 337 Phyiscal Chemistry II Lab	Major
29	**Chemistry Courses**	5	CHEM 422 Instrumental Methods of Chemical Analysis **AND** CHEM 423 Instrumental Methods of Chemical Analysis Lab	Major
30	**Chemistry Courses**	3	CHEM 427 Aquatic Environmental Chemistry **OR** CHEM 355 Undergraduate Research **OR** CHEM 451 Special Projects in Chemistry **OR** CHEM 452 Special Projects in Chemistry	Major
31	**Chemistry Courses**	3	CHEM 424 Principles of Chemical Separation **OR** CHEM 425 Electroanalytical Chemistry	Major
32	**General Electives**	3	General Elective (Upper-level, See: Advisor)	Major
33	**Chemistry Courses**	3	CHEM 441 Properties and Bonding of Inorganic Compounds	Major
34	**Chemistry Courses**	2	CHEM 465 Biochemistry Lab **OR** CHEM 445 Inorganic Preparations and Techniques	Major
35	**Supporting Science Electives**	3	Approved Supporting Science Elective* (Upper-Level; See: Advisor)	Major
36	**General Electives**	0-3	General Elective (Upper-level, See: Advisor) ***(This course is only needed if one of the Supporting Science electives is not upper-level)***	Major
37	**Gen Ed: Synthesis**	3	Approved Synthesis Course**	Synthesis
38	**Gen Ed: Information Technology**	3	CDS 130 Computing for Scientists	Info Tech

B.S. CHEMISTRY DEGREE TOTAL	120-128

Denotes a course that must be taken at George Mason University. Please see your Success Coach to enroll.

For academic policies and procedures, please see Mason catalog - https://catalog.gmu.edu/policies/

*For approved Supporting Science elective courses, please visit: https://catalog.gmu.edu/colleges-schools/science/chemistry-biochemistry/chemistry-bs/#requirementstext

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

General Note: 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 seeking a bachelor's degree must apply at least 45 credits of upper-level courses (numbered 300 or above) toward graduation requirements.