ADVANCE
A NOVA | MASON PARTNERSHIP

A.S. Science / B.S. Astronomy Pathway
2023-2024

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).

	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 101	Written Comm
3	**MTH 263**	4	MTH 263 Calculus I	MATH 113	Quantitative
4	**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
5	**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 ***(recommended)***	HIST 101 HIST 102 HIST 125	Global History
6	**Science Course #1**	4	PHY 241 University Physics I	PHYS 160-161	Nat Science
7	**ENG 112**	3	ENG 112 College Composition II[1]	ENGH XXX	General Elective
8	**MTH 264**	4	MTH 264 Calculus II	MATH 114	Major
9	**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
10	**Math or Science #1**	4	PHY 242 University Physics II	PHYS 260-261	Nat Science
11	**ITE 152 or General Education Elective**	3	PHYS 251 Introduction to Computer Techniques in Physics (co-enrollment course)[2]	PHYS 251	Info Tech
12	**Math or Science #2**	4	MTH 265 Calculus III	MATH 213	Major
13	**Math or Science #3**	3	MTH 267 Differential Equations	MATH 214	Major

14	**Social/Behavioral Sciences #2**	3	GEO 220 World Regional Geography **OR** PLS 140 Introduction to Comparative Politics **OR** PLS 241 Introduction to International Relations	GGS 101 GOVT 133 GOVT 132	Global Understanding
15	**CST Course**	3	CST 100 Principles of Public Speaking **OR** CST 110 Introduction to Human Communication	COMM 100 COMM 101	Oral Comm
16	**General Education Elective** ***(This elective is not needed if selections for all other requirements total 60 credits or more)***	3	CST 229 Intercultural Communication **OR** ECO 202 Principles of Microeconomics **OR** HUM 210 Introduction to Women and Gender Studies **OR** HUM 259 The Greek and Roman Tradition **OR** MTH 245 Statistics I **OR** PHI 111 Logic I **OR** PSY 200 Principles of Psychology **OR** REL 100 Introduction to the Study of Religion **OR** SOC 200 Introduction to Sociology	COMM L305 ECON 103 WMST 200 CLAS 250 STAT 250 PHIL 173 PSYC 100 RELI 100 SOCI 101	General Elective
17	**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[3]	ENGH 202 or FRLN L330 (ENG 255 only)	Literature
18	**MTH 167 or Science**	4	PHY 243 Modern Physics[4] **AND** PHY 244 Modern Physics Lab[4] ***(Spring only)***	PHYS 262/263	Major
19	**Science Course #2**	4	ASTR 210 Introduction to Astrophysics[2] **AND** ASTR 124 Introduction to Observational Astronomy[2] ***(Typically only offered in Spring terms)***	ASTR 210 ASTR 124	Major
A.S. SCIENCE DEGREE TOTAL		**62**			

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

B.S. Astronomy

	MASON DEGREE REQUIREMENT	Credits	Course	MASON CORE/DEGREE EQUIVALENT
20	**Gen Ed: Written Communication (UL)**	3	ENGH 302 Advanced Composition	Written Comm
21	**Required Physics Courses**	3	PHYS 301 Analytical Methods of Physics	Major
22	**Required Physics Courses**	3	PHYS 303 Classical Mechanics	Major
23	**Required Physics Courses**	3	PHYS 305 Electromagnetic Theory	Major
24	**Required Astronomy Courses**	3	ASTR 328 Stars	Major
25	**General Elective**	3	General Electives (Upper-level See: Advisor)	General Elective
26	**Additional Astronomy Courses**	3	Approved Astronomy and Physics course[5]	Major
27	**Required Astronomy Courses**	3	ASTR 401 Computer Simulation in Astronomy	Major
28	**Astronomy and Physics Courses**	3	Approved Astronomy and Physics course[5]	Major
29	**Astronomy and Physics Courses**	3	Approved Astronomy and Physics course[5]	Major
30	**Additional Astronomy Courses**	3	Approved Astronomy and Physics course[5]	Major
31	**General Elective**	3	General Electives (Upper-level See: Advisor)	General Elective
32	**Astronomy and Physics Courses**	3	Approved Astronomy and Physics course[5]	Major
33	**Astronomy and Physics Courses**	3	Approved Astronomy and Physics course[5]	Major
34	**Gen Ed: Synthesis/Core Requirement**	4	ASTR 402 RS: Methods of Observational Astronomy	Synthesis & Writing Intensive
35	**General Elective**	3	General Electives (Upper-level See: Advisor)	General Elective

36	**Astronomy and Physics Courses**	3	Approved Astronomy and Physics course[5]	Major
37	**General Elective**	3	General Elective (See: Advisor)	General Elective
38	**General Elective**	3	General Elective (See: Advisor)	General Elective
B.S. ASTRONOMY DEGREE TOTAL		**120**		

Denotes a course that must be taken at George Mason University while attending NOVA. Failure to complete your co-enrollment course(s) while attending NOVA can significantly affect your timeline for Mason graduation. Please see your ADVANCE Coach for more information and to enroll.

Important Academic Information:

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

[2]It is recommended that students take PHYS 251 in their 3rd semester and ASTR 124/210 in their 4th semester if attending full-time.

[3]200-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.

[4]PHY 243 and PHY 244 are only offered in the spring semester. If PHY 243/244 are not available, students should take CHM 111, BIO 101, or GOL 105 and complete PHYS 262 at Mason. Consult your ADVANCE Coach for more information.

[5]For approved Astronomy and Physics courses, please visit: https://catalog.gmu.edu/colleges-schools/science/physics-astronomy/astronomy-bs/#requirementstext

Additional General Notes & Resources:

- Students must complete a total of 52 credits in physics and astronomy and 14 credits in mathematics with a minimum GPA of 2.00.
- Students who complete a VCCS transfer associate degree (AS, AA, & AFA) will receive a waiver of the Foundation and Exploration (lower division) Mason Core general education categories. 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.
- 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.