

ADVANCE

A NOVA | MASON PARTNERSHIP

A.S. Science / B.S. Astronomy Pathway
2022-2023

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	ENGH 101	Written Comm
3	MTH 263	4	MTH 263 Calculus I	MATH 113	Quantitative
4	ENG 112	3	ENG 112 College Composition II	ENGH XXX	General Elective
5	MTH 264	4	MTH 264 Calculus II	MATH 114	Major
6	Science Course #1	4	PHY 241 University Physics I	PHYS 160-161	Nat Science
7	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 GGG 103 HIST 121 HIST 122 GOVT 103 PSYC 100 PSYC 211 SOC 101 ANTH 114	Soc/Behav
8	Math or Science #1	4	PHY 242 University Physics II	PHYS 260-261	Nat Science
9	ITE 152 or General Education Elective	3	PHYS 251 Introduction to Computer Techniques in Physics (co-enrollment course) ¹	PHYS 251	Info Tech
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	HIST 101 HIST 102 HIST 125	Western Civ
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 #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
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's Literature OR Any 200-Level ENG Literature course ²	ENGH 202 or FRLN L330 (ENG 255 only)	Literature
18	MTH 167 or Science	4	PHY 243 Modern Physics ³ AND PHY 244 Modern Physics Lab ³ (<i>Spring only</i>)	PHYS L308	Major
19	Science Course #2	4	ASTR 210 Introduction to Astrophysics AND ASTR 124 Introduction to Observational Astronomy ¹ (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 ⁴	Major
27	Required Astronomy Courses	3	ASTR 401 Computer Simulation in Astronomy	Major
28	Astronomy and Physics Courses	3	Approved Astronomy and Physics course ⁴	Major
29	Astronomy and Physics Courses	3	Approved Astronomy and Physics course ⁴	Major
30	Additional Astronomy Courses	3	Approved Astronomy and Physics course ⁴	Major
31	General Elective	3	General Electives (Upper-level See: Advisor)	General Elective
32	Astronomy and Physics Courses	3	Approved Astronomy and Physics course ⁴	Major
33	Astronomy and Physics Courses	3	Approved Astronomy and Physics course ⁴	Major
34	Gen Ed: Synthesis/Core Requirement	4	ASTR 402 RS: Methods of Observational Astronomy	Synthesis & Writing Intensive
35	Required Physics Courses	1	PHYS 416 Special Topics in Undergraduate Physics	Major
36	General Elective	3	General Electives (Upper-level See: Advisor)	General Elective
37	Astronomy and Physics Courses	3	Approved Astronomy and Physics course ⁴	Major

38	General Elective	3	General Elective (See: Advisor)	General Elective
39	General Elective	2-4	General Elective (See: Advisor)	General Elective

B.S. ASTRONOMY DEGREE		120		
TOTAL				

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:

¹It is recommended that students take PHYS 251 in their 3rd semester and ASTR 124/210 in their 4th semester if attending full-time.

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.

³If students are placed into MTH 167, students should take MTH 167 and take PHYS 308 at Mason in the first "General Elective" space. Consult your ADVANCE Coach for more information. 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, GOL 105, or PHY 150.

⁴For 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.
- ADVANCE students who earn at least a 2.85 final, 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 Mason 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 provide the Office of Admissions with a final, official transcript reflecting the degree conferral date and a cumulative NOVA GPA at or above 2.85.
- 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.