

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.

- 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.
- Students must maintain a minimum 2.5 cumulative GPA at NOVA and must have a minimum 2.5 GPA upon matriculation to Mason.
- 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.
- Students must begin developmental coursework no later than the first semester in ADVANCE at NOVA.
- 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).
- In the first 30 credits, students must complete ENG 111 and ENG 112 with a C or better.
- 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 SOCI 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 |

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| 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 |

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| 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 | | | | |
| 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 It is recommended that students take PHYS 251 in their 3rd semester and ASTR 124/210 in their 4th semester if attending full-time. | | | | |
| ² 200-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. | | | | |
| ³ If 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. | | | | |
| ⁴ For approved Astronomy and Physics courses, please visit: https://catalog.gmu.edu/colleges-schools/science/physics-astronomy/astronomy-bs/#requirementstext | | | | |
| Additional General Notes & Resources: | | | | |
| <ul style="list-style-type: none">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 unrepeatd 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. | | | | |