ADVANCE
A NOVA | MASON PARTNERSHIP

A.S. Engineering /
B.S. Civil and Infrastructure Engineering
Pathway
2023-2024

A.S. Engineering

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).

ADVANCE Program-Specific Requirements: All ADVANCE students in this degree program must adhere to the following requirements prior to matriculation. Failure to do so may prevent a student from matriculating into this program at Mason or progressing in coursework at Mason.

1. Engineering students must begin the calculus sequence within the first 30 credits and complete Calculus I and II with a B or better.

	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 Engineering	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	**CHM 111 Required** ***(NOVA Catalog: Lab Science #1)***	4	CHM 111 General Chemistry I	CHEM 211-213	Nat Science
5	**Social/Behavioral Sciences #2**	3	ECO 202 Principles of Microeconomics	ECON 103	Soc/Behav
6	**EGR 121**	2	EGR 121 Foundations of Engineering	ENGR 107	Major
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	**PHY 241 Required** ***(NOVA Catalog: Lab Science #2)***	4	PHY 241 University Physics I	PHYS 160-161	Nat Science
10	**Technical Elective #1**	4	EGR 125 Introduction to Computer Programming for Engineers	ENGR 125T	Info Tech
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	**Technical Elective #2**	4	PHY 242 University Physics II	PHYS 260-261	Major
13	**Technical Elective #3**	3	EGR 240 Solid Mechanics (Statics)	CEIE 210	Major
14	**Technical Elective #4**	3	CIV 280 Introduction to Environmental Engineering ***(available until spring 2024)*** **OR** EGR 280 Foundations of Environmental Engineering ***(available fall 2024)***	CEIE L355	Major
15	**MTH 265**	4	MTH 265 Calculus III	MATH 213	Major

16	**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
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[2]	ENGH 202 or FRLN L330 (ENG 255 only)	Literature
18	**MTH 267**	3	MTH 267 Differential Equations	MATH 214	Major
19	**Technical Elective #5**	3	EGR 246 Mechanics of Materials	CEIE L310 or ME 212	Major
20	**Technical Elective #6**	3	CIV 240 Fluid Mechanics and Hydraulics ***(available until spring 2024)*** **OR** EGR 282 Hydraulics for Civil and Environmental Engineers ***(available fall 2024)***	CEIE 240	Major
21	**Technical Elective #7**	3	CST 100 Principles of Public Speaking **OR** CST 110 Introduction to Human Communication	COMM 100 COMM 101	Oral Comm
A. S. ENGINEERING DEGREE TOTAL		**67**			

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

B.S. Civil & Infrastructure Engineering

	MASON DEGREE REQUIREMENT	Credits	Course	MASON CORE/DEGREE EQUIVALENT
22	**Gen Ed: Global Understanding**	3	Approved Global Understanding course[3]	Global Understanding
23	**Statistics**	3	STAT 344 Probability and Statistics for Engineers and Scientists I	Major
24	**Civil Engineering**	3	CEIE 203 Geomatics and Engineering Graphics	Major
25	**Civil Engineering**	3	CEIE 301 Engineering & Econ Models in Civil Engineering	Writing Intensive
26	**Civil Engineering**	3	CEIE 340 Water Resource Engineering	Major
27	**Gen Ed: Written Communication (Upper-level)**	3	ENGH 302 Advanced Composition (Natural Science or Multidisciplinary section)	Written Comm
28	**Physics**	1	PHYS 266 Introduction to Thermodynamics	Major
29	**Civil Engineering**	3	CEIE 311 Structural Analysis	Major
30	**Civil Engineering**	3	CEIE 331 Soil Mechanics	Major
31	**Civil Engineering**	3	CEIE 360 Introduction to Transportation Engineering	Major
32	**Civil Engineering**	3	CEIE 370 Construction Systems	Major
33	**Biology**	3	BIOL 177 Ecological Applications	Major
34	**Civil Engineering**	1	CEIE 409 Professional Practice and Management in Engr	Major
35	**Technical Electives**	3	CEIE 4xx Technical Core Electives[4]	Major
36	**Technical Electives**	3	CEIE 4xx Technical Core Electives[4]	Major
37	**Technical Electives**	3	CEIE 4xx Technical Core Electives[4]	Major
38	**Technical Electives**	3	CEIE 4xx Technical Electives[4]	Major
39	**Technical Electives**	3	CEIE 4xx Technical Electives[4]	Major

40	**Technical Electives**	3	CEIE 4xx Technical Core Electives[4]	Major
41	**Technical Electives**	3	CEIE 4xx Technical Electives[4]	Major
42	**Technical Electives**	3	CEIE 4xx Technical Electives[4]	Major
43	**Engineering**	1	CEIE 490 Senior Design Project I	Synthesis
44	**Gen Ed: Synthesis/Civil Engineering**	3	CEIE 491 Senior Design Project II	Synthesis
B.S. CIVIL & INFRASTRUCTURE ENGINEERING DEGREE TOTAL		**130**		

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]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]For approved Mason Core courses, please visit - https://catalog.gmu.edu/mason-core/. Students with a completed AS, AA, or AFA degree are eligible for a waiver of the Foundation and Exploration (lower division) Mason Core general education categories and do not need this course. Please see your ADVANCE Coach for more information.

[4]For approved CEIE Technical Electives and Technical Core Electives, please visit - https://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/civil-infrastructure-engineering-ms/#requirementstext

Additional General Notes & Resources:

• 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 requirements.