

ADVANCE

A NOVA | MASON PARTNERSHIP

A.S. Engineering/B.S. Mechanical Engineering

2019-20

A.S. Engineering Pathway

2019-2020

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 MTE 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.
 - c. Engineering students must begin the calculus sequence and complete Calculus I and II with a B 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 SEQUENCE	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	ELECTIVE
2 ENG 111	3	ENG 111 College Composition I	ENGH 101	Written Comm
3 Social/Behavioral Sciences #1	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 263	4	MTH 263 Calculus I	MATH 113	Quant
5 CST Course	3	CST 100 Principles of Public Speaking OR CST 110 Introduction to Communication	COMM 100 COMM 101	Oral Comm
6 Technical Elective #1	4	CHM 111 College Chemistry I	CHEM 211-213	NAT SCIENCE
7 ENG 112	3	ENG 112 College Composition II	ENGH XXX	Elective
8 EGR 122	2	EGR 122 Engineering Design	ME 151	DEGREE
9 MTH 264	4	MTH 264 Calculus II	MATH 114	DEGREE
10 Humanities/Fine Arts #1	3	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 200 ARTH 201 THR 101 ENGH L372 MUSI 101	Arts
11 Social/Behavioral Sciences #2	3	ECO 202 Principles of Microeconomics	ECON 103	Soc/Behav
12 MTH 265	4	MTH 265 Calculus III	MATH 213	DEGREE
13 Technical Elective #2	4	CSC 201 Computer Science I	CS 112	DEGREE
14 Technical Elective #3	3	EGR 240 Solid Mechanics (Statics)	ME 211	DEGREE
15 PHY 231	5	PHY 231 General University Physics I	PHYS 160-161-266	NAT SCIENCE
16 Humanities/Fine Arts #2	3	REL 100 Introduction to the Study of Religion OR REL 231 Religions of the World I	RELI 100 RELI 212	Global
17 Technical Elective #4	3	EGR 246 Mechanics of Materials	CEIE L310 or ME 212	DEGREE
18 PHY 232	5	PHY 232 General University Physics II	PHYS 260-261-XXX	DEGREE
19 Technical Elective #5	3	EGR 245 Engineering Mechanics (Dynamics)	ME 231	DEGREE
20 Technical Elective #6	3	MTH 266 Linear Algebra	MATH 203	DEGREE
21 MTH 267	3	MTH 267 Differential Equations	MATH 214	DEGREE
A. S. ENGINEERING DEGREE TOTAL	69			

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

	MASON DEGREE REQUIREMENT SEQUENCE	Credits	Course	MASON CORE/DEGREE EQUIVALENT
22	Engineering	3	ECE 330 Circuit Theory	DEGREE
23	Gen Ed: Literature	3	Approved Literature course*	Literature
23	Engineering	3	ME 221 Thermodynamics	DEGREE
24	Engineering	1	ME 311 Mechanical Experimentation I	DEGREE
25	Engineering	3	ME 313 Material Science	DEGREE
26	Engineering	3	ME 322 Fluid Mechanics	DEGREE
27	Engineering	3	ME 341 Design of Mechanical Elements OR ME 342 Design of Thermal Systems	DEGREE
28	Engineering	3	ME 351 Analytical Methods in Engineering	DEGREE
29	Gen Ed: Written Communication (Upper level)	3	ENGH 302 Advanced Composition (Natural Science Section)	Written Comm
30	Engineering	3	ME 331 Mechatronics	DEGREE
31	Engineering	1	ME 321 Mechanical Experimentation II	DEGREE
32	Engineering	3	ME 323 Heat Transfer	DEGREE
33	Engineering	3	ME 352 Entrepreneurship in Engineering	DEGREE
34	Engineering	3	ME 443 Mechanical Design I	DEGREE
35	Engineering	2	ME 453 Developing the Societal Engineer	DEGREE
36	Technical Electives	3	Approved Technical Elective**	DEGREE
37	Technical Electives	3	Approved Technical Elective**	DEGREE
38	Technical Electives	3	Approved Technical Elective**	DEGREE
39	Technical Electives	3	Approved Technical Elective**	DEGREE
40	Engineering	4	ME 432 Control Engineering	DEGREE
41	Gen Ed: Synthesis/Engineering	3	ME 444 Mechanical Design II	Synthesis & Writing Intensive
B.S. MECHANICAL ENGR DEGREE TOTAL		128		

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

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

**For approved Technical Electives, please visit: <https://catalog.gmu.edu/colleges-schools/engineering/mechanical/mechanical-engineering-bs/#requirementstext>

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