

# ADVANCE

A NOVA | MASON PARTNERSHIP

A.S. Science Mathematics Specialization/B.S.  
Mathematics – Actuarial Mathematics  
Concentration  
**2019-20**

## A.S. Science Mathematics Specialization 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.
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 <b>OR</b> SDV 101 Orientation to XXX	UNIV 100	Elective
2 ENG 111	3	ENG 111 College Composition I	ENGH 101	Written Comm
3 HIS Course	3	HIS 101 History of Western Civilization I <b>OR</b> HIS 102 History of Western Civilization II <b>OR</b> 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 Social/Behavioral Sciences #1	3	ECO 202 Principles of Microeconomics	ECON 103	Soc/Behav
6 ENG 112	3	ENG 112 College Composition II	ENGH XXX	Elective
7 MTH 264	4	MTH 264 Calculus II	MATH 114	DEGREE
8 Humanities/Fine Arts #1	3	ART 100 Art Appreciation <b>OR</b> ART 101 History and Appreciation of Art I <b>OR</b> ART 102 History and Appreciation of Art II <b>OR</b> CST 130 Introduction to Theatre <b>OR</b> CST 151 Film Appreciation I <b>OR</b> MUS 121 Music Appreciation I	ARTH 101 ARTH 200 ARTH 201 THR 101 ENGH L372 MUSI 101	Arts
9 Science Course #1	5	PHY 231 General University Physics I	PHYS 160- 161-266	NAT SCIENCE
10 MTH 265	4	MTH 265 Calculus III	MATH 213	DEGREE
11 Science Course #2	5	PHY 232 General University Physics II	PHYS 260- 261-XXX	NAT SCIENCE
12 CST Course	3	CST 100 Principles of Public Speaking <b>OR</b> CST 110 Introduction to Communication	COMM 100 COMM 101	Oral Comm
13 Social/Behavioral Sciences #2	3	GEO 220 World Regional Geography <b>OR</b> PLS 140 Introduction to Comparative Gov't <b>OR</b> PLS 241 International Relations I	GGG 101 GOVT 133 GOVT 132	Global
14 ITE 115 or CSC 200	4	CSC 201 Computer Science I	CS 112	Info Tech
15 CSC 201 or MTH 288 or MTH	3	MTH 288 Discrete Mathematics	MATH 125	DEGREE
16 MTH Course #1	3	MTH 266 Linear Algebra	MATH 203	DEGREE
17 MTH Course #2	3	MTH 267 Differential Equations	MATH 214	DEGREE
18 General Education Elective	3	MATH 290 Introduction to Advanced Mathematics	MATH 290	Writing Intensive

19	Humanities/Fine Arts #2	3	ENG 236 Introduction to the Short Story <b>OR</b> ENG 241 Survey of American Literature I <b>OR</b> ENG 242 Survey of American Literature II <b>OR</b> ENG 251 Survey of World Literature I <b>OR</b> ENG 252 Survey of World Literature II <b>OR</b> ENG 253 Survey of African-American Literature I	ENGH 202	Literature
<b>A. S. SCIENCE (MATH) DEGREE TOTAL</b>		<b>63</b>			

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	
20	Concentration Course	3	MATH 351 Probability	DEGREE	
21	Concentration Course	3	ACCT 203 Survey of Accounting	DEGREE	
22	Mathematics Core	3	MATH 322 Advanced Linear Algebra	DEGREE	
23	Gen Ed: Written Communication (UL)	3	ENGH 302 Advanced Composition (Natural Science Section)	Written Comm	
24	Concentration Course	3	ECON 306 Intermediate Microeconomics <b>OR</b> ECON 310 Money and Banking <b>OR</b> FNAN 321 Financial Institutions	DEGREE	
25	Concentration Course	3	MATH 352 Statistics	DEGREE	
26	Concentration Course	3	MATH 441 Deterministic Operations Research	DEGREE	
27	Concentration Course	3	STAT 362 Introduction to Computer Statistical Packages	DEGREE	
28	General Electives	3	General Electives (Upper-level See: Advisor)	DEGREE	
29	Concentration Course	3	MATH 442 Stochastic Operations Research <b>OR</b> MATH 446 Numerical Analysis I	DEGREE	
30	Concentration Course	3	MATH 555 Actuarial Modeling I	DEGREE	
31	General Electives	3	General Electives (Upper-level See: Advisor)	DEGREE	
32	Concentration Course	3	MATH 554 Financial Mathematics	DEGREE	
33	General Electives	3	General Electives (Upper-level See: Advisor)	DEGREE	
34	General Electives	3	General Electives (See: Advisor)	DEGREE	
35	General Electives	3	General Electives (See: Advisor)	DEGREE	
36	Concentration Course	3	MATH 551 Regression and Time Series	DEGREE	
37	Concentration Course	3	MATH 556 Actuarial Modeling II	DEGREE	
38	Gen Ed: Synthesis	3	Approved synthesis course (MATH 400 recommended)*	Synthesis	
<b>B.S. MATHEMATICS DEGREE TOTAL</b>		<b>120</b>			

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/>

General Note: A maximum of 6 credits of grades below 2.00 in coursework designated MATH or STAT may be applied toward the major.

Students intending to enter graduate school in mathematics are strongly advised to take MATH 315 Advanced Calculus I and MATH 321 Abstract Algebra.

Students may not receive credit for both MATH 214 Elementary Differential Equations and MATH 216 Theory of Differential Equations; both MATH 213 Analytic Geometry and Calculus III and MATH 215 Analytic Geometry and Calculus III (Honors); both MATH 351 Probability and STAT 344 Probability and Statistics for Engineers and Scientists I; and both MATH 352 Statistics and STAT 354 Probability and Statistics for Engineers and Scientists II.

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Students seeking a bachelor's degree must apply at least 45 credits of upper-level courses (numbered 300 or above) toward graduation requirements