

MATHEMATICS (FOUNDATIONS) - BACHELOR OF SCIENCE

The concentration in Foundations draws on courses from mathematics and philosophy to provide a close look at the underlying logical and philosophical issues in mathematics.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i>		
ENGL 1110G	Composition I	4
<i>English Composition - Level 2</i>		
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional & Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
<i>Oral Communication</i>		
Choose one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
<i>Area II: Mathematics</i>		
MATH 1511G	Calculus and Analytic Geometry I (Departmental/College Requirement) ¹	4
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i> 10-11		
Area III: Laboratory Science Course (4 credits) ²		
Area IV: Social/Behavioral Sciences Course (3 credits) ²		
Either an Area III/IV: Laboratory Sciences Course or Social/Behavioral Science Course (4 credits or 3 credits) ²		
<i>Area V: Humanities</i> ²		
<i>Area VI: Creative and Fine Arts</i> ²		
<i>General Education Elective</i>		
MATH 1521G	Calculus and Analytic Geometry II (Departmental/College Requirement)	4
Viewing a Wider World ³		
Departmental/College Requirements		
MATH 1531	Introduction to Higher Mathematics	3
MATH 2415	Introduction to Linear Algebra	3
MATH 2530G	Calculus III	3
MATH 331	Introduction to Modern Algebra	3
or MATH 332	Introduction to Analysis	3
MATH 411V	Great Theorems in Mathematics	3
MATH 452	Foundations of Geometry	3

MATH 454	Logic and Set Theory	3
<i>Departmental Electives</i> ⁴		
Select at least 9 additional upper-division credits of approved courses prefixed MATH or STAT (at least 3 must be 400-level), excluding the following:		9
MATH 300	Readings	
MATH 313	Fundamentals of Algebra and Geometry I	
MATH 400	Undergraduate Research	
MATH 459	Survey of Geometry	
STAT 400	Undergraduate Research	
Non-Departmental Requirements (in addition to Gen.Ed/VWW) ⁵		13
C S 172	Computer Science I	
PHIL 312	Formal Logic	
Select two courses from the following, including at least one of PHIL 316:		
PHIL 316	Philosophy of Mathematics	
PHIL 350	Epistemology	
PHIL 351	Philosophy of Science	
Second Language Requirement: (not required)		
Electives, to bring the total credits to 120 ⁶		40
15 credits must be upper division.		
Total Credits		120-121

1

MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.

2

See the General Education (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses

3

See the Viewing a Wider World (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses. This course must come from outside the college. Note that one of the VWW requirements will be satisfied using the 9 hour rule with the PHIL courses that are required for the degree.

4

MATH 401 Special Topics must be approved by the department for credit towards the major.

5

A grade of C- or better must be earned.

6

Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

Second Language Requirement

For the Bachelor of Science in Mathematics with a Concentration in Foundations there is no second language requirement.