

MATHEMATICS (SECONDARY MATHEMATICS EDUCATION) - BACHELOR OF SCIENCE

The concentration in Secondary Mathematics Education allows a flexible program providing a student with a path to graduate studies in mathematics or a career in industry, as well as all the mathematics and education courses required for certification as a secondary education teacher 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 and Technical Communication Honors	
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
or MATH 1511H	Calculus and Analytic Geometry I Honors	
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i> 10-11		
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
<i>Area IV: Social/Behavioral Sciences Course (3 credits) ²</i>		
Either an Area III/IV: Laboratory Sciences Course or Social/Behavioral Science Course (4 credits or 3 credits) ²		
<i>Area V: Humanities ²</i> 3		
<i>Area VI: Creative and Fine Arts ²</i> 3		
<i>General Education Elective</i>		
MATH 1521G	Calculus and Analytic Geometry II (Departmental/College Requirement)	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing a Wider World ³ 3		
Departmental/College Requirements		
MATH 1531	Introduction to Higher Mathematics	3
MATH 2415	Introduction to Linear Algebra	3

MATH 2530G	Calculus III	3
MATH 3110	Introduction to Modern Algebra	3
or MATH 3120	Introduction to Analysis	
MATH 3130	Introduction to Geometry	3
MATH 4110V	Great Theorems in Mathematics	3
STAT 3110	Statistics for Engineers and Scientists	3

Departmental Electives

Select at least 9 additional upper-division credits of approved courses prefixed MATH or STAT (at least 6 must be 400-level), excluding the following:

MATH 3997	Directed Readings	
MATH 4991	Undergraduate Research	
MATH 4997	Directed Reading	
STAT 400	Undergraduate Research	

Non-Departmental Requirements (in addition to Gen.Ed/VWW) ⁴

C S 172	Computer Science I	4
EDUC 3120	Multicultural Education	3
EDUC 3997	Secondary Field Experience	3
EDUC 4420	Teaching Mathematics at the Middle and High School Level	3
EDUC 4820	Secondary Student Teaching	9
EDUC 4821	Middle and High School Student Teaching Seminar	3
READ 4330	Content Area Literacy	3
SPED 3105	Introduction to Special Education in a Diverse Society	3

Second Language Requirement: (not required)

Electives, to bring the total credits to 120 ⁵ 22
3 hours 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 (<https://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 (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses. Note that one of the VWW requirements will be satisfied using the 9 hour rule with the EDUC courses that are required for the degree.

⁴ A grade of C- or better must be earned.

⁵ 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.

Notes for Minor in Education

Students must apply to the Teacher Education Program (TEP) before they can progress in the 400 level education courses. EDUC 3120 Multicultural Education, EDUC 3997 Secondary Field Experience, and SPED 3105 Introduction to Special Education in a Diverse Society are prerequisites for TEP entrance. Students can apply for TEP during the semester in which they are completing the last of these prerequisites.

Students will also need to have declared the Minor in Secondary Education before applying to TEP.

Second Language Requirement

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

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and english. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Some students may be able to bypass one or more courses in the calculus sequence MATH 1511G - MATH 1521G - MATH 2530G. The calculus sequence, Introduction to Higher Mathematics, and Linear Algebra provide knowledge that is basic to further work, and students are advised to complete them or their equivalent as early as possible.

First Year		Credits
ENGL 1110G	Composition I (C- or better)	4
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I (C- or better) ¹ or Calculus and Analytic Geometry I Honors	4
Elective Course ³		6-7
C S 172	Computer Science I (C- or better)	4
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication Honors	
ENGL 2215G	Advanced Technical and Professional Communication	
Area VI: Creative and Fine Arts Course ²		3
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II (C- or better) or Calculus and Analytic Geometry II Honors	4
PHYS 1310G	Calculus -Based Physics I	3
PHYS 1310L	Calculus -Based Physics I Lab	1
Credits		32-33

Second Year		Credits
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	
Area V: Humanities Course ²		3
Area IV: Social/Behavioral Sciences Course ²		3
MATH 2415	Introduction to Linear Algebra (C- or better)	3
MATH 2530G	Calculus III (C- or better)	3
Either an Area III/IV: Laboratory Science Course or Social/Behavioral Science Course ²		3-4
EDUC 3120	Multicultural Education	3
MATH 1531	Introduction to Higher Mathematics	3
MATH/STAT Elective Course: 300/3000-level or higher (C- or better) ^{4,6}		3
Elective Course		3
Credits		30-31

Third Year		
MATH 4110V or MATH 3130	Great Theorems in Mathematics or Introduction to Geometry	3
EDUC 3997	Secondary Field Experience	3
MATH 3110 or MATH 3120	Introduction to Modern Algebra ((C- or better in either)) ⁷ or Introduction to Analysis	3
SPED 3105	Introduction to Special Education in a Diverse Society	3
Elective Course ³		10
READ 4330	Content Area Literacy	3
STAT 3110	Statistics for Engineers and Scientists	3
MATH/STAT Elective Course: 400/4000-level (C- or better) ⁶		3
Credits		31

Fourth Year		
MATH 3130 or MATH 4110V	Introduction to Geometry or Great Theorems in Mathematics	3
MATH/STAT Elective Course: 400/4000-level (C- or better) ⁶		3
VWW - Viewing a Wider World Course ⁵		3
Elective Course - Upper Division		3
EDUC 4420	Teaching Mathematics at the Middle and High School Level	3
EDUC 4820	Secondary Student Teaching	9
EDUC 4821	Middle and High School Student Teaching Seminar	3
Credits		27
Total Credits		120-122

¹ Math Placement: MATH 1511G Calculus and Analytic Geometry I is the starting Math course for the degree, however, students may need to complete any prerequisites prior to enrolling into this course.

² See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses.

³ 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.

⁴ MATH/STAT 300/400-level courses that cannot be taken to fulfill this requirement: MATH 3997 Directed Readings.

⁵ See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section for a full list of courses.

⁶ MATH/STAT 400-level courses that cannot be taken to fulfill this requirement: MATH 4991 Undergraduate Research, MATH 4997 Directed Reading, STAT 400 Undergraduate Research.

⁷ MATH 3110 Introduction to Modern Algebra is only offered in the Fall semesters. However, MATH 3120 Introduction to Analysis is taught in the Spring and may be used as a substitute.