MATHEMATICS (GENERAL MATHEMATICS) - BACHELOR OF SCIENCE

Students seeking a foundation in pure mathematics and flexibility in the curriculum are encouraged to pursue the General Mathematics Concentration. Students choosing this emphasis should work closely with a faculty advisor to select courses appropriate to their interests.

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

Area I: Communications

English Composition - Level 1
ENGL 1110G Composition I 4

English Composition - Level 2
Choose one from the following:
ENGL 2210G Professional & Technical Communication 3
ENGL 2221G Writing in the Humanities and Social Science

Oral Communication
Choose one from the following:
AXED 2120G Effective Leadership and Communication in Agriculture 3
COMM 1115G Introduction to Communication
COMM 1130G Public Speaking
HNRS 2175G Introduction to Communications Honors

Area II: Mathematics

MATH 1511G Calculus and Analytic Geometry I (Departmental/College Requirement) 1 4

Area III/IV: Laboratory Sciences and Social/Behavioral Sciences 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

Area V: Humanities 2
Area VI: Creative and Fine Arts 2

General Education Elective
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
MATH 332 Introduction to Analysis 3

Departmental Electives 4
Select at least 18 additional upper-division credits of approves courses prefixed MATH or STAT (at least 12 must be 400-level), excluding the following:

Mathematics (General Mathematics) - Bachelor of Science 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 300</td>
<td>Readings</td>
<td></td>
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<tr>
<td>MATH 313</td>
<td>Fundamentals of Algebra and Geometry I</td>
<td></td>
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<tr>
<td>MATH 316</td>
<td>Calculus with Hands-on Applications</td>
<td></td>
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<tr>
<td>MATH 400</td>
<td>Undergraduate Research</td>
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<tr>
<td>MATH 459</td>
<td>Survey of Geometry</td>
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<tr>
<td>STAT 400</td>
<td>Undergraduate Research</td>
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</tbody>
</table>

Non-Departmental Requirements (in addition to Gen.Ed/VWW) 5
C S 172 Computer Science I 4

Second Language Requirement: (not required) 43

Electives, to bring the total credits to 120 6
18 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 section of the catalog for a full list of courses.
3 See the Viewing a Wider World section of the catalog for a full list of courses.
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.

Note: It is strongly recommended that mathematics majors in the General Mathematics Concentration consider a minor or second major in an area that uses mathematics, such as physics or computer science. All programs should be planned with the guidance of a departmental advisor. More information is available at www.math.nmsu.edu.

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.

Course Title Credits

First Year
Fall
ENGL 1110G Composition I (C- or better) 4
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1511G</td>
<td>Calculus and Analytic Geometry I (C- or better)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Area III: Laboratory Science Course</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>C S 172</td>
<td>Computer Science I (C- or better)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Credits** 16

**Spring**

Choose one from the following: 3

- ENGL 2210G Professional & Technical Communication
- ENGL 2221G Writing in the Humanities and Social Science
- Either an Area III/IV Laboratory Science Course or Social/Behavioral Sciences Course 2-3
- MATH 1521G Calculus and Analytic Geometry II (C- or better) 4
- Elective Course 3

**Credits** 13-14

**Second Year**

**Fall**

Choose one from the following: 3

- AXED 2120G Effective Leadership and Communication in Agriculture
- COMM 1115G Introduction to Communication
- COMM 1130G Public Speaking
- HNRS 2175G Introduction to Communications Honors

Area V: Humanities Course 2

- Elective Course 3
- MATH 2415 Introduction to Linear Algebra (C- or better) 3
- MATH 2530G Calculus III (C- or better) 3

**Credits** 15

**Spring**

Area IV: Social/Behavioral Sciences Course 2

- Area VI: Creative and Fine Arts Course 3
- Elective Course 3
- MATH 1531 Introduction to Higher Mathematics 3
- MATH/STAT Elective Course - 300-level of higher (C- or better) 4

**Credits** 15

**Third Year**

**Fall**

- Elective Course 3
- VWW - Viewing a Wider World Course 5
- MATH 331 Introduction to Modern Algebra (C- or better) 3
- MATH/STAT Elective Course - 300-level of higher (C- or better) 4
- Elective Course 3

**Credits** 15

**Spring**

- Elective Course 3
- Elective Course 3
- MATH 332 Introduction to Analysis 3
- MATH/STAT Elective Course - 400-level (C- or better) 5
- Elective Course - Upper Division 3

**Credits** 15

**Fourth Year**

**Fall**

- MATH/STAT Elective Course - 400-level (C- or better) 5
- MATH/STAT Elective Course - 400-level (C- or better) 5
- VWW - Viewing a Wider World 5
- Elective Course - Upper Division 3
- Elective Course - Upper Division 3

**Credits** 15

**Total Credits** 120-121

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 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-level courses that cannot be taken to fulfill this requirement: MATH 300 Readings, MATH 313 Fundamentals of Algebra and Geometry I, MATH 316 Calculus with Hands-on Applications.

5 See the Viewing a Wider World section for a full list of courses.

6 MATH/STAT 400-level courses that cannot be taken to fulfill this requirement: MATH 400 Undergraduate Research, MATH 459 Survey of Geometry, STAT 400 Undergraduate Research.