MATH 191G Calculus and Analytic Geometry I 4
MATH 192G Calculus and Analytic Geometry II 4
MATH 291G Calculus and Analytic Geometry III 3
MATH 279 Introduction to Higher Mathematics 3
MATH 280 Introduction to Linear Algebra 3
Total Credits 17

Notes
Some students may be able to bypass one or more courses in the calculus sequence MATH 191-192-291. 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.

Students planning to enter a graduate program in Mathematics should select the General Emphasis. In any case, such students are strongly advised to take both MATH 331 Introduction to Modern Algebra and MATH 332 Introduction to Analysis, since these courses are required by most programs, and should take as many as possible of the following courses

MATH 481 Advanced Linear Algebra 3
MATH 491 Introduction to Real Analysis I 3
MATH 492 Introduction to Real Analysis II 3

Students planning to do graduate work in Mathematics are encouraged to take French or German to meet the requirement of a second language.

Concentration: Actuarial Science and Insurance
The concentration in Actuarial Science and Insurance draws on courses from mathematics and business to prepare students for a mathematical career in insurance. The coursework in this concentration focuses on the analysis of risk and its applications to insurance finance. Students fulfilling the requirements for the Actuarial Science and Insurance Concentration earn a minor in Risk Management and Insurance.

Departmental Requirements
MATH 331 Introduction to Modern Algebra 3
or MATH 332 Introduction to Analysis 3
STAT 371 Statistics for Engineers and Scientists I 3
STAT 470 Probability: Theory and Applications 3
STAT 480 Statistics: Theory and Applications 3
Departmental Electives
Select at least an additional 9 credits of approved upper-division courses prefixed MATH or STAT, excluding the following: ¹

MATH 300 Readings
MATH 313 Fundamentals of Algebra and Geometry I
MATH 316 Calculus with Hands-on Applications
MATH 400 Undergraduate Research

Notes
¹ MATH 401 Special Topics must be approved by the department for credit towards the major. At least 6 of the MATH and STAT credit hours must be numbered higher than 400.

Concentration: Applied Mathematics
The Applied Mathematics concentration is intended to prepare students planning a mathematically oriented career upon graduation. The coursework in this concentration provides a foundation in mathematics important in many scientific and engineering applications.

Departmental Requirements
MATH 377 Introduction to Numerical Methods 3
MATH 392 Introduction to Ordinary Differential Equations 3
MATH 471 Complex Variables 3
MATH 472 Fourier Series and Boundary Value Problems 3
STAT 371 Statistics for Engineers and Scientists I 3
STAT 470 Probability: Theory and Applications 3
Departmental Electives
Select at least 6 credits of approved additional upper-division courses prefixed MATH or STAT, excluding the following: ²

MATH 300 Readings
MATH 313 Fundamentals of Algebra and Geometry I
MATH 400 Undergraduate Research
MATH 459 Survey of Geometry
STAT 400 Undergraduate Research
Nondepartmental Requirements

Select a minimum of 12 credit hours of electives to form a coherent cluster in an applied area from the following: 

Examples of acceptable clusters:

**Signals**
- E E 161 Computer Aided Problem Solving
- Select 9 credits from the following:
  - E E 280 DC and AC Circuits
  - E E 312 Signals and Systems I
  - E E 395 Introduction to Digital Signal Processing
  - E E 496 Introduction to Communication Systems

**Structures**
- C S 172 Computer Science I
- or E E 161 Computer Aided Problem Solving
- Select 9 credits from the following:
  - PHYS 215G Engineering Physics I
  - C E 233 Mechanics-Statics
  - C E 301 Mechanics of Materials
  - C E 315 Structural Analysis
  - C E 365 Intermediate Structural Analysis

**Operations Research**
- E E 161 Computer Aided Problem Solving
- Select three from the following:
  - I E 311 Engineering Data Analysis
  - I E 365 Quality Control
  - I E 413 Engineering Operations Research I
  - I E 423 Engineering Operations Research II
  - I E 460 Evaluation of Engineering Data

**Algorithm Theory**
- C S 172 Computer Science I
- C S 272 Introduction to Data Structures
- C S 370 Compilers and Automata Theory
- C S 372 Data Structures and Algorithms

**Bioinformatics**
- BIOL 211G Cellular and Organismal Biology
- BIOL 211GL Cellular and Organismal Biology Laboratory
- C S 486 Bioinformatics
- Select 6 credits from the following:
  - C S 172 Computer Science I
  - C S 272 Introduction to Data Structures
  - C S 370 Compilers and Automata Theory
  - C S 371 Software Development
  - C S 372 Data Structures and Algorithms

**Computer Systems**
- C S 172 Computer Science I
- Select 9 credits from the following:
  - C S 271 Object Oriented Programming
  - or C S 272 Introduction to Data Structures
  - C S 371 Software Development
- Select 6-7 credits from the following:
  - C S 370 Compilers and Automata Theory

**Concentrations: General Mathematics**

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.

Departmental Requirements

- MATH 331 Introduction to Modern Algebra
- MATH 332 Introduction to Analysis
- Departmental Electives
- Select at least 18 additional upper-division credits of approved courses prefixed MATH or STAT, excluding:
  - MATH 300 Readings
  - MATH 313 Fundamentals of Algebra and Geometry I
  - MATH 316 Calculus with Hands-on Applications
  - MATH 400 Undergraduate Research
  - MATH 459 Survey of Geometry
  - STAT 400 Undergraduate Research

Nondepartmental Requirements for the Major

- Second Language Requirement at the 212/214 level or above
- Select 6-7 credits from the following:
  - C S 172 Computer Science I
  - C S 272 Introduction to Data Structures
- Total Credits

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. (https://www.math.nmsu.edu)