



Mathematics

Total Credits: 42+

Department Chair: Professor Antonella Marini
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Find the Website [here](#)

The department of mathematical sciences offers degrees in three concentrations:

- 1. Specialization in Pure and Applied Mathematics**
- 2. Specialization in Computational Science**
- 3. Specialization in Actuarial and Financial Mathematics**

Details for each specialization can be found on pages 2-4

Mathematics Minor Total Credits: 21

REQUIRED COURSES

Course #	Course Name	Credits
MATH 1412	Calculus I	4
MATH 1413	Calculus II	4
MATH 1510	Multivariable Calculus	4
MATH 2105	Linear Algebra	3

ELECTIVES (6 credits)

Two (2) MATH courses 1500 or higher

Note: Graduate courses in Mathematics are open to undergraduate students who successfully completed Multivariable Calculus and Linear Algebra.

Specialization in Pure and Applied Mathematics

Total Credits: **36+**

REQUIRED COURSES (8 courses, 27 credits)

Course #	Course Name	Credits
MATH 1412	Calculus I	4
MATH 1413	Calculus II	4
MATH 1504	Discrete Mathematics & Application	3
MATH 1510	Multivariable Calculus	4
MATH 1520	Advanced Calculus 1 (or MAT 5300)	3
MATH 2105	Linear Algebra	3
MATH 2461	Probability Theory	3
MATH 2601	Ordinary Differential Equations or MAT 52019	3

ELECTIVES 1500 Level or higher (3 courses, 9 credits)

Recommended courses include

Course #	Course Name	Credits
MATH 1521 or MAT 5651	Advanced Calculus II	3
MATH 1540 or MAT 5405	Functions of Complex Variable	3
MATH 2170 or MAT 5310	Topology	3
MATH 2215 or MAT 5253	Modern Algebra	3
MATH 2462 or MAT 5002	Mathematical Statistics	3
MATH 2602 or MAT 5340	Partial Differential Equations	3

CORRELATES (2 courses, 6+ credits)

Chosen from computer science, or graduate mathematics, artificial intelligence, data analytics and visualization

Specialization in Computational Science

Total Credits: **39+**

REQUIRED COURSES (8 courses, 27 credits)

Course #	Course Name	Credits
MATH 1412	Calculus I	4
MATH 1413	Calculus II	4
MATH 1510	Multivariable Calculus	4
MATH 2105	Linear Algebra	3
MATH 2461	Probability Theory	3
MATH 2462	Mathematical Statistics or MAT 5002	3
MATH 2601	Ordinary Differential Equations or MAT 5209	3
MATH 2651	Numerical Methods or MAT 5003	3

ELECTIVES (4 courses, 12+ credits)

Chosen from computer science or advanced mathematics.

Recommended courses include

- COMP 1300
- COMP 1310
- COMP 1320
- COMP 2545
- COMP 3920

CORRELATES (2 courses, 6+ credits)

Chosen from computer science, or graduate mathematics, artificial intelligence, data analytics and visualization

Specialization in Actuarial and Financial Mathematics

Total Credits: **36**

REQUIRED COURSES (8 courses, 27 credits)

Course #	Course Name	Credits
MATH 1412	Calculus I	4
MATH 1413	Calculus II	4
MATH 1510	Multivariable Calculus	4
MATH 2105	Linear Algebra	3
MATH 2461	Probability Theory	3
MATH 2462	Mathematical Statistics or MAT 5002	3
MATH 2601	Ordinary Differential Equations or MAT 5209	3
MATH 2901	Mathematics of Finance or MATH 5640	3

ELECTIVES (3 courses, 9 credits)

Chosen from economics, business intelligence and marketing analytics or advanced mathematics.

Recommended courses include

- ECON 1010
- ECON 1101
- ECON 1201
- ECON 1421
- ACC 1001
- ACC 1002
- FIN 1001
- IDS 2020
- IDS 2030
- IDS 2160
- IDS 2550
- IDS 3000

CORRELATES (2 courses, 6 credits)

Chosen from computer science, or graduate mathematics, artificial intelligence, data analytics and visualization