**Illinois State University**
**Department of Mathematics**
**Mathematics Major**

This major is designed to prepare students to work in business, government, and industry and in vocations that involve research or applications of mathematics in the physical and social sciences. It also builds a strong foundation for students who are interested in pursuing graduate study in pure mathematics.

**Major Requirements (minimum 45 hours)**
Required (mathematics courses with a grade of C or better):
MAT 145 Calculus I (4 hours)
MAT 146 Calculus II (4 hours)
MAT 147 Calculus III (4 hours)
MAT 175 Elementary Linear Algebra (4 hours)
MAT 236 Elementary Abstract Algebra (4 hours)
MAT 247 Elementary Real Analysis (3 hours)
MAT 260 Discrete Mathematics (4 hours)
MAT 350 Applied Probability Models (4 hours)
ENG 145 or ENG 249 or equivalent (does not count toward the 45 hours)
IT 165 or IT 168 (does not count toward the 45 hours)

At least one course chosen from:
MAT 336 Advanced Abstract Algebra (3 hours)
MAT 337 Advanced Linear Algebra (4 hours)
MAT 347 Advanced Real Analysis (4 hours)

From the following groups, select 3 or more courses, not all in the same group:
**Algebra Group:** MAT 330 (3 hours) , MAT 336 (3 hours), MAT 337 (4 hours)
**Analysis Group:** MAT 340 (3 hours), MAT 341 (3 hours), MAT 345 (4 hours), MAT 347 (4 hours)
**Discrete Group:** MAT 361 (2-4 hours), MAT 362 (4 hours), MAT 363 (4 hours)
**Statistics Group:** MAT 351 (4 hours), MAT 378 (3 hours)
**Research Group:** MAT 268 (3 hours)

**Electives** as needed from 200- or 300-level mathematics courses that are offered for major/minor credit that are not designed for the actuarial sequence or the teacher certification sequence.

**Graduation Requirements:** Complete a minimum of 120 hours; complete the General Education requirements; complete at least 42 senior level hours; complete residency and language requirements; complete a global studies course; maintain a GPA of 2.0 in Mathematics; maintain a GPA of 2.0 overall; and complete a senior portfolio. **For complete, official information, consult your catalog.**

**Contact Dr. Sunil Chebolu, Undergraduate Director, for more information.**
Mathematics Department
Campus Box 4520
Normal, IL 61790-4520 schebol@ilstu.edu 2016-2017 Catalog

**Mathematics Major**
**Sample Four-Year Plans**

Mathematics Major

**Year 1**

| **Fall** | **Spring** |
|---|---|
| ENG 101 or COM 110 | COM 110 or ENG 101 |
| MAT 145 | MAT 146 |
| GE Natural Science | GE Soc Sci. |
| GE Individuals & Civic Life | GE Natural Science |
| | GE US Traditions |

**Year 2**

| **Fall** | **Spring** |
|---|---|
| MAT 147 | MAT 175 |
| MAT 260 | IT 168 or 165 |
| GE Language in the Humanities | GE Fine Arts |
| | GE Humanities |

**Year 3**

| **Fall** | **Spring** |
|---|---|
| MAT 247 | MAT 236 |
| MAT 350 | MAT Elective** |
| LAN 112*** | |

**Year 4**

| **Fall** | **Spring** |
|---|---|
| MAT Elective* | MAT Elective* or ** |
| MAT Elective** | Univ. wide Elective, if needed |

Mathematics Major Pursuing Graduate Study in Mathematics

**Year 1**

| **Fall** | **Spring** |
|---|---|
| ENG 101 or COM 110 | COM 110 or ENG 101 |
| MAT 145 | MAT 146 |
| GE Natural Science | GE Soc Sci. |
| GE Individuals & Civic Life | GE Natural Science |
| | GE US Traditions |

**Year 2**

| **Fall** | **Spring** |
|---|---|
| MAT 147 | MAT 260 |
| MAT 175 | MAT 350 |
| ENG 145 or 249 | IT 168 or 165 |
| GE Language in the Humanities | GE Fine Arts |
| | GE Humanities |

**Year 3**

| **Fall** | **Spring** |
|---|---|
| MAT 247 | MAT 236 |
| MAT 340 | MAT Elective** |
| LAN 112*** | Univ. wide Elective if needed |

**Year 4**

| **Fall** | **Spring** |
|---|---|
| MAT 337 | MAT 336 |
| MAT Elective** | MAT 347 |

*At least one course must be chosen from MAT 336 (Spring only), 337 (Fall only), 347 (Spring only).

****Electives** as needed from 200- or 300-level mathematics courses that are offered for major/minor credit that are not designed for the actuarial sequence or the teacher certification sequence, at least three of which are from at least two of the following groups: **Algebra Group:** MAT 330, MAT 336, MAT 337; **Analysis Group:** MAT 340, MAT 341, MAT 345, MAT 347; **Discrete Group:** MAT 361, MAT 362, MAT 363; **Statistics Group:** MAT 351, MAT 378; **Research Group:** MAT 268.

---

***Students must satisfy a foreign language requirement that may be met by: 3 years of a single foreign language in high school or completion of the second semester or higher of college-level foreign language (LAN 112 or articulated course) with a grade of "C" or better or equivalent proficiency as determined by examination. American Sign Language may be used to fulfill this requirement by transfer credit or by proficiency.

Students are encouraged to being collecting their senior portfolio materials at the end of their second year. Students pursuing graduate study in mathematics are encouraged to take as many mathematics courses as their schedule allows.