## BS with a Major in Mathematics

## Program Codes:

20FT0439BS

## Degree Requirements

To earn a Bachelor of Science in Liberal Arts and Sciences degree from UIC, students must complete university, college, and department degree requirements. The Department of Mathematics, Statistics, and Computer Science degree requirements are outlined below. Students should consult the College of Liberal Arts and Sciences section for additional degree requirements and college academic policies.

| Code $\quad$ Title | Hours |
| :--- | ---: |
| Summary of Requirements |  |
| Major Requirements | 39 |
| General Education and Electives to reach minimum Total | 81 |
| Hours |  |

## Total Hours

## General Education

See General Education and Writing-in-the-Discipline in the College of Liberal Arts and Sciences section for information on meeting these requirements.

## Major Requirements

| Code | Title | Hours |
| :---: | :---: | :---: |
| Required Courses |  |  |
| MATH 180 | Calculus ${ }^{\text {a,b }}$ | 4 |
| MATH 181 | Calculus II ${ }^{\text {a }}$ | 4 |
| MATH 210 | Calculus III ${ }^{\text {a }}$ | 3 |
| MATH 215 | Introduction to Advanced Mathematics | 3 |
| MATH 300 | Writing for Mathematics ${ }^{\text {c }}$ | 1 |
| MATH 313 | Analysis I | 3 |
| MATH 320 | Linear Algebra I | 3 |
| MATH 330 | Abstract Algebra I | 3 |
| Electives |  |  |
| Electives ch mathematic higher, with must be at STAT 496. | mathematics, statistics, and er science courses at the 200 level or tion of MATH 310. At least 6 hours vel, excluding MATH 496, MCS 496, and | 15 |

## Total Hours

a This course is approved for the Analyzing the Natural World General Education category.
b MATH 180 also fulfills the LAS Quantitative Reasoning requirement.
c MATH 300 fulfills the Writing-in-the-Discipline requirement.

NOTE: Students planning advanced study in Mathematics should choose their electives from among the following:

| Code <br> Recommended Electives | Title | Hours |
| :--- | :--- | :--- |
| MATH 414 | Analysis II |  |
| MATH 417 | Complex Analysis with Applications |  |
| MATH 430 | Formal Logic I |  |
| MATH 435 | Foundations of Number Theory |  |
| MATH 445 | Introduction to Topology I |  |
| MATH 446 | Introduction to Topology II |  |
| MCS 421 | Combinatorics |  |
| MCS 423 | Graph Theory |  |
| STAT 401 | Introduction to Probability |  |
| STAT 475 | Mathematics and Statistics for Actuarial |  |

## Recommended Plan of Study

Students who do not place into MATH 180 should expect to take summer session courses and possibly take longer than four years to graduate. Students who have taken AP exams in calculus or computer science need to see a departmental advisor for correct placement.

| Course | Title | Hours |
| :---: | :---: | :---: |
| First Year |  |  |
| Fall Semester |  |  |
| ENGL 160 | Academic Writing I: Writing in Academic and Public Contexts | 3 |
| MATH 180 | Calculus ${ }^{\text {a }}$ | 4 |
| Foreign Lan |  | 4 |
| General Education Requirement course |  | 3 |
|  | Hours | 14 |
| Spring Semester |  |  |
| ENGL 161 | Academic Writing II: Writing for Inquiry and Research | 3 |
| MATH 181 | Calculus II | 4 |
| Foreign Lan |  | 4 |
| General Education Requirement course |  | 3 |
|  | Hours | 14 |
| Second Year |  |  |
| Fall Semester |  |  |
| MATH 210 | Calculus III | 3 |
| MATH 215 | Introduction to Advanced Mathematics | 3 |
| Foreign Lan |  | 4 |
| General Education Requirement course |  | 3-5 |
| Electives |  | 3 |
|  | Hours | 16-18 |
| Spring Semester |  |  |
| MATH 320 | Linear Algebra I | 3 |
| MATH 300 | Writing for Mathematics | 1 |
| Foreign Language |  | 4 |
| General Education Requirement course |  | 3 |
| General Education Requirement course |  | 3 |

Third Year
Fall Semester

| MATH 330 | Abstract Algebra I | 3 |
| :--- | :--- | ---: |
| MATH 313 | Analysis I | 3 |
| General Education Requirement course | 3 |  |
| General Education Requirement course | $\mathbf{3 - 5}$ |  |
| Electives | $\mathbf{3}$ |  |
|  | Hours | $\mathbf{1 5 - 1 7}$ |


| Spring Semester |  |
| :---: | :---: |
| MSCS Electives ${ }^{\text {b }}$ | 6 |
| Electives | 9 |
| Hours | 15 |
| Fourth Year |  |
| Fall Semester |  |
| Two MSCS electives (at least one at 400 level) ${ }^{\text {b }}$ | 6 |
| Electives | 9 |
| Hours | 15 |
| Spring Semester |  |
| One MSCS elective (at least one at 400 level) ${ }^{\text {b }}$ | 3 |
| Electives | 12 |
| Hours | 15 |
| Total Hours | 120 |

a MATH 180 satisfies the LAS Quantitative Reasoning requirement with a grade of $C$ or better.
b Electives chosen from mathematics, statistics, and mathematical computer science courses at the 200 level or higher, with the exception of MATH 310. At least 6 hours must be at the 400 level, excluding MATH 496, MCS 496, and STAT 496. See the Math advising guides for suggested elective options: Pure Mathematics, Applied Mathematics, Computational and Industrial Mathematics, and Probability and Statistics.

Note: The requirement of two additional courses taken from any General Education category is satisfied by MATH 180 and MATH 181.

