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.

Summary of Requirements
Major Requirements 39
General Education and Electives to reach minimum Total Hours 81
Total Hours 120

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

Required Courses
MATH 180 Calculus I 4
MATH 181 Calculus II 4
MATH 210 Calculus III 3
MATH 215 Introduction to Advanced Mathematics 3
MATH 300 Writing for Mathematics c 1
MATH 313 Analysis I 3
MATH 320 Linear Algebra I 3
MATH 330 Abstract Algebra I 3

Electives
Electives chosen from mathematics, statistics, and 15 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.

Total Hours 39

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:

Recommended Electives
MATH 414 Analysis II
MATH 417 Complex Analysis with Applications
MATH 430 Formal Logic I

MATH 431 Abstract Algebra II
MATH 435 Foundations of Number Theory
MATH 442 Differential Geometry of Curves and Surfaces
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 Sciences I

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 3
Academic and Public Contexts
MATH 180 Calculus I a 4
Foreign Language 4
General Education Requirement course 3

Hours 14
Spring Semester
ENGL 161 Academic Writing II: Writing for 3
Inquiry and Research
MATH 181 Calculus II 4
Foreign Language 4
General Education Requirement course 3

Hours 14
Second Year
Fall Semester
MATH 210 Calculus III 3
MATH 215 Introduction to Advanced 3
Mathematics
Foreign Language 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

Hours 14
Third Year
Fall Semester
MATH 330 Abstract Algebra I 3
MATH 313 Analysis I 3
General Education Requirement course 3
<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Education Requirement course</strong></td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>15-17</td>
</tr>
</tbody>
</table>

**Spring Semester**

<table>
<thead>
<tr>
<th>Elective Type</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCS Electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Fourth Year**

**Fall Semester**

<table>
<thead>
<tr>
<th>Elective Type</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two MSCS electives (at least one at 400-level)</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Spring Semester**

<table>
<thead>
<tr>
<th>Elective Type</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>One MSCS elective (at least one at 400-level)</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Total Hours**

<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
</tr>
</tbody>
</table>

---

*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.