# BS with a Major in Statistics 

## Program Codes:

## 20FT0329BS

The Bachelor of Science with a Major in Statistics is intended for students planning advanced study in statistics or for a career in the data-oriented applications of these disciplines to a wide variety of areas such as accounting, actuarial science, auditing, biostatistics, data management, financial analysis, hospital administration, longrange developmental planning, pharmaceuticals, traffic controls, and transportation management.

Majors in Statistics must complete a concentration in either Statistical Theory and Methods or Applied Statistics.

## 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 degree requirements for 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 ..... 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

| Code | Title | Hours |
| :--- | :--- | ---: |
| Required Courses |  |  |
| MATH 180 | Calculus I $^{\text {a,b }}$ | 4 |
| MATH 181 | Calculus II $^{\mathrm{b}}$ | 4 |
| MATH 210 | Calculus III $^{\text {b }}$ | 3 |
| MATH 300 | Writing for Mathematics $^{\text {c }}$ | 1 |
| STAT 381 | Applied Statistical Methods I | 3 |
| STAT 382 | Statistical Methods and Computing | 3 |
| STAT 385 | Elementary Statistical Techniques for | 3 |
|  | Machine Learning and Big Data |  |
| STAT 401 | Introduction to Probability | 3 |
| STAT 481 | Applied Statistical Methods II | 3 |

In addition, students must choose one of the following
12
concentrations:

| Concentration I-Statistical Theory and Methods |  |
| :---: | :---: |
| MATH 215 | Introduction to Advanced Mathematics |
| MATH 310 | Applied Linear Algebra |

Concentration I-Statistical Theory and Methods MATH 310 Applied Linear Algebra

## MATH 313 Analysis I

One 400-level statistics course

## Concentration II-Applied Statistics

Four courses in an area or topic of student interest, chosen in consultation with an advisor. The courses may be in any area outside the MSCS department that can utilize statistical methods. At least two courses must be at the 200 level or above.
Total Hours
a MATH 180 fulfills the LAS Quantitative Reasoning requirement.
b This course is approved for the Analyzing the Natural World (nonlaboratory) General Education category.
c MATH 300 fulfills the Writing-in-the-Discipline requirement.

## Recommended Plan of Study (Concentration I-Statistical Theory and Methods)

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 |  | 3-5 |
|  | Hours | 14-16 |
| Spring Semester |  |  |
| ENGL 161 | Academic Writing II: Writing for Inquiry and Research | 3 |
| MATH 181 | Calculus II | 4 |
| Foreign Lang |  | 4 |
| General Education Requirement course |  | 3-5 |
|  | Hours | 14-16 |
| Second Year |  |  |
| Fall Semester |  |  |
| MATH 210 | Calculus III | 3 |
| MATH 215 | Introduction to Advanced Mathematics | 3 |
| Foreign Lang |  | 4 |
| General Education Requirement course |  | 3 |
| Elective |  | 3 |
|  | Hours | 16 |
| Spring Semester |  |  |
| MATH 310 | Applied Linear Algebra | 3 |
| STAT 381 | Applied Statistical Methods I | 3 |
| Foreign Lang |  | 4 |
| General Education Requirement course |  | 3-5 |
|  | Hours | 13-15 |
| Third Year |  |  |
| Fall Semester |  |  |
| STAT 382 | Statistical Methods and Computing | 3 |
| STAT 401 | Introduction to Probability | 3 |
| General Education Requirement course |  | 3 |
| Elective |  | 3 |


a By placement. MATH 180 satisfies the LAS Quantitative Reasoning requirement with a grade of $C$ or better.
b Any 400-level course in the STAT rubric.

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

