## BACHELOR OF SCIENCE IN STATISTICS

## Required Courses

| Cod | Title |  | redit Hours |
| :---: | :---: | :---: | :---: |
| Applied Mathematics Requirements |  |  | (29) |
| MATH 100 | Introduction to the Profession |  | 3 |
| MATH 151 | Calculus I |  | 5 |
| MATH 152 | Calculus II |  | 5 |
| MATH 230 | Introduction to Discrete Math |  | 3 |
| MATH 251 | Multivariate and Vector Calculus |  | 4 |
| MATH 332 | Elementary Linear Algebra |  | 3 |
| MATH 350 | Introduction to Computational Mathematics |  | 3 |
| MATH 435 | Linear Optimization |  | 3 |
| Statistics Requirements |  |  | (15) |
| MATH 225 | Introductory Statistics |  | 3 |
| MATH 446 | Introduction to Time Series |  | 3 |
| MATH 475 | Probability |  | 3 |
| MATH 476 | Statistics |  | 3 |
| MATH 484 | Regression |  | 3 |
| Applied Mathematics Electives |  |  | (15) |
| Select 15 credit hours from the following courses, or any other approved AMAT elective: ${ }^{1}$ |  |  | 15 |
| MATH 252 | Introduction to Differential Equations | 4 |  |
| MATH 380 | Introduction to Mathematical Modeling | 3 |  |
| MATH 400 | Real Analysis | 3 |  |
| MATH 481 | Introduction to Stochastic Processes | 3 |  |
| MATH 483 | Design and Analysis of Experiments | 3 |  |
| CS 422 | Data Mining | 3 |  |
| Minor Requirement |  |  | (15) |
| Select five related courses from an area outside of applied mathematics, computational mathematics, or statistics |  |  | 15 |
| Computer Science Requirements |  |  | (7-9) |
| Select one of the following sequences: |  |  | 4-6 |
| $\begin{aligned} & \text { CS } 115 \\ & \& \text { CS } 116 \end{aligned}$ | Object-Oriented Programming I and Object-Oriented Programming II | 4 |  |
| $\begin{aligned} & \text { CS } 104 \\ & \& \text { CS } 201 \end{aligned}$ | Introduction to Computer Programming for Engineers and Accelerated Introduction to Computer Science | 6 |  |
| $\begin{aligned} & \text { CS } 105 \\ & \& \text { CS } 201 \end{aligned}$ | Introduction to Computer Programming and Accelerated Introduction to Computer Science | 6 |  |
| CS 331 | Data Structures and Algorithms |  | 3 |
| Natural Science and Engineering Requirements |  |  | (10) |
| See Illinois Tech Core Curriculum, section D |  |  | 10 |
| Humanities and Social Science Requirements |  |  | (21) |
| See Illinois Tech Core Curriculum, sections B and C |  |  | 21 |
| Interprofessional Projects (IPRO) |  |  | (6) |
| See Illinois Tech Core Curriculum, section E |  |  | 6 |
| Free Electives |  |  | (8) |
| Select eight credit hours |  |  | 8 |

1 Applied mathematics/statistics electives are to be chosen after consultation with an academic adviser. Student goals, interests, and course availability should be determining factors in this selection process. Students can take CS 422 to replace one applied mathematics/statistics elective. CS 422 must be taken after CS 331, which is a required computer science course in this curriculum.

The following courses do not count toward the requirements for this degree: MATH 119, MATH 122, MATH 130, MATH 148, MATH 180, MATH 333, MATH 374, MATH 425, MATH 426, and MATH 474.

## Bachelor of Science in Statistics Curriculum

| Semester 1 | Credit Hours | Semester 2 | Year 1 |
| :---: | :---: | :---: | :---: |
|  |  |  | Credit Hours |
| MATH 100 | 3 | MATH 152 | 5 |
| MATH 151 | 5 | MATH 230 | 3 |
| MATH 225 | 3 | Science Elective | 4 |
| Computer Science Course ${ }^{1}$ | 2 | Computer Science Course ${ }^{1}$ | 2 |
| Humanities 200-level Course | 3 | Social Sciences Elective | 3 |
|  | 16 |  | 17 |
|  |  |  | Year 2 |
| Semester 1 | Credit Hours | Semester 2 | Credit Hours |
| MATH 251 | 4 | MATH 435 | 3 |
| MATH 332 | 3 | Applied Mathematics/Statistics Elective ${ }^{2}$ | 3 |
| CS 331 | 3 | Minor Elective | 3 |
| Minor Elective | 3 | Science Elective | 3 |
| Humanities or Social Sciences Elective | 3 | Social Sciences Elective (300+) | 3 |
|  | 16 |  | 15 |
|  |  |  | Year 3 |
| Semester 1 | Credit Hours | Semester 2 | Credit Hours |
| MATH 475 | 3 | MATH 350 | 3 |
| Applied Mathematics/Statistics Elective ${ }^{2}$ | 3 | MATH 476 | 3 |
| Minor Elective | 3 | Applied Mathematics/Statistics Elective ${ }^{2}$ | 3 |
| Science Elective | 3 | IPRO Elective I | 3 |
| Humanities Elective (300+) | 3 | Social Sciences Elective (300+) | 3 |
| Free Elective | 2 |  |  |
|  | 17 |  | 15 |
|  |  |  | Year 4 |
| Semester 1 | Credit Hours | Semester 2 | Credit Hours |
| MATH 484 | 3 | MATH 446 | 3 |
| Applied Mathematics/Statistics Elective ${ }^{2}$ | 3 | Applied Mathematics/Statistics Elective ${ }^{2}$ | 3 |
| Minor Elective | 3 | Minor Elective | 3 |
| Humanities Elective (300+) | 3 | Free Elective | 3 |
| IPRO Elective II | 3 | Free Elective | 3 |
|  | 15 |  | 15 |

## Total Credit Hours: 126

1 Students must complete one of the following computer science sequences: CS 115 and CS 116, CS 104 and CS 201, or CS 105 and CS 201.
2 Applied mathematics/statistics electives are to be chosen after consultation with an academic adviser. Student goals, interests, and course availability should be determining factors in this selection process. Students can take CS 422 to replace one applied mathematics/statistics elective. CS 422 must be taken after CS 331, which is a required computer science course in this curriculum. The following courses do not count toward the requirements for this degree: MATH 119, MATH 122, MATH 130, MATH 148, MATH 180, MATH 333, MATH 374, MATH 425, MATH 426, and MATH 474.

