Statistics, B.S.

Learning Outcomes

Students will:

• be able to distinguish between observational studies and designed experiments and understand the issues related to the data collection method, including sampling bias, sampling error, sample size determination, statistical power, association versus causation, and the design and analysis of randomized experiments;
• use critical thinking skills to translate substantive questions into well-defined statistical problems and choose appropriate statistical methods and graphical summaries for a given problem;
• use computer software to manage data, carry out exploratory data analyses and computer simulations, produce numerical and graphical summaries of data, and apply basic statistical methodology;
• be able to clearly communicate study results to non-statisticians, and write accurate and meaningful reports that describe the statistical analyses and summarize important findings; and
• understand the mathematical tools underlying statistical methods, including distribution theory, uncertainty quantification via probability, estimation theory, and the probabilistic basis of formal statistical inference.

Requirements

The Bachelor of Science with a major in statistics requires a minimum of 120 s.h., including at least 47 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core.

Students complete 10 core courses that provide essential instruction in statistical methods, applications, and theory. In addition, they concentrate on an area of interest by completing four or five courses in one of the major’s three emphasis tracks: statistics in business, industry, government, and research; statistical computing and data science; or mathematical statistics.

The B.S. with a major in statistics requires the following coursework.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Emphasis Track Courses</td>
<td></td>
<td>12-16</td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>47-51</td>
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Core Courses


<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>CS:1210</td>
<td>Computer Science I: Fundamentals</td>
</tr>
<tr>
<td>MATH:1850</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MATH:1860</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MATH:2700</td>
<td>Introduction to Linear Algebra</td>
</tr>
<tr>
<td>MATH:2850</td>
<td>Calculus III</td>
</tr>
<tr>
<td>STAT:2010</td>
<td>Statistical Methods and Computing</td>
</tr>
<tr>
<td>STAT:3100/IGPI:3100</td>
<td>Introduction to Mathematical Statistics I</td>
</tr>
<tr>
<td>STAT:3101/IGPI:3101</td>
<td>Introduction to Mathematical Statistics II</td>
</tr>
<tr>
<td>STAT:3200/IGPI:3200/ISE:3760</td>
<td>Applied Linear Regression</td>
</tr>
<tr>
<td>STAT:3210</td>
<td>Experimental Design and Analysis</td>
</tr>
</tbody>
</table>

Emphasis Tracks

Students choose one of the following tracks and must complete four or five courses in that track.

Statistics in Business, Industry, Government and Research Track

The statistics in business, industry, government, and research track emphasizes statistical applications and data analysis. It is appropriate for students interested in careers as applied statisticians.

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>STAT:5810/BIOS:5310/IGPI:5310</td>
<td>Research Data Management</td>
</tr>
<tr>
<td>STAT:3620/CEE:3142/ISE:3600</td>
<td>Quality Control</td>
</tr>
<tr>
<td>STAT:4520/IGPI:4522/PSQF:4520</td>
<td>Bayesian Statistics</td>
</tr>
<tr>
<td>STAT:4540/IGPI:4540</td>
<td>Statistical Learning</td>
</tr>
<tr>
<td>STAT:4580/IGPI:4580</td>
<td>Data Visualization and Data Technologies</td>
</tr>
<tr>
<td>STAT:5400/IGPI:5400</td>
<td>Computing in Statistics</td>
</tr>
<tr>
<td>STAT:6220</td>
<td>Statistical Consulting</td>
</tr>
<tr>
<td>STAT:6510/IGPI:6511</td>
<td>Applied Generalized Regression</td>
</tr>
<tr>
<td>STAT:6530/IGPI:6530</td>
<td>Environmental and Spatial Statistics</td>
</tr>
<tr>
<td>STAT:6540/PSQF:6245</td>
<td>Applied Multivariate Analysis</td>
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</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT:5810/BIOS:5310/IGPI:5310</td>
<td>Research Data Management</td>
<td>3</td>
</tr>
<tr>
<td>STAT:3620/CEE:3142/ISE:3600</td>
<td>Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4520/IGPI:4522/PSQF:4520</td>
<td>Bayesian Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4540/IGPI:4540</td>
<td>Statistical Learning</td>
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</tr>
<tr>
<td>STAT:4580/IGPI:4580</td>
<td>Data Visualization and Data Technologies</td>
<td>3</td>
</tr>
<tr>
<td>STAT:5400/IGPI:5400</td>
<td>Computing in Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6220</td>
<td>Statistical Consulting</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6510/IGPI:6511</td>
<td>Applied Generalized Regression</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6530/IGPI:6530</td>
<td>Environmental and Spatial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6540/PSQF:6245</td>
<td>Applied Multivariate Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
Statistics, B.S.

STAT:6550/BIOS:6310/IGPI:6310 Introductory Longitudinal Data Analysis 3

BIOS:5130/IGPI:5130 Applied Categorical Data Analysis 3

Introductory Longitudinal Data Analysis

STAT:6560 Applied Time Series Analysis 3

Applied Time Series Analysis

Mathematical Statistics Track

The mathematical statistics track provides a solid foundation in statistical theory and applications. It requires additional coursework in mathematics and is good preparation for graduate study in statistics.

Students who use STAT:4100/IGPI:4100 Mathematical Statistics I and STAT:4101/IGPI:4101 Mathematical Statistics II to satisfy the core requirements may not use those courses to satisfy the track requirement.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>STAT:5810/BIOS:5310/IGPI:5310</td>
<td>Research Data Management</td>
<td>3</td>
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<tr>
<td>CS:2210</td>
<td>Discrete Structures</td>
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<td>CS:2230</td>
<td>Computer Science II: Data Structures</td>
<td>4</td>
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<tr>
<td>STAT:4520/IGPI:4522/PSQF:4520</td>
<td>Bayesian Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4540/IGPI:4540</td>
<td>Statistical Learning</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4580/IGPI:4580</td>
<td>Data Visualization and Data Technologies</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4740/CS:4740/IGPI:4740/MATH:4740</td>
<td>Large Data Analysis</td>
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</tr>
<tr>
<td>STAT:5400/IGPI:5400</td>
<td>Computing in Statistics</td>
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<td>STAT:6220</td>
<td>Statistical Consulting</td>
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<tr>
<td>STAT:6510/IGPI:6511</td>
<td>Applied Generalized Regression</td>
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</tr>
<tr>
<td>STAT:6530/IGPI:6530</td>
<td>Environmental and Spatial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6540/PSQF:6245</td>
<td>Applied Multivariate Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6550/BIOS:6310/IGPI:6310</td>
<td>Introductory Longitudinal Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CS:3700/MATH:3800</td>
<td>Elementary Numerical Analysis</td>
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<table>
<thead>
<tr>
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<th>Hours</th>
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<tr>
<td>MATH:3770</td>
<td>Fundamental Properties of Spaces and Functions I</td>
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<td>9 s.h. from these:</td>
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<tr>
<td>STAT:4100/STAT:4101</td>
<td>Mathematical Statistics I-II (same as IGPI:4100-IGPI:4101)</td>
<td>6</td>
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<tr>
<td>STAT:4520/IGPI:4522/PSQF:4520</td>
<td>Bayesian Statistics</td>
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</tr>
<tr>
<td>STAT:4560</td>
<td>Mathematical Methods for Statistics</td>
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<tr>
<td>STAT:6220</td>
<td>Statistical Consulting</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6300/STAT:6301</td>
<td>Probability and Stochastic Processes I-II</td>
<td>6</td>
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<tr>
<td>STAT:6510/IGPI:6511</td>
<td>Applied Generalized Regression</td>
<td>3</td>
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<tr>
<td>STAT:6530/IGPI:6530</td>
<td>Environmental and Spatial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6540/PSQF:6245</td>
<td>Applied Multivariate Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STAT:6560</td>
<td>Applied Time Series Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

Combined Programs

B.S./M.S.

The combined Bachelor of Science/Master of Science in statistics is for eligible students who seek to complete both the B.S. and the M.S. at the University of Iowa in five years. Students in the combined program must complete all requirements for each degree. A traditional M.S. in statistics requires completion of 32 s.h. of graduate-level coursework. The B.S./M.S. program permits students to count 12 s.h. of credit (four courses) toward the requirements for both degrees. To complete the M.S., an additional 20 s.h. of coursework is required. The four courses that count toward both degrees must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.S. and the M.S. in statistics.

B.S./M.P.H. (Biostatistics Subprogram)

Students majoring in statistics who are interested in earning a Master of Public Health degree with a biostatistics subprogram may apply to the combined B.S./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 12 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor’s degree. For information about the public health program, see “Biostatistics Subprogram” in the Master of Public Health, M.P.H. section of the Catalog.

B.S./M.S. in Business Analytics (Career Subprogram)

Students majoring in statistics who are interested in earning a master’s degree in business analytics with a career subprogram may apply to the combined B.S./M.S. program offered by the College of Liberal Arts and Sciences and the
Tippie College of Business. The program enables students to begin the study of business analytics before they complete their bachelor's degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the business analytics program, see the M.S. in business analytics (career) in the Tippie College of Business section of the Catalog.

B.S./M.S. in Finance

Students majoring in statistics who are interested in earning a master's degree in finance may apply to the combined B.S./M.S. program offered by the College of Liberal Arts and Sciences and the Tippie College of Business. The program enables students to begin the study of finance before they complete their bachelor's degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the finance program, see the M.S. in finance in the Tippie College of Business section of the Catalog.

Honors

Honors in the Major

Students majoring in statistics have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.67 in their major and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors in the statistics major, students must complete an honors project or a suitable alternative. Statistics honors students should consult with the statistics undergraduate advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the statistics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Much of the coursework in statistics is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult their advisor to confirm a four-year plan.

Courses must be taken in sequence, so students must begin work early.

Before the fifth semester begins: at least four courses in the major, including MATH:1850 Calculus I, MATH:1860 Calculus II, and STAT:2010 Statistical Methods and Computing

Before the seventh semester begins: seven or eight courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: nine or ten courses in the major

During the eighth semester: enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Statistics, B.S.

- Statistics in Business, Industry, Government and Research Track [p. 3]
- Statistical Computing and Data Science Track [p. 4]
- Mathematical Statistics Track [p. 5]

Statistics in Business, Industry, Government and Research Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>First Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
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<tr>
<td>MATH:1850</td>
<td>Calculus I ( a,b )</td>
<td>4</td>
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<tr>
<td>ENGL:1200 or RHET:1030</td>
<td>The Interpretation of Literature or Rhetoric</td>
<td>3 - 4</td>
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<tr>
<td>CS:1210</td>
<td>Computer Science I: Fundamentals</td>
<td>4</td>
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<tr>
<td>GE CLAS Core: World Languages First Level Proficiency or elective course ( c )</td>
<td>4 - 5</td>
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<tr>
<td>CS:1600</td>
<td>Success at Iowa</td>
<td>2</td>
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<td></td>
<td>Hours</td>
<td>17-19</td>
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<tr>
<td>Spring</td>
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<tr>
<td>MATH:1860</td>
<td>Calculus II</td>
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<tr>
<td>STAT:2010 ( b )</td>
<td>Statistical Methods and Computing</td>
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<tr>
<td>RHET:1030 or ENGL:1200</td>
<td>Rhetoric or The Interpretation of Literature</td>
<td>3 - 4</td>
</tr>
<tr>
<td>GE CLAS Core: World Languages Second Level Proficiency or elective course ( e )</td>
<td>4 - 5</td>
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<tr>
<td>Elective course ( d )</td>
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<td>3</td>
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<tr>
<td></td>
<td>Hours</td>
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Second Year

Fall

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<th>Course</th>
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<tr>
<td>STAT:3200</td>
<td>Applied Linear Regression</td>
<td>3</td>
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<tr>
<td>STAT:3100</td>
<td>Introduction to Mathematical Statistics I ( e )</td>
<td>3</td>
</tr>
<tr>
<td>GE CLAS Core: Natural Sciences with Lab ( f )</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>GE CLAS Core: World Languages Second Level Proficiency or elective course ( c )</td>
<td>4 - 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hours</td>
<td>14-15</td>
</tr>
</tbody>
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Spring
STAT:3101 Introduction to Mathematical Statistics II 3
MATH:2700 Introduction to Linear Algebra 4
GE CLAS Core: Historical Perspectives 3
GE CLAS Core: World Languages Fourth Level 4 - 5

Proficiency or elective course c

Hours 14-15

Third Year
Fall
MATH:2850 Calculus III 4
STAT:5810 Research Data Management h 3
Major: upper-level statistics course h 3
GE CLAS Core: International and Global Issues f 3
GE CLAS Core: Natural Sciences without Lab f 3
Elective course d 3

Hours 16

Spring
STAT:3210 Experimental Design and Analysis 3

Major: upper-level statistics course h 3
GE CLAS Core: Social Sciences f 3
GE CLAS Core: Literary, Visual, and Performing Arts f 3
Elective course d 3

Hours 15

Fourth Year
Fall
GE CLAS Core: Diversity and Inclusion 3
Major: upper-level statistics course h 3
Elective course d 3
Elective course d 3
Elective course d 3

Hours 15

Spring
Major: upper-level statistics course h 3
GE CLAS Core: Values and Culture f 3
Elective course d 3
Elective course d 3
Elective course d 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) i

Hours 16

Total Hours 123-129

Statistical Computing and Data Science Track

Course Title Hours

First Year
Fall
MATH:1850 Calculus I a, b 4
RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
CS:1210 Computer Science I: Fundamentals 4

GE CLAS Core: World Languages First Level 4 - 5
Proficiency or elective course c

CSL:1600 Success at Iowa 2

Hours 17-19

Spring
MATH:1860 Calculus II 4
STAT:2010 Statistical Methods and Computing 3

RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4

GE CLAS Core: World Languages Second Level 4 - 5
Proficiency or elective course c

CSL:1600 Success at Iowa 2

Hours 17-19

Second Year
Fall
STAT:3200 Applied Linear Regression 3
CS:2210 Discrete Structures e 3
GE CLAS Core: Natural Sciences without Lab f 3
GE CLAS Core: Historical Perspectives f 3
GE CLAS Core: World Languages Second Level 4 - 5
Proficiency or elective course c

Hours 16-17

Spring
CS:2230 Computer Science II: Data Structures e 4
MATH:2700 Introduction to Linear Algebra 4
GE CLAS Core: Natural Sciences with Lab f 4
GE CLAS Core: World Languages Fourth Level 4 - 5
Proficiency or elective course c

Hours 16-17

Third Year
Fall
STAT:3100 Introduction to Mathematical Statistics 3
MATH:2850 Calculus III 4
GE CLAS Core: International and Global Issues f 3
GE CLAS Core: Social Sciences f 3
Elective course d 3

Hours 16
Mathematical Statistics Track

### First Year

**Fall**
- **MATH:1850** Calculus I \(^{a,b}\) 4
- **ENGL:1200** The Interpretation of Literature \(^{c,d}\) 3 - 4
  or RHET:1030 or Rhetoric
- **CS:1210** Computer Science I: Fundamentals \(^d\) 4

**Spring**
- **MATH:1860** Calculus II \(^b\) 4
- **STAT:2010** Statistical Methods and Computing \(^b\) 3
- **ENGL:1200** The Interpretation of Literature \(^{e,f}\) 3 - 4
  or RHET:1030 or Rhetoric
- **GE CLAS Core: World Languages Second Level** Proficiency or elective course \(^e\) 4 - 5
  or RHET:1030 or Rhetoric
- **Elective course** \(^d\) 3

**Fourth Year

**Fall**
- **STAT:3101** Research Data Management \(^e\) 3
- **GE CLAS Core: Diversity and Inclusion** \(^f\) 3
- **Elective course** \(^d\) 3
- **Elective course** \(^d\) 3
- **Degree Application:** apply on MyUI before deadline (typically in February for spring, September for fall) \(^i\)

**Spring**
- **MATH:3770** Fundamental Properties of Spaces and Functions I \(^f\) 3
- **STAT:3100** Introduction to Mathematical Statistics I \(^e\) 3
- **STAT:3210** Introduction to Mathematical Statistics II \(^h\) 3
- **GE CLAS Core: World Languages Second Level** Proficiency or elective course \(^c\) 4 - 5

**Second Year

**Fall**
- **MATH:2700** Introduction to Linear Algebra 4
- **GE CLAS Core: Historical Perspectives** 3
- **GE CLAS Core: International and Global Issues** \(^f\) 3
- **Elective course** \(^d\) 3

**Spring**
- **MATH:2850** Calculus III \(^h,i\) 4
- **Major: upper-level statistics course** \(^h\) 3
- **GE CLAS Core: Literary, Visual, and Performing Arts** \(^f\) 3
- **GE CLAS Core: Values and Culture** \(^f\) 3
- **Elective course** \(^d\) 3

**Third Year

**Fall**
- **MATH:2850** Calculus III \(^h,i\) 4
- **Major: upper-level statistics course** \(^h\) 3
- **GE CLAS Core: Literary, Visual, and Performing Arts** \(^f\) 3
- **GE CLAS Core: Values and Culture** \(^f\) 3
- **Elective course** \(^d\) 3

**Spring**
- **STAT:3210** Experimental Design and Analysis \(^g\) 3
- **GE CLAS Core: Social Sciences** \(^f\) 3
- **GE CLAS Core: Natural Sciences without Lab** \(^f\) 3
- **Elective course** \(^d\) 3
- **Elective course** \(^d\) 3

**Fourth Year

**Fall**
- **Major: upper-level statistics course** \(^h,i\) 3
- **GE CLAS Core: Values and Culture** \(^f\) 3
- **GE CLAS Core: Natural Sciences with Lab** \(^f\) 3
- **Elective course** \(^d\) 3
- **Elective course** \(^d\) 3

**Spring**
- **Major: upper-level statistics course** \(^h,i\) 3

---

\(^{a}\) Fulfills a major requirement and may fulfill a GE requirement.

\(^{b}\) Enrollment in math courses requires completion of a placement exam.

\(^{c}\) Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

\(^{d}\) Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

\(^{e}\) Students must complete five courses for the Statistical Computing and Data Science emphasis track.

\(^{f}\) GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

\(^{g}\) Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

\(^{h}\) Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

\(^{i}\) Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor. For more information visit http://commencement.uiowa.edu/. If applicable search for “Early and Late Participation” to find this page (e.g. participate in graduation ceremony in May, degree conferral in August).
GE CLAS Core: Diversity and Inclusion\textsuperscript{f} 3
Elective course\textsuperscript{d} 3
Elective course\textsuperscript{d} 3
Elective course\textsuperscript{d} 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) \textsuperscript{j}

<table>
<thead>
<tr>
<th>Hours</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hours</td>
<td>124-130</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Enrollment in math courses requires completion of a placement exam.
\textsuperscript{b} Fulfills a major requirement and may fulfill a GE requirement.
\textsuperscript{c} Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
\textsuperscript{d} Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
\textsuperscript{e} Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
\textsuperscript{f} GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
\textsuperscript{g} Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
\textsuperscript{h} Students must complete MATH:3770 and 9 s.h. from approved courses for the Mathematical Statistics emphasis track.
\textsuperscript{i} Students who use STAT:4100 and STAT:4101 to satisfy the core requirements may not use those courses to satisfy the track requirement. Typically STAT:4100 is offered in fall semesters only and STAT:4101 is offered in spring only. Check MyUI for course availability since offerings are subject to change.
\textsuperscript{j} Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor. For more information visit http://commencement.uiowa.edu/. If applicable search for “Early and Late Participation” to find this page (e.g. participate in graduation ceremony in May, degree conferral in August).

Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

When students graduate, they will be prepared to fill entry-level positions as statisticians or go on to graduate school. An advisor assists students in locating internship opportunities as well as the best-fitting graduate programs.

To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.