# STATISTICS, BS

## Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2022-2023. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

### Minimum Overall Grade Point Average

2.00

### Total Hours

120

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
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<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
<td></td>
</tr>
<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
<td></td>
</tr>
<tr>
<td>HIST 1103</td>
<td>Survey of American History</td>
<td>3</td>
</tr>
<tr>
<td>or HIST 1483</td>
<td>American History to 1865 (H)</td>
<td></td>
</tr>
<tr>
<td>or HIST 1493</td>
<td>American History Since 1865 (DH)</td>
<td></td>
</tr>
<tr>
<td>POLS 1113</td>
<td>American Government</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2144</td>
<td>Calculus I (A)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2153</td>
<td>Calculus II (A)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Hours Subtotal

40

### General Education Requirements

#### English Composition

See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)

- ENGL 1113 Composition I
- or ENGL 1313 Critical Analysis and Writing I

### American History & Government

- HIST 1103 Survey of American History
  - or HIST 1483 American History to 1865 (H)
  - or HIST 1493 American History Since 1865 (DH)
- POLS 1113 American Government

### Analytical & Quantitative Thought (A)

- MATH 2144 Calculus I (A)
- MATH 2153 Calculus II (A)

### Humanities (H)

Courses designated (H)

### Natural Sciences (N)

Must include one Laboratory Science (L) course

Courses designated (N)

### Social & Behavioral Sciences (S)

SPCH 2713 Introduction to Speech Communication (S)

### Additional General Education

Courses designated (A), (H), (N), or (S)

### Hours Subtotal

6

### Diversity (D) & International Dimension (I)

May be completed in any part of the degree plan

Select at least one Diversity (D) course

Select at least one International Dimension (I) course

### College/Departmental Requirements

#### First Year Seminar

(Transfer students with 15 hours exempt)

1

#### Arts & Humanities

See note 2.a.

3

#### Natural & Mathematical Sciences

- CS 1103 Computer Programming (A)
- or CS 1113 Computer Science I (A)
- CS 2133 Computer Science II

### Hours Subtotal

13

### Major Requirements

Minimum GPA 2.50 with a minimum grade of “C” in each course

#### Statistics Core Courses

- MATH 2163 Calculus III
- MATH 3013 Linear Algebra (A)
- STAT 4013 Statistical Methods I (A)
- STAT 4023 Statistical Methods II
- STAT 4043 Applied Regression Analysis
- STAT 4193 SAS and R Programming
- STAT 4203 Mathematical Statistics I
- STAT 4213 Mathematical Statistics II
- STAT 4981 Statistics Capstone I
- or STAT 4991 Statistics Capstone II

### Area of Application

Select 9 hours of the following:

9

- CS 3353 Data Structures and Algorithm Analysis I
- CS 3443 Computer Systems
- CS 3653 Discrete Mathematics for Computer Science
- ECON 3113 Intermediate Microeconomics
- ECON 4213 Econometric Methods
- ECON 4223 Business and Economic Forecasting
- FIN 3113 Finance
- FIN 4223 Investments
- FIN 4333 Financial Management
- FIN 4763 Financial Futures and Options Markets
- IEM 3703 Probability and Statistics for Engineers II
- IEM 4013 Operations Research
- IEM 4103 Quality Control and Reliability Analysis
- IEM 4113 Industrial Experimentation
- MATH 3613 Introduction to Abstract Algebra
- MATH 4013 Calculus of Several Variables
- MATH 4423 Geometry and Algorithms in Three-Dimensional Modeling
- MATH 4453 Mathematical Interest Theory
- MATH 4553 Introduction to Optimization
- MATH 4663 Combinatorics
- MSIS 3103 End User Database Systems Design and Management
- MSIS 3223 Principles of Data Analytics
- MSIS 3233 Management Science - Prescriptive Analytics
- MSIS 3243 Descriptive Analytics

- or MATH 2233 Differential Equations
- CS 3513 Numerical Methods for Digital Computers
- or CS 4513 Introduction to Numerical Analysis

### Foreign Language

See note 3

0-6 hours

### Upper-Division General Education

Select 6 hours outside major department

See note 2.c.
Statistics, BS

Departmental Requirements

Statistics, BS

Requirements

College of Arts and Sciences

9 additional upper-division hours from Area of Application or 9 upper-division hours of one prefix from CS, ECON, FIN, IEM, MATH, MSIS, MKTG, MGMT, STAT, or other upper-division courses approved by the department

Hours Subtotal

Electives

Select 24 hours

May need to include 6 hours of a foreign language (see note 3)

May need to include 6 hours upper-division general education outside major department (see note 2.c.)

Hours Subtotal

Total Hours

Other Requirements

• See the College of Arts and Sciences Requirements.

• Upper-Division Credit: Total hours must include at least 40 hours in courses numbered 3000 or above.

• Hours in One Department: For B.A. and B.S. degrees, no more than 54 hours in one department may be applied to degree requirements.

Concentration

9 additional upper-division hours from Area of Application or 9 upper-division hours of one prefix from CS, ECON, FIN, IEM, MATH, MSIS, MKTG, MGMT, STAT, or other upper-division courses approved by the department

Concentration

Advanced Spreadsheet Modeling and Programming

Statistical Machine Learning with R

Internship in Statistics (max 3 hours)

Time Series Analysis

Total Hours 120

College of Arts and Sciences Requirements

1. General Education Requirements

No more than two courses (or eight hours) from the major department (http://catalog.okstate.edu/college-arts-sciences-major-departments/) may be used to meet General Education and College and Departmental Requirements. The General Education required English Composition, required U.S. History, required American Government, one required MATH or STAT course, and required foreign language for B.A. degrees do not count against the two-course maximum.

2. A&S College/Departmental Requirements

a. Arts and Humanities are defined as any course carrying an (H) designation or courses from AMST, ART, DANC, ENGL (except ENGL 3323 Technical Writing), HIST, MUSI, PHIL (except PHIL 1313 Logic and Critical Thinking (A)), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.

b. Natural and Mathematical Sciences are defined as any course from the following prefixes: ASTR, BIOL, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOG, MATH, MICRO, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.

c. The required six hours of upper-division General Education may not include courses from the student’s major department. This requirement may be satisfied by courses also used to satisfy any part of a student’s degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).

d. Non-Western Studies Requirement for B.A. and B.F.A.; One 3-hour course in Non-Western Studies (N.W.). This requirement may be satisfied by courses also used to satisfy any part of a student’s degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).

e. The College of Arts & Sciences requires a minimum 2.0 GPA in all major requirements and a minimum 2.0 GPA in all major-prefix courses applied to the degree.

3. Foreign Language Proficiency

a. The foreign language requirement for the B.A. may be satisfied by 9 hours college credit in the same language, which must include 3 hours at the 2000-level, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement. Currently Arabic and Mvskoke are not offered at the 2000-level at OSU.

b. The foreign language requirement for the B.S., B.M. and B.F.A. may be satisfied by presenting a high school transcript which demonstrates two years of study of a single foreign language (passing grades at second-year level of study). It may also be satisfied by 6 hours college credit in the same language, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement.

c. In addition to a. and b., students pursuing teacher certification must meet novice-high foreign language proficiency by presenting a high school transcript which demonstrates two years of study of a single foreign language with no grade below B. Or, students may complete 3 hours college credit in a single language with no grade below C (or pass an advanced standing examination, College Level Examination Program (CLEP) exam, or Oral Proficiency Interview developed by the American Council on the Teaching of Foreign Languages, equivalent to 3 hours of college credit.) Or, students may meet the requirement by transfer of documentation of meeting the foreign language competency from one of the teacher education programs in the State of Oklahoma approved by the Oklahoma State Regents for Higher Education.

4. Exclusions

a. Courses used to satisfy the General Education English Composition, U.S. History, American Government, and Mathematics or Statistics requirements will not count toward the 54-hour maximum allowed from one department.

b. Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.

Additional State/OSU Requirements

• At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.

• Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.

• Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
• Degrees that follow this plan must be completed by the end of Summer 2028.