

STATISTICS: ACTUARIAL SCIENCE, BS

Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2023-2024. 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

| Code | Title | Hours |
|---|--|-----------|
| General Education Requirements | | |
| <i>English Composition</i> | | |
| See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition) | | |
| ENGL 1113 | Composition I | 3 |
| or ENGL 1313 | Critical Analysis and Writing I | |
| Select one from the following: | | 3 |
| ENGL 1213 | Composition II | |
| ENGL 1413 | Critical Analysis and Writing II | |
| ENGL 3323 | Technical Writing | |
| <i>American History & Government</i> | | |
| HIST 1103 | Survey of American History | 3 |
| or HIST 1483 | American History to 1865 (H) | |
| or HIST 1493 | American History Since 1865 (DH) | |
| POLS 1113 | American Government | 3 |
| <i>Analytical & Quantitative Thought (A)</i> | | |
| MATH 2144 | Calculus I (A) | 4 |
| MATH 2153 | Calculus II (A) | 3 |
| <i>Humanities (H)</i> | | |
| Courses designated (H) | | 6 |
| <i>Natural Sciences (N)</i> | | |
| Must include one Laboratory Science (L) course | | |
| Courses designated (N) | | 6 |
| <i>Social & Behavioral Sciences (S)</i> | | |
| SPCH 2713 | Introduction to Speech Communication (S) | 3 |
| ECON 2103 | Introduction to Microeconomics (S) | 3 |
| <i>Additional General Education</i> | | |
| Courses designated (A), (H), (N), or (S) | | 3 |
| Hours Subtotal | | 40 |
| 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 | | |
| <i>First-Year Seminar</i> | | |
| (Transfer students with 15 hours exempt) | | 1 |
| <i>Arts & Humanities</i> | | |
| See note 2.a. | | 3 |
| <i>Natural & Mathematical Sciences</i> | | |

| | | |
|--|--|-----------|
| CS 1103 | Computer Programming (A) | 3 |
| or CS 1113 | Computer Science I (A) | |
| CS 2133 | Computer Science II | 3 |
| or MATH 2233 | Differential Equations | |
| CS 3513 | Numerical Methods for Digital Computers | 3 |
| or CS 4513 | Introduction to Numerical Analysis | |
| <i>Foreign Language</i> | | |
| 0-6 hours. See note 3. | | |
| <i>Upper-Division General Education</i> | | |
| Select 6 hours outside major department. See note 2.c. | | |
| Hours Subtotal | | 13 |
| Major Requirements | | |
| Minimum GPA 2.50 with a minimum grade of "C" in each course. | | |
| No more than 29 hours from ACCT, BADM, ECON, EEE, FIN, LSB, MGMT, MKTG, MSIS may be applied to the degree. | | |
| <i>Statistics Core Courses:</i> | | |
| MATH 2163 | Calculus III | 3 |
| MATH 3013 | Linear Algebra (A) | 3 |
| STAT 4013 | Statistical Methods I (A) | 3 |
| STAT 4023 | Statistical Methods II | 3 |
| STAT 4043 | Applied Regression Analysis ¹ | 3 |
| STAT 4193 | SAS and R Programming | 3 |
| STAT 4203 | Mathematical Statistics I | 3 |
| STAT 4213 | Mathematical Statistics II | 3 |
| STAT 4981 | Statistics Capstone I | 1 |
| or STAT 4991 | Statistics Capstone II | |
| <i>Actuarial Science:</i> | | |
| Select 18 hours from: | | 18 |
| ACCT 2103 | Financial Accounting ¹ | |
| ACCT 2203 | Managerial Accounting | |
| ECON 2203 | Introduction to Macroeconomics ¹ | |
| ECON 4213 | Econometric Methods ¹ | |
| ECON 4223 | Business and Economic Forecasting ¹ | |
| FIN 3113 | Finance ¹ | |
| FIN 3613 | General Insurance | |
| FIN 4223 | Investments | |
| FIN 4333 | Financial Management ¹ | |
| or FIN 4763 | Financial Futures and Options Markets | |
| STAT 4980 | Internship in Statistics (max 3 hours) | |
| STAT 5053 | Time Series Analysis ¹ | |
| Select 6 hours from: | | 6 |
| ECON 3113 | Intermediate Microeconomics | |
| MATH 4013 | Calculus of Several Variables | |
| MATH 4453 | Mathematical Interest Theory | |
| MGMT 3013 | Fundamentals of Management (S) | |
| or any upper-division AGECE, ECON, FIN. | | |
| Hours Subtotal | | 49 |
| Electives | | |
| Select 18 hours. | | 18 |
| 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. | | |

MATH 1513 and MATH 1813 required for students who do not place directly into MATH 2144.

| | |
|----------------|-----|
| Hours Subtotal | 18 |
| Total Hours | 120 |

1
Minimum grade of "B" required for the Society of Actuaries' Validation by Educational Experience (VEE) certification.

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.

College of Arts and Sciences Requirements

1. **Hours in One Department:** For B.A. and B.S. degrees, no more than 54 hours in one department may be required to meet degree requirements. 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 required from one department.
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, BIOC, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOL, MATH, MICR, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
 - c. Six upper-division hours are required from General Education or any CAS courses outside the student's major department (<http://catalog.okstate.edu/college-arts-sciences-major-departments/>). 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 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.** 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 2029.

Example Plan of Study

Finish in Four Plan of Study

The plan below is an **example** of how students can successfully complete degree requirements in four years. This suggested class schedule plan may be used as a guide and can be adjusted based on individual needs. Students are required to meet with an academic advisor prior to enrollment each semester to plan their class schedule, and students are ultimately responsible for completing all degree requirements.

| Course | Title | Hours |
|--|----------------|-------|
| Freshman | | |
| Fall | | |
| MATH 2144 | Calculus I (A) | 4 |
| General Education and Elective courses (MSIS 2103 recommended) | | 11 |
| Hours | | 15 |

Spring

| | | |
|---------------------------|------------------------------------|---|
| MATH 2153 | Calculus II (A) | 3 |
| ECON 2103 | Introduction to Microeconomics (S) | 3 |
| General Education courses | | 9 |

Hours **15**

Sophomore
Fall

| | | |
|---------------------------|---|---|
| MATH 2163 | Calculus III | 3 |
| STAT 4013 | Statistical Methods I (A) | 3 |
| ACCT 2003 or ECON 2203 | Survey of Accounting or Introduction to Macroeconomics | 3 |
| General Education courses | | 6 |

Hours **15**

Spring

| | | |
|--|---|---|
| MATH 3013 | Linear Algebra (A) | 3 |
| STAT 4023 | Statistical Methods II | 3 |
| CS 1103 or CS 1113 | Computer Programming (A) or Computer Science I (A) | 3 |
| 3 hours from Actuarial Science courses | | 3 |
| College and Elective courses | | 3 |

Hours **15**

Junior
Fall

| | | |
|--|--|---|
| STAT 4193 | SAS and R Programming | 3 |
| CS 2133 or MATH 2233 | Computer Science II or Differential Equations | 3 |
| 3 hours from Actuarial Science courses | | 3 |
| Major, College, and Elective courses | | 6 |

Hours **15**

Spring

| | | |
|--|-----------------------------|---|
| STAT 4043 | Applied Regression Analysis | 3 |
| 3 hours from Actuarial Science courses | | 3 |
| Major Elective | | 3 |
| College and Elective courses | | 6 |

Hours **15**

Senior
Fall

| | | |
|--------------------------------------|--|---|
| STAT 4203 | Mathematical Statistics I | 3 |
| CS 3513 or CS 4513 | Numerical Methods for Digital Computers or Introduction to Numerical Analysis | 3 |
| STAT 4981 | Statistics Capstone I (if Grad School bound) | 1 |
| 3 hours from Concentration | | 3 |
| Major, College, and Elective courses | | 5 |

Hours **15**

Spring

| | | |
|--|--|---|
| STAT 4213 | Mathematical Statistics II | 3 |
| STAT 4991 | Statistics Capstone II (if Industry bound) | 1 |
| 3 hours from Actuarial Science courses | | 3 |
| Major elective | | 3 |
| Elective courses | | 5 |

Hours **15**

Total Hours **120**