### University Core and Graduation Requirements

#### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Religion Cornerstones</td>
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<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
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<tr>
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<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
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<tr>
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<td>American Heritage</td>
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<td>Biological Science</td>
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<td>Core Enrichment: Electives</td>
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<td>personal choice</td>
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</tr>
</tbody>
</table>

*These classes fill both University Core and Program Requirements (7 hours overlap)

#### Graduation Requirements:

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

### Suggested Sequence of Courses

#### Freshman Year

<table>
<thead>
<tr>
<th>Requirement</th>
<th>1st Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Year Writing</td>
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<tr>
<td>Social Science</td>
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<tr>
<td>MATH 112* (FWSpSu)</td>
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<td>STAT 121</td>
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<tr>
<td>STAT 130</td>
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<td>Total Hours</td>
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#### Sophomore Year

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<tr>
<th>Requirement</th>
<th>2nd Semester</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>American Heritage</td>
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<td></td>
</tr>
<tr>
<td>MATH 113 (FWSpSu)</td>
<td>4.0</td>
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<tr>
<td>STAT 230</td>
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<tr>
<td>Religion Cornerstone course</td>
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<td>Total Hours</td>
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#### Junior Year

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<tr>
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<tr>
<td>MATH 213</td>
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<tr>
<td>MATH 215</td>
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<tr>
<td>STAT 250</td>
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<tr>
<td>Civilization 1</td>
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<tr>
<td>Global and Cultural Awareness</td>
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<td>Religion Cornerstone course</td>
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#### Senior Year

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<tr>
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<th>4th Semester</th>
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<tr>
<td>STAT 240</td>
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<td>STAT 330</td>
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<tr>
<td>Civilization 2</td>
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<tr>
<td>Religion Cornerstone course</td>
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<tr>
<td>Open Electives</td>
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<tr>
<td>Total Hours</td>
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#### Requirement 4 Elective #1

- Requirement 4 Elective #1
- Requirement 4 Elective #2
- Requirement 6 Elective #1
- Requirement 6 Elective #2
- Requirement 6 Elective #3
- Requirement 6 Elective #4
- Requirement 6 Elective #5
- Open Electives

#### Requirement 5 Elective #1

- Requirement 5 Elective #1
- Requirement 5 Elective #2
- Requirement 6 Elective #1
- Requirement 6 Elective #2
- Open Electives

#### Requirement 6 Elective #1

- Requirement 6 Elective #1
- Requirement 6 Elective #2
- Requirement 6 Elective #3
- Requirement 6 Elective #4
- Requirement 6 Elective #5
- Open Electives

#### Requirement 6 Elective #2

- Requirement 6 Elective #2
- Requirement 6 Elective #3
- Requirement 6 Elective #4
- Requirement 6 Elective #5
- Open Electives

#### Requirement 6 Elective #3

- Requirement 6 Elective #3
- Requirement 6 Elective #4
- Requirement 6 Elective #5
- Open Electives

#### Requirement 6 Elective #4

- Requirement 6 Elective #4
- Requirement 6 Elective #5
- Open Electives

#### Requirement 6 Elective #5

- Requirement 6 Elective #5
- Open Electives

#### Open Electives

- Variable

Note 1: Students should take STAT 130 the semester they declare themselves as a Statistics Major.

Note 2: The sequence of courses suggested may not fit the circumstances of every student. Students should contact their college advisement center for help in outlining an efficient schedule.

Note 3: Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, including spring and/or summer terms, to reach the 120 credit minimum needed to graduate. Taking fewer credits substantially increases the number of semesters to graduate.

Note 4: Students must have the statistics core completed before their senior year in order to graduate within four years.

Note 5: Open elective credits can be classes of your choosing, classes for a minor, or credits that have already been earned through AP classes, transfer credits, etc.
### REQUIREMENT 1: Complete 2 courses
- STAT 221: Principles of Statistics 3.0
- STAT 230: Introduction to the Department of Statistics 0.5

### REQUIREMENT 2: Complete 5 courses

#### STATISTICS CORE COURSES:
- STAT 230: Statistical Modeling 1 3.0
- STAT 240: Probability and Inference 1 3.0
- STAT 250: Applied R Programming 3.0
- STAT 330: Statistical Modeling 2 3.0
- STAT 490: Probability and Inference 2 3.0

#### STATISTICS CORE COURSES:
- STAT 538 3.0
- STAT 486 3.0
- STAT 483 3.0
- STAT 482 3.0
- STAT 469 3.0
- STAT 466 3.0
- STAT 437 3.0
- STAT 286 3.0
- IS 515 3.0
- CS 111 4.0
- CS 110 4.0

#### STATISTICAL DESIGN AND ANALYSIS COURSES:
- MATH 215 3.0
- MATH 213 3.0
- MATH 113 4.0
- MATH 112 4.0

#### STATISTICAL DESIGN AND ANALYSIS COURSES:
- STAT 340 3.0
- STAT 330 3.0
- STAT 250 3.0
- STAT 240 3.0
- STAT 230 3.0
- STAT 130 3.0
- STAT 124 3.0

#### STATISTICAL DESIGN AND ANALYSIS COURSES:
- IS 520 3.0
- IS 286 3.0
- IS 274 3.0
- IS 251 3.0
- IS 240 3.0
- IS 234 3.0

#### STATISTICAL DESIGN AND ANALYSIS COURSES:
- STAT 395R: Special Topics in Applied Statistics 3.0
- STAT 390R: Special Topics in Applied Statistics 3.0
- STAT 345R: Nonparametric Statistical Methods 3.0
- STAT 343R: Applications in Biostatistics 3.0
- STAT 341R: Applied Bayesian Statistics 3.0
- STAT 340R: Introduction to Reliability 3.0
- STAT 338R: Analysis of Correlated Data 3.0
- STAT 328R: Data Science Capstone 1 3.0
- STAT 327R: Data Science Capstone 2 3.0
- STAT 326R: Data Science Capstone 3 3.0
- STAT 325R: Machine Learning 3.0
- STAT 324R: Special Topics in Statistics 3.0

#### STATISTICAL DESIGN AND ANALYSIS COURSES:
- STAT 323R: Academic Internship: Statistics 9.0
- STAT 322R: Introduction to Statistical Research 3.0
- STAT 321R: Data Science Capstone 1 3.0
- STAT 320R: Data Science Capstone 2 3.0
- STAT 319R: Data Science Capstone 3 3.0
- STAT 318R: Survival Analysis 3.0
- STAT 317R: Data Science Capstone 4 3.0
- STAT 316R: Data Science Capstone 5 3.0

**NOTE:** Courses used in REQUIREMENTS 4 and 5 will not double count here. **NOTE:** No more than 3.0 hours of any combination of STAT 496R and STAT 497R can be used for this requirement.

- CS 111 - Introduction to Computer Science 3.0
- CS 110 - How to Program 3.0
- IS 515 - Advanced Spreadsheets for Business Analysis 3.0
- IS 520 - Business Programming and Spreadsheet Automation 3.0
- MATH 314 - Calculus of Several Variables 3.0
- STAT 234 - Methods of Survey Sampling 3.0
- STAT 251 - Introduction to Bayesian Statistics 3.0
- STAT 274 - Theory of Interest 3.0
- STAT 286 - Data Science Ecosystems 3.0
- STAT 344 - Foundations of Long-term Actuarial Mathematics 3.0
- STAT 346 - Foundations of Short-term Actuarial Mathematics 3.0
- STAT 381 - Statistical Computing 3.0
- STAT 386 - Data Science Process 3.0
- STAT 395R: Special Topics in Applied Statistics 3.0
- STAT 390R: Special Topics in Applied Statistics 3.0
- STAT 345R: Nonparametric Statistical Methods 3.0
- STAT 343R: Applications in Biostatistics 3.0
- STAT 341R: Applied Bayesian Statistics 3.0
- STAT 340R: Introduction to Reliability 3.0
- STAT 338R: Analysis of Correlated Data 3.0
- STAT 328R: Data Science Capstone 1 3.0
- STAT 327R: Data Science Capstone 2 3.0
- STAT 326R: Data Science Capstone 3 3.0
- STAT 325R: Machine Learning 3.0
- STAT 324R: Special Topics in Statistics 3.0
- STAT 323R: Academic Internship: Statistics 9.0
- STAT 322R: Introduction to Statistical Research 3.0
- STAT 321R: Data Science Capstone 1 3.0
- STAT 320R: Data Science Capstone 2 3.0
- STAT 319R: Data Science Capstone 3 3.0
- STAT 318R: Survival Analysis 3.0

### THE DISCIPLINE:

Statisticians apply sophisticated methods to increasingly massive data sets to discover insights into important business, government, and health policy questions. The curriculum and electives that allow students to customize their preparation toward the professional area of their interest or the emerging fields of analytics and data science. Students can deepen their expertise in experimental design, regression modeling, Bayesian inference, computing and big data, survey sampling, quality control, reliability and survival analysis.

### CAREER OPPORTUNITIES:

Typical employment upon graduation would include statisticians in government agencies (for example, the U.S. Census Bureau), database administrators focusing on SAS programming, and entry-level analysts involved in collecting, analyzing, and reporting results (for example, in market research). A feature of this emphasis is the large number of electives that allow students to customize their preparation toward the professional area of their interest or the emerging fields of analytics and data science. Students can deepen their expertise in experimental design, regression modeling, Bayesian inference, computing and big data, survey sampling, quality control, reliability and survival analysis.

### CERTIFICATION:

- **ASQ Certified Quality Process Analyst (CQPA).** Students interested in employment as quality analysts should take Stat 462 to prepare for certification by the ASQ as described in asq.org/higher-education/why-quality/capcertification-competitive-edge.html. Highly motivated students may also prepare on their own with the materials and practice exams through ce.byu.edu/cw/prodev/.


- **SAS/BYU Applied Statistics and Advanced SAS Programming Certificate.** Students who earn a B or higher in the applied and computing core classes (Stat 124, 224, 230, 330, 381) are eligible to receive a certificate jointly issued by SAS and BYU which can be listed on a resume. More information is available at https://statistics.byu.edu/content/sas-certificate-opportunities.
### INTERNSHIPS:

### MAP DISCLAIMER
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

### DEPARTMENT INFORMATION
**Department of Statistics**
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2152 WVB
Provo, UT 84602
Telephone: (801) 422-4505

**FACULTY ADVISOR:**
Del T. Scott
2152B WVB
Brigham Young University, Provo, UT 84602
Telephone: (801) 422-7054

### ADVISEMENT CENTER INFORMATION
FOR UNIVERSITY CORE OR PROGRAM QUESTIONS, CONTACT THE

### ADVISEMENT CENTER:
Physical and Mathematical Sciences College Advisement Center
Brigham Young University
N-181 ESC
Provo, UT 84602
Telephone: (801) 422-2674