### University Core and Graduation Requirements

#### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Religion Cornerstones</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td>1</td>
<td>2.0</td>
<td>REL A 250</td>
</tr>
<tr>
<td>Foundations of the Restoration</td>
<td>1</td>
<td>2.0</td>
<td>REL C 225</td>
</tr>
<tr>
<td>The Eternal Family</td>
<td>1</td>
<td>2.0</td>
<td>REL C 200</td>
</tr>
<tr>
<td><strong>The Individual and Society</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Heritage</td>
<td>1-2</td>
<td>3-6.0</td>
<td>ECON 110* and one course from approved list</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year Writing</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>1</td>
<td>4.0</td>
<td>MATH 112*</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
<td>4.0</td>
<td>MATH 112*</td>
</tr>
<tr>
<td><strong>Arts, Letters, and Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
<td>3-4.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Physical Science</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td><strong>Core Enrichment: Electives</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
<td>Variable</td>
<td>personal choice</td>
</tr>
<tr>
<td><em>THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (7 hours overlap)</em></td>
<td></td>
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</tr>
</tbody>
</table>

#### Graduation Requirements:

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

### Suggested Sequence of Courses

#### FRESHMAN YEAR

**1st Semester**
- First Year Writing: **3.0**
- Social Science: **3.0**
- MATH 112 (FWSpSu): **4.0**
- STAT 121: **3.0**
- Religion Cornerstone course: **2.0**

**2nd Semester**
- American Heritage: **3.0**
- MATH 113 (FWSpSu): **4.0**
- STAT 274: **3.0**
- STAT 240: **3.0**
- Religion Cornerstone course: **2.0**

**Total Hours: 15.0**

**JUNIOR YEAR**

**5th Semester**
- Department recommendation: Register for and pass Exam FM.

**6th Semester**
- American Heritage: **3.0**
- MATH 113 (FWSpSu): **4.0**
- STAT 230: **3.0**
- STAT 340: **3.0**
- Physical Science: **3.0**
- Global and Cultural Awareness: **3.0**
- Religion Cornerstone course: **2.0**

**Total Hours: 14.0**

#### SOPHOMORE YEAR

**3rd Semester**
- STAT 230: **3.0**
- STAT 340: **3.0**
- Physical Science: **3.0**
- Global and Cultural Awareness: **3.0**
- Religion Cornerstone course: **2.0**

**Total Hours: 14.0**

**4th Semester**
- Department recommendation: Register for and pass Exam P.
- Requirement 5 elective #1: **3.0**
- Requirement 5 elective #2: **3.0**
- Arts: **3.0**
- General Electives: **6.0**

**Total Hours: 15.0**

#### SENIOR YEAR

**7th Semester**
- Requirement 5 elective #3: **3.0**
- Requirement 5 elective #4: **3.0**
- General Electives: **9.0**

**Total Hours: 15.0**

**8th Semester**
- Requirement 5 elective #5: **3.0**
- Requirement 5 elective #6: **3.0**
- General Electives: **9.0**

**Total Hours: 15.0**

Department recommendation: Internship during Spring/Summer.

**Note 1:** 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 2:** Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.
BS in Actuarial Science (695224)
2017-2018 Program Requirements (47 Credit Hours)

No more than 3 hours of credit below C- is allowed in major courses.

**REQUIREMENT 1** Complete 2 courses
- STAT 121 - Principles of Statistics
- STAT 274 - Theory of Interest

**REQUIREMENT 2** Complete 2 courses
- PREPARATION CORE COURSES:
  - *MATH 112 - Calculus 1
  - MATH 113 - Calculus 2

**REQUIREMENT 3** Complete 8 courses
- STATISTICS CORE COURSES:
  - STAT 123 - Introduction to R Programming
  - STAT 124 - SAS Base Programming Skills
  - STAT 223 - Applied R Programming
  - STAT 224 - Applied SAS Programming
  - STAT 230 - Analysis of Variance
  - STAT 240 - Discrete Probability
  - STAT 330 - Introduction to Regression
  - STAT 340 - Inference

**REQUIREMENT 4** Complete 6.0 hours from the following course(s)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 377 - Statistical Models for Financial Economics</td>
<td>3.0</td>
</tr>
<tr>
<td>STAT 475 - Life Contingencies</td>
<td>3.0</td>
</tr>
<tr>
<td>STAT 477 - Statistical Distributions for Actuarial Modeling and Data Analysis</td>
<td>3.0</td>
</tr>
<tr>
<td>STAT 495R - Special Topics in Statistics</td>
<td>3.0v</td>
</tr>
<tr>
<td>STAT 496R - Academic Internship: Statistics</td>
<td>9.0v</td>
</tr>
<tr>
<td>STAT 497R - Introduction to Statistical Research</td>
<td>3.0v</td>
</tr>
<tr>
<td>STAT 531 - Experimental Design</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Recommended Courses:** It is recommended that students take Econ 110 and Fin 201 to complete the Society of Actuaries Economics and Corporate Finance VEEs. Additionally, IS 515 and IS 520 are exceptionally valuable in the daily work of an actuary.

**THE DISCIPLINE:**
An actuary is a statistician who analyzes the financial consequences of risk. Actuaries use statistics, mathematics, and financial theory to study uncertain future events, especially those of concern to insurance and pension programs. They evaluate the likelihood of those events and design creative ways to reduce the likelihood and decrease the impact of adverse events that do occur. Their work designing and managing programs that control risk requires a combination of strong analytical skills, business knowledge, and understanding of human behavior.

**CAREER OPPORTUNITIES:**
- Actuaries enjoy excellent job security, high incomes, and a low-stress work environment. Careers in actuarial science are consistently ranked among the top three professions. Competent actuaries are highly recruited and can have many professional opportunities. Actuaries are employed across a wide variety of industries and typically become established in one of the following career tracks: enterprise risk management, quantitative finance and investment, life insurance, health insurance, and retirement benefits. By focusing on development of data analysis skills, actuaries can also easily transition to business analytics settings.

**ACTUARIAL EXAMS:**
Actuaries are required to demonstrate their proficiency by passing a series of competency exams offered by one or more of the principal actuarial societies. It typically takes 6-10 years to pass all of the exams; virtually all actuarial interns are required to have passed at least one of these exams as a condition for employment. The BYU Actuarial Science degree provides students with the opportunity to study significant portions of the material covered in the first five exams offered by the Society of Actuaries and accepted by the Casualty Actuarial Society (the two major actuarial societies in the United States).

The correspondence between the actuarial exams and available BYU course work is roughly as follows:

- **Exam P:** Stat 240, 340, 372 (full coverage)
- **Exam FM:** Stat 274 (full coverage)
- **Exam MFE:** Stat 377 (about 90% coverage)
- **Exam C:** Stat 240, 477 (about 90% coverage)

In addition to the exams the societies accept the following sets of courses for the Validation by Educational Experience (VEE) credit:

- **Applied Statistical Methods VEE:** Stat 330 (has Stat 230 prereq.)
- **Corp Finance VEE:** Fin 201
- **Economics VEE:** Econ 110

**ADVISING:**
BS in Actuarial Science (695224)
2017-2018

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 http://statistics.byu.edu/content/sas-certificate-opportunities.

INTERNSHIPS
The department maintains a list of companies that have hired BYU Actuarial Science students as interns in the last three years at: http://statistics.byu.edu/content/actuarial-company-database.

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
Brigham Young University
223 TMCB
Provo, UT 84602
Telephone: (801) 422-4505

FACULTY ADVISOR:
Del T. Scott
223C TMCB
Brigham Young University, Provo, UT 84602
Telephone: (801) 422-7054

ADVISEMENT CENTER INFORMATION

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