BS in Statistics: Applied Statistics & Analytics (695234) MAP Sheet  
Physical and Mathematical Sciences, Statistics  
For students entering the degree program during the 2022-2023 curricular year.

University Core and Graduation Requirements  
University Core Requirements:  
Requirements#ClassesHoursClasses  
Religion Cornerstones  
Teachings and Doctrine of The Book of Mormon12.0from approved list  
Jesus Christ and the Everlasting Gospel  
Foundations of the Restoration  
The Eternal Family12.0from approved list  
The Individual and Society  
American Heritage1-23.0-6.0from approved list  
Global and Cultural Awareness12.0from approved list  
Skills  
First Year Writing13.0from approved list  
Advanced Written and Oral Communications13.0from approved list  
Quantitative Reasoning14.0MATH 112*  
Languages of Learning (Math or Language)14.0MATH 112*  
Arts, Letters, and Sciences  
Civilization 113.0from approved list  
Civilization 213.0from approved list  
Arts13.0from approved list  
Letters13.0from approved list  
Biological Science13.4from approved list  
Physical Science1-23.7from approved list  
Social Science13.0from approved list  
Core Enrichment: Electives  
Religion Electives3-46.0from approved list  
Open ElectivesVariableVariableVariablepersonal choice  
*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (7 hours overlap)  
Graduation Requirements:  
Minimum residence hours required30.0  
Minimum hours needed to graduate120.0  
Suggested Sequence of Courses  
Freshman Year  
1st Semester  
1st Year Writing3.0  
Social Science3.0  
MATH 112 (FWSpSu)4.0  
STAT 1213.0  
STAT 1300.5  
Religion Cornerstone course2.0  
Total Hours15.5  
2nd Semester  
American Heritage3.0  
MATH 113 (FWSpSu)4.0  
STAT 2303.0
Physical Science 3.0
Religion Cornerstone course 2.0
Total Hours 15.0
Sophomore Year
3rd Semester
MATH 2132.0
MATH 2151.0
STAT 2503.0
Civilization 13.0
Global and Cultural Awareness 3.0
Religion Cornerstone course 2.0
Total Hours 14.0
4th Semester
STAT 2403.0
STAT 3303.0
Civilization 23.0
Religion Cornerstone course 2.0
Open Electives 4.0
Total Hours 15.0
Junior Year
5th Semester
Requirement 4 Elective #1 11.5
Requirement 4 Elective #2 21.5
STAT 3403.0
Advanced Written and Oral Communication 3.0
Biological Science 3.0
Religion elective 2.0
Open Electives 2.0
Total Hours 16.0
6th Semester
Requirement 5 Elective #1 13.0
Requirement 6 Elective #1 13.0
Letters 3.0
Religion Elective 2.0
Open Electives 4.0
Total Hours 15.0
Senior Year
7th Semester
Requirement 5 Elective #2 23.0
Requirement 6 Elective #2 23.0
Arts 3.0
Religion Elective 2.0
Open Electives 4.0
Total Hours 15.0
8th Semester
Requirement 6 Elective #3 33.0
Requirement 6 Elective #4 43.0
Requirement 6 Elective #5 53.0
Open Electives 6.0
Total Hours 15.0

**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.

BS in Statistics: Applied Statistics & Analytics (695234) 2022-2023 Program Requirements (53.5 Credit Hours)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Courses</th>
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<tbody>
<tr>
<td>1</td>
<td>Complete 2 courses: STAT 121 - Principles of Statistics 3.0, STAT 130 - Introduction to the Department of Statistics 0.5</td>
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<tr>
<td>3</td>
<td>Complete 4 courses: Mathematical foundation courses: *MATH 112 - Calculus 1 4.0, MATH 113 - Calculus 2 4.0, MATH 213 - Elementary Linear Algebra 2.0, MATH 215 - Computational Linear Algebra 1.0</td>
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<td>4</td>
<td>Complete 3.0 hours from the following course(s): C S 111 - Introduction to Computer Science 3.0, HLTH 440 - Introduction to Statistical Computing in Epidemiology (SAS) 3.0, IS 520 - Business Programming and Spreadsheet Automation 3.0, STAT 286 - Data Science Ecosystems 3.0</td>
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<td>5</td>
<td>Complete 6.0 hours from the following course(s): STAT 435 - Nonparametric Statistical Methods 3.0, STAT 437 - Applications in Biostatistics 3.0, STAT 451 - Applied Bayesian Statistics 3.0, STAT 466 - Introduction to Reliability 3.0, STAT 469 - Analysis of Correlated Data 3.0, STAT 482 - Data Science Capstone 1 3.0, STAT 483 - Data Science Capstone 2 3.0, STAT 486 - Machine Learning 3.0, STAT 495R - Special Topics in Statistics 3.0v, STAT 531 - Experimental Design 3.0, STAT 538 - Survival Analysis 3.0</td>
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<td>6</td>
<td>Complete 15.0 hours from the following course(s): 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. C S 110 - How to Program 3.0, C S 111 - Introduction to Computer Science 3.0</td>
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</table>
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 degrees offered through the Department of Statistics are designed to equip students with decision-making skills for careers as professional statisticians in industrial organizations, government agencies, insurance companies, pharmaceutical companies, universities, and research institutes.

Statisticians in business find information in big data and design experiments to model, predict, and optimize business outcomes. Students who are quantitatively oriented and interested in business, government, and health are well prepared by this emphasis. The Applied Statistics and Analytics emphasis includes a greater number of statistical analysis and data management courses and fewer of the mathematics courses required for graduate study in statistics.

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/cqpacertification-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**

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**ADVISEMENT CENTER INFORMATION**

**FOR UNIVERSITY CORE OR PROGRAM QUESTIONS, CONTACT THE ADVISEMENT CENTER.**

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