

BS in Statistics: Applied Statistics & Analytics (695234) MAP Sheet

Physical and Mathematical Sciences, Statistics

For students entering the degree program during the 2023-2024 curricular year.



| University Core and Graduation Requirements | | | | Suggested Sequence of Courses | | | |
|---|-----------------|--------------|--------------------|-------------------------------|--|--|--|
| University Core Requirements: | | | | | | | |
| Requirements | #Classes | Hours | Classes | | | | |
| Religion Cornerstones | | | | | | | |
| Teachings and Doctrine of The Book of Mormon | 1 | 2.0 | from approved list | | | | |
| Jesus Christ and the Everlasting Gospel | 1 | 2.0 | from approved list | | | | |
| Foundations of the Restoration | 1 | 2.0 | REL C 225 | | | | |
| The Eternal Family | 1 | 2.0 | from approved list | | | | |
| The Individual and Society | | | | | | | |
| American Heritage | 1-2 | 3-6.0 | from approved list | | | | |
| Global and Cultural Awareness | 1 | 3.0 | from approved list | | | | |
| Skills | | | | | | | |
| First Year Writing | 1 | 3.0 | from approved list | | | | |
| Advanced Written and Oral Communications | 1 | 3.0 | from approved list | | | | |
| Quantitative Reasoning | 1 | 4.0 | MATH 112* | | | | |
| Languages of Learning (Math or Language) | 1 | 4.0 | MATH 112* | | | | |
| Arts, Letters, and Sciences | | | | | | | |
| Civilization 1 | 1 | 3.0 | from approved list | | | | |
| Civilization 2 | 1 | 3.0 | from approved list | | | | |
| Arts | 1 | 3.0 | from approved list | | | | |
| Letters | 1 | 3.0 | from approved list | | | | |
| Biological Science | 1 | 3-4.0 | from approved list | | | | |
| Physical Science | 1-2 | 3-7.0 | from approved list | | | | |
| Social Science | 1 | 3.0 | from approved list | | | | |
| Core Enrichment: Electives | | | | | | | |
| Religion Electives | 3-4 | 6.0 | from approved list | | | | |
| Open Electives | Variable | Variable | personal choice | | | | |
| *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 | | | | | |

FRESHMAN YEAR

1st Semester

| | |
|-----------------------------|-------------|
| 1st Year Writing | 3.0 |
| Social Science | 3.0 |
| MATH 112 (FWSpSu) | 4.0 |
| STAT 121 | 3.0 |
| STAT 130 | 0.5 |
| Religion Cornerstone course | 2.0 |
| Total Hours | 15.5 |

2nd Semester

| | |
|-----------------------------|-------------|
| American Heritage | 3.0 |
| MATH 113 (FWSpSu) | 4.0 |
| STAT 230 | 3.0 |
| Physical Science | 3.0 |
| Religion Cornerstone course | 2.0 |
| Total Hours | 15.0 |

SOPHOMORE YEAR

3rd Semester

| | |
|-------------------------------|-------------|
| MATH 213 | 2.0 |
| MATH 215 | 1.0 |
| STAT 250 | 3.0 |
| Civilization 1 | 3.0 |
| Global and Cultural Awareness | 3.0 |
| Religion Cornerstone course | 2.0 |
| Open Elective | 2.5 |
| Total Hours | 16.5 |

4th Semester

| | |
|-----------------------------|-------------|
| STAT 240 | 3.0 |
| STAT 330 | 3.0 |
| Civilization 2 | 3.0 |
| Religion Cornerstone course | 2.0 |
| Open Electives | 4.0 |
| Total Hours | 15.0 |

JUNIOR YEAR

5th Semester

| | |
|------------------------|-------------|
| Physical Science | 3.0 |
| STAT 340 | 3.0 |
| Requirement 4 Elective | 3.0 |
| Biological Science | 3.0 |
| Religion elective | 2.0 |
| Total Hours | 14.0 |

6th Semester

| | |
|---|-------------|
| Requirement 5 Elective #1 | 3.0 |
| Requirement 6 Elective #1 | 3.0 |
| Letters | 3.0 |
| Religion Elective | 2.0 |
| Advanced Written and Oral Communication | 3.0 |
| Total Hours | 14.0 |

SENIOR YEAR

7th Semester

| | |
|---------------------------|-------------|
| Requirement 5 Elective #2 | 3.0 |
| Requirement 6 Elective #2 | 3.0 |
| Arts | 3.0 |
| Religion Elective | 2.0 |
| Open Electives | 4.0 |
| Total Hours | 15.0 |

8th Semester

| | |
|---------------------------|-------------|
| Requirement 6 Elective #3 | 3.0 |
| Requirement 6 Elective #4 | 3.0 |
| Requirement 6 Elective #5 | 3.0 |
| 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.

Program Requirements

Requirement 1 —Complete 2 Courses

STAT 121 - Principles of Statistics 3.0

STAT 130 - Intro to Statistics Department 0.5

Requirement 2 —Complete 5 Courses

Statistics core courses:

STAT 230 - Analysis of Variance 3.0

STAT 240 - Probability and Inference 1 3.0

STAT 250 - Applied R Programming 3.0

STAT 330 - Introduction to Regression 3.0

STAT 340 - Probability and Inference 2 3.0

Requirement 3 —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

Requirement 4 —Complete 3 hours

C S 110 - How to Program 3.0

C S 111 - Intro to Computer Science 3.0

HLTH 440 - Statistical Computing in Epi 3.0

IS 520 - Spreadsheet Automation 3.0

STAT 286 - Data Science Ecosystems 3.0

Requirement 5 —Complete 6 hours

STAT 435 - Nonparametric Stat Methods 3.0

STAT 437 - Applications in Biostatistics 3.0

STAT 451 - Applied Bayesian Statistics 3.0

STAT 466 - Intro 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 - *You may take once 1.0v*

STAT 531 - Experimental Design 3.0

STAT 538 - Survival Analysis 3.0

Requirement 6 —Complete 15 hours

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.

IS 515 - Spreadsheets for Bus Analysis 3.0

IS 520 - Spreadsheet Automation 3.0

MATH 314 - Calculus of Several Variables 3.0

STAT 234 - Methods of Survey Sampling 3.0

STAT 251 - Intro to Bayesian Statistics 3.0

STAT 274 - Theory of Interest 3.0

STAT 281 - Data Visualization 3.0

STAT 286 - Data Science Ecosystems 3.0

STAT 344 - Long-term Actuarial Math 3.0

STAT 346 - Short-term Actuarial Math 3.0

STAT 348 - Predictive Analytics 3.0

STAT 381 - Statistical Computing 3.0

STAT 386 - Data Science Process 3.0

STAT 395R - Special Topics in Applied Stat - *You may take up to 3.0 credit hours 1.0v*

STAT 435 - Nonparametric Stat Methods 3.0

STAT 437 - Applications in Biostatistics 3.0

STAT 451 - Applied Bayesian Statistics 3.0

STAT 466 - Intro 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 - *You may take up to 3.0 credit hours 1.0v*

STAT 496R - Academic Internship - *You may take up to 3.0 credit hours 0.5v*

STAT 497R - Intro to Research - *You may take up to 3.0 credit hours 0.5v*

STAT 531 - Experimental Design 3.0

STAT 538 - 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 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 statistical 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, reliability and survival analysis.

INTERNSHIPS:

Undergraduates can seek paid positions in various areas such as (but not limited to) Environment, Business, Health & Medicine, Physical Sciences, and Government. STAT 250, 286, and 330 provide excellent preparation for many internship opportunities. Students are encouraged to meet with their Career Services Director or reach out to the department for the most up-to-date internship opportunities.

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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FACULTY ADVISOR:

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Telephone: (801) 422-7054 ADVISEMENT CENTER INFORMATION FOR UNIVERSITY CORE OR PROGRAM QUESTIONS, CONTACT THE ADVISEMENT CENTER.

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