

B.S. in Statistics and Data Science

Program Description

The Bachelor of Science in Statistics and Data Science degree prepares students to analyze, manage and present data. Through coursework, students learn how to use statistical software and programming languages.

Delivery Mode

Traditional (on-campus program with some online courses)

Curriculum

Course	Credits
General Education Courses	40
<i>Building a Sense of Community</i> UNI 100 First-Year Seminar	1
<i>Composition</i> ENG 101 English Composition I	3
<i>Public Speaking</i> Any Public Speaking Course	3
<i>Mathematics and Quantitative Literacy</i> MAT 281 Calculus I	3
<i>Health and Wellness</i> Any Health and Wellness Course	3
<i>Technological Literacy</i> CSC 120 Problem Solving and Programming Construction	3
<i>Humanities</i> Any Humanities Course	3
<i>Fine Arts</i> Any Fine Arts Course	3
<i>Natural Sciences</i> Any Natural Sciences Course	3
<i>Social Sciences</i> Any Social Sciences Course	3
<i>General Education Options</i> <ul style="list-style-type: none"> • Any Ethics and Multicultural Awareness Emphasis Course • ENG 217 Science and Technical Writing • Additional General Education Courses (two courses) 	12

Department of Mathematics and Physical Sciences

Course	Credits
Required Major Courses	45
MAT 207 Data Preparation and Cleaning	3
MAT 213 Data Visualization	3
MAT 215 Statistics OR MAT 225 Business Statistics	3
MAT 251 Big Data Tools	3
MAT 261 Big Data Analytics	3
MAT 272 Discrete Mathematics	3
MAT 282 Calculus II	3
MAT 341 Linear Algebra I	3
MAT 353 Intermediate Mathematical Statistics	3
MAT 376 Applied Linear Regression	3
MAT 391 Statistical Packages	3
MAT 401 Data Analytics Capstone Project	3
MAT 491 Statistical Packages II	3
Select two of the following: <ul style="list-style-type: none"> • MAT 361 Nonparametric Statistics • MAT 371 Applied Categorical Data Analysis • MAT 373 Time Series and Stochastic Processes • MAT 471 Applied Multivariate Statistics 	6
Related Coursework	15
CSC 124 Computer Programming I	3
CSC 265 Object-Oriented Programming	3
CSC 308 Python	3
CSC 328 Data Structures	3
CIS 322 Database Application Development	3
Free Electives*	20
Total	120

Additional requirements, not counted toward the General Education requirements, include:

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- **Special Experience Course (1 course required):** MAT 401 Data Analysis Capstone Project
- **Writing-Intensive Component Courses (2 courses required):** MAT 261 Big Data Analytics AND MAT 401 Data Analysis Capstone Project
- **Laboratory Course (1 course required):** MAT 376 Applied Linear Regression

* May need MAT 181 and MAT 191.

Program Webpage

<https://www.calu.edu/academics/undergraduate/bachelors/data-science/index.aspx>