

Statistics and Data Science (BSSDS)

The Bachelor of Science in Statistics and Data Science (SDS) provides students with foundational training and marketable skills in statistics and data science. The curriculum is designed to equip students to execute all stages of a data analysis, from data acquisition and exploration to application of statistics and machine learning methods to the creation of data products (e.g. reports, apps, dashboards). Throughout the program, students are exposed to the principles of and tools for conducting reproducible data science and are taught to think critically about relevant ethical and legal issues (e.g., data privacy, algorithmic bias, misrepresentation of findings). The program prepares students to enter the workforce directly, or after pursuing specialized graduate training, as statisticians and data scientists or in other roles where training in these fields is excellent preparation.

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
SDS 313	Introduction to Data Science	3
Hours chosen from:		4
M 408C	Differential and Integral Calculus	
M 408K	Differential Calculus	
M 408N	Differential Calculus for Science	
RHE 306	Rhetoric and Writing	3
First-Year Signature Course (090)		3
Free Elective		3
Hours		16
Semester 2		
C S 303E	Elements of Computers and Programming	3
Hours chosen from:		4
M 408D	Sequences, Series, and Multivariable Calculus	
M 408L	Integral Calculus	
M 408S	Integral Calculus for Science	
SDS 315	Statistical Thinking	3
U.S. History (060)		3
Natural Science and Technology, Part I (030)		3
Hours		16
Year 2		
Semester 1		
SDS 431	Probability and Statistical Inference	4
M 340L or M 341	Matrices and Matrix Calculations or Linear Algebra and Matrix Theory	3
Lower-division breadth course		3
American and Texas Government (070)		3
Humanities (040)		3
Hours		16
Semester 2		
SDS 334	Intermediate Statistical Methods	3
Lower-division breadth course		3
U.S. History (060)		3
Natural Science and Technology, Part I (030)		3

C S 313E	Elements of Software Design	3
Hours		15
Year 3		
Semester 1		
SDS 336	Practical Machine Learning	3
C S 327E	Elements of Databases	3
Upper-division breadth course		3
American and Texas Government (070)		3
Free Elective		3
Hours		15
Semester 2		
Hours chosen from: SDS		3
Upper-division breadth course		3
Free Elective		3
Visual and Performing Arts (050)		3
Free Elective		3
Hours		15
Year 4		
Semester 1		
SDS 354	Advanced Statistical Methods	3
Hours chosen from: SDS		3
Social and Behavioral Sciences (080)		3
Free Elective		3
Free Elective		3
Hours		15
Semester 2		
SDS 357	Case Studies in Data Science	3
Free Elective		3
Free Elective		3
Free Elective		3
Hours		12
Total Hours		120

Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy [General Education](#) requirements, including [Core Curriculum](#).

Code	Title	Hours
Major		
Hours chosen from:		14
M 340L or M 341	Matrices and Matrix Calculations Linear Algebra and Matrix Theory	
C S 303E or C S 312	Elements of Computers and Programming (or equivalent C S course) Introduction to Programming	
C S 327E	Elements of Databases (or equivalent C S course)	
Sequence 1:		
M 408C	Differential and Integral Calculus	
M 408D	Sequences, Series, and Multivariable Calculus	
Sequence 2:		
M 408K	Differential Calculus	
M 408L	Integral Calculus	
M 408M	Multivariable Calculus	
Sequence 3:		
M 408N	Differential Calculus for Science	
M 408S	Integral Calculus for Science	
M 408M	Multivariable Calculus	
Subtotal		14

Degree (see details below)	40
Free electives: Additional coursework to reach total hours required.	24
<i>Subtotal</i>	<i>64</i>
General Education	
Core Curriculum	42
Foreign Language other than English, Beginning Proficiency	
<i>Subtotal</i>	<i>42</i>
College Requirements - Natural Sciences	
General University Requirements	
Total Hours	120

Degree-Bachelor of Science in Statistics Data Science (BSSDS)

Code	Title	Hours
Degree		
<i>SDS Breadth Requirement</i>		
Hours chosen from: In a single field of study other than SDS; at least six upper-division hours		
<i>Statistics and Data Sciences</i>		
SDS 313	Introduction to Data Science	3
SDS 315	Statistical Thinking	3
SDS 431	Probability and Statistical Inference	4
SDS 334	Intermediate Statistical Methods	3
SDS 336	Practical Machine Learning	3
SDS 354	Advanced Statistical Methods	3
SDS 357	Case Studies in Data Science	3
Hours chosen from:		6
SDS 364	Bayesian Statistics	
SDS 366	Data Visualization	
SDS 368	Statistical Theory	
STA 372T.21	Time Series Forecasting	
Please see department website for a full list. https://stat.utexas.edu/academics/undergraduate-major		
Total Hours		40

Additional Requirements and Policies

- At least 21 hours of upper-division course work in Statistics and Data Sciences must be completed in residence at the university.
- Students must fulfill both the University's general requirements for graduation and the college requirements.
- They must also earn a grade of at least C- in all courses required for the major, and a grade point average in these courses of at least 2.00.
- More information about grades and the grade point average is given in the General Information Catalog.