

Certificate in Applied Statistical Modeling Course Requirements (2020–2022 Catalog)

Policies and Procedures

- Total of 18 hours (six courses in sections II. – V. below) **must be completed with a grade of C or higher** with a cumulative grade point average of at least 3.0 across all courses used to fulfill the certificate (excluding prerequisite).
- No transfer credit or credit-by-exam may be used to fulfill certificate course requirements (excluding prerequisite).
- Not all courses listed in this document are offered every semester. See UT course schedule for available class offerings.
- See SDS website for how to enroll: stat.utexas.edu/undergraduate/certificate-in-applied-statistical-modeling

I. Prerequisite Knowledge (choose one)

Mathematics: 408C Calculus I, 408L Integral Calculus, 408N Differential Calculus, 408R Calculus for Biologists, 408S Integral Calculus, 408Q Differential and Integral Calculus for Business

II. Mathematical Foundations of Statistics (choose one)

Statistics & Data Sciences: 321 Intro to Prob & Statistics

Biomedical Engineering: 335 Engineering Probability Statistics

Electrical Engineering: 351K Probability and Random Processes

Mathematics: 362K Probability I

III. Applied Statistics Course 1 (choose one)

Statistics & Data Sciences: 302/306 Data Analysis for the Health Sciences, 302F Foundations of Statistics, 320E Elements of Statistics, 320H Elements of Statistics Honors, 328M Biostatistics

Statistics (IROM): 301/H Introduction to Data Science/Honors, 309 Elementary Business Statistics

Economics: 329 Economic Statistics

Educational Psychology: 371 Intro to Statistics

Government: 350K Statistical Analysis in Political Science

Mathematics: 358K Applied Statistics

Psychology: 418 Statistics & Research Design, 420M Psychological Methods and Statistics

Sociology: 317L Intro to Social Statistics

IV. Applied Statistics Course 2 (choose one)

Statistics & Data Sciences: 325H Honors Statistics, 332 Statistical Models for the Health & Behavioral Sciences, 352 Statistical Modeling, 358.1 Applied Regression, 324E Elements of Regression Analysis

Statistics (IROM): 371G/H Statistics & Modeling/Honors, 375/H Statistics & Modeling for Finance/Honors

Economics: 441K Intro to Econometrics

Mathematics: 349R Applied Regression

V. Electives (choose three)

Students are encouraged to select courses within their own majors or colleges as appropriate. The *Statistics and Data Sciences* courses are available to students in all majors.

Statistics & Data Sciences: 322E Elements of Data Science, 323 Statistical Learning and Inference, 348 Computational Biology & Bioinformatics, 353 Advanced Multivariate Modeling, 374E Visualization & Data Analysis, 375 Data Viz in R, 378 Intro to Mathematical Statistics, 378P Decision Analytics, 379R Undergraduate Research*

**Research Course: students must have a faculty supervisor and propose an original research project to be approved by the SDS Faculty Committee prior to enrollment. A final research paper is reviewed to ensure it meets certificate requirements*

Statistics (IROM): 235/H Data Science for Business Applications/Honors, 372.5 Financial & Econometric Time Series Modeling

Advertising: 344K Advertising Research

Communication Studies: 348 Communication Research Methods

Computer Science: 342 Neural Networks, 343 Artificial Intelligence, 343D Introduction to Data Mining

Economics: 348K.1 Advanced Econometrics, 354K Intro to Game Theory

Electrical Engineering: 461P Data Science Principals

Geological Sciences: 325K Computational Methods, 365N Seismic Data Processing

Health Education: 343 Foundations of Epidemiology, 373 Evaluation & Research Design

Kinesiology: 376 Measurement in Kinesiology

Linguistics: 350.15 Computational Semantics

Mathematics: 339J Probability Models with Actuarial Applications, 349P Actuarial Statistical Estimate, 362M Introduction to Stochastic Processes, 378K Introduction to Mathematical Statistics, 378P Decision Analytics

Management Information Systems: 373.11 Advanced Analytics Programming, 373.17 Predictive Analytics and Data Mining

Petroleum & Geosystems Engineering: 378 Applied Reservoir Characterization

Psychology: 325K Advanced Statistics

Public Health: 354 Epidemiology