The University of Texas at Austin
Department of Statistics
and Data Sciences
College of Natural Sciences

Certificate in Applied Statistical Modeling Course Requirements (2018–2020 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. Prerequisiting Knowledge (choose one)

Mathematics: 408C Calculus I, 408L Integral Calculus, 408R Calculus for Biologists, 408S Integral Calculus

II. Mathematical Foundations of Statistics (choose one)

Statistics & Data Sciences: 321 Intro to Probability & Statistics

Electrical Engineering: 351K Probability and Random Processes

Mathematics: 362K Probability I

III. Applied Statistics Course 1 (choose one)

Statistics & Data Sciences: 302/304/306 Data Analysis for the Health Sciences, 302F Foundations of Statistics, 320E Elements of Statistics, 328M Biostatistics

Statistics (IROM): 309 Elementary Business Statistics

Economics: 329 Economic Statistics

Educational Psychology: 371 Intro to Statistics

Mathematics: 358K Applied Statistics

Psychology: 418 Statistics & Research Design

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, majors only): 371G/H Statistics & Modeling/Honors, 375/H Statistics and Modeling for Finance/Honors

Economics: 341K 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 Methods, 358 Special Topics in Statistics, 374E Visualization & Data Analysis, 375 Special Topics in Scientific Computation, 378 Intro to Mathematical Statistics, 379R Undergraduate Research*

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

Statistics (IROM): 372.5 Financial & Econometric Time Series Modeling

Advertising: 344K Advertising Research

Communication Studies: 348 Communication Research Methods

Computer Science: 343 Artificial Intelligence

Economics: 350K.4 Advanced Econometrics, 354K Intro to Game Theory

Electrical Engineering: 361M Intro to Data Mining

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

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

Kinesiology: 376 Measurement in Kinesiology

Mathematics: 339J Probability Models with Actuarial Applications, 349P Actuarial Statistical Estimate, 362M Introduction to Stochastic Processes, 378K Introduction to Mathematical Statistics, 375T Generalized Linear Models

Management Information Systems: 373.17 Data Mining for Business

Petroleum & Geosystems Engineering: 378 Applied Reservoir Characterization

Psychology: 325K Advanced Statistics

Public Health: 354 Epidemiology