

# Certificate in Applied Statistical Modeling Course Requirements (2016–2018 Catalog)

## Policies and Procedures

- Total of 18 hours (six courses in sections II. – VI. below) **must be completed with a grade of B- or higher.**
- No transfer credit or credit-by-exam may be used to fulfill certificate course requirements (except for 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](http://stat.utexas.edu/undergraduate/certificate-in-applied-statistical-modeling)

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### I. Prerequisite Knowledge (choose one)

**Mathematics:** 408D Differential & Integral Calculus, 408M Multivariable Calculus

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### II. Mathematical Foundations of Statistics

#### Course 1 (choose one)

**Statistics & Data Sciences:** 321 Intro to Probability & Statistics

**Mathematics:** 362K Probability I

**Electrical Engineering:** 303 Probability & Random Processes

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### III. Mathematical Foundations of Statistics

#### Course 2 (choose one)

**Statistics & Data Sciences:** 358 Statistical Learning & Inference

**Mathematics:** 378K Intro to Mathematical Statistics

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### IV. Applied Statistics, Data Mining, or Machine Learning Course 1 (choose one)

**Statistics & Data Sciences:** 302 Data Analysis for the Health Sciences, 304 Statistics in Health Care, 306 Statistics in Market Analysis, 328M Biostatistics

**Mathematics:** 358K Applied Statistics

**Economics:** 329 Economic Statistics

**Educational Psychology:** 371 Intro to Statistics

**Psychology:** 418 Statistics & Research Design

**Sociology:** 317L Intro to Social Statistics

**Statistics (IROM):** 309 Elementary Business Statistics

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### V. Applied Statistics, Data Mining, or Machine Learning Course 2 (choose one)

**Statistics & Data Sciences:** 325H Honors Statistics, 332 Statistical Models for the Health & Behavioral Sciences, 352 Statistical Modeling

**Economics:** 341K Intro to Econometrics

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

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### VI. Electives (choose two, one must be upper-division)

**Statistics & Data Sciences:** 353 Advanced Multivariate Modeling, 358.1 Applied Regression Analysis, 374E Visualization & Data Analysis, 375 Special Topics in Scientific Computation, 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.*

**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, 349R Applied Regression & Time Series, 362M Introduction to Stochastic Processes, 375T Generalized Linear Models

**Management Information Systems:** 373.17 Pred Analytics & Data Mining

**Public Health:** 354 Epidemiology

**Petroleum & Geosystems Engineering:** 378 Applied Reservoir Characterization

**Psychology:** 325K Advanced Statistics

**Radio, Television, & Film:** 330K Intro to Research Methods

**Sociology:** 369L Analytical Demography

**Statistics (IROM):** 372.4 Multivariate Statistical Analysis, 372.5 Financial & Econometric Time Series Modeling, 376 Intermediate Statistics