

STATISTICS (MS)

Offered at: San Luis Obispo Campus

The Master's of Science in Statistics program is designed to provide advanced training to students preparing for careers in statistics and data analysis. The program consists of coursework that lays the conceptual and methodological foundations of the discipline, as well as consulting and research experiences. The program is intended for students with an undergraduate major or minor degree in Statistics.

Requirements for Admission

Students apply via Cal State Apply (<https://www.calstate.edu/apply>) and must submit a transcript, a statement of purpose, and two letters of recommendation.

International Students must meet all the standard eligibility criteria and demonstrate proficiency in English (English Proficiency Exam Requirements)

Prerequisites: Completion of a bachelor's degree from an accredited college/university with a minimum grade point average of 3.0 and completion of the following undergraduate coursework:

- Statistics: At least two courses
- Mathematics: Multivariable calculus (equivalent to Cal Poly MATH 1265) and linear algebra (equivalent to Cal Poly MATH 1151)
- Computer Science: At least one course, equivalent to Cal Poly CSC 1001.

Minimum GPA: 3.0.

Application due date: Fall enrollment only. Please see Graduate Student Dates and Deadlines (<https://www.calpoly.edu/admissions/graduate-student/dates-and-deadlines>) for application deadlines.

Advancement to Candidacy

Completion of at least 6 units of graduate coursework with cumulative and higher ed GPA of 3.0 or higher and an approved culminating experience proposal.

Culminating Experience

Thesis: Along with a faculty advisor, students will work on a specific research topic, preparing a written thesis, presenting to the public a 15-minute overview, and completing a 30-minute private discussion with a three-person committee.

The Blended BS/MS Statistics Program provides advanced Cal Poly undergraduate students with an efficient way to complete a BS and MS in statistics with both degrees being conferred simultaneously. Students work with advisors to ensure there is a seamless transition from undergraduate to graduate status.

Blended Options

BS Statistics + MS Statistics

Units Double Counted

6 units of STAT 5530 and STAT 5550 can replace 6 units of undergraduate list A electives.

Requirements for Admission for the Blended Program

Students apply directly to the program and not through Cal State Apply; please contact the department graduate coordinator.

- Prerequisites: STAT 3530, STAT 3540, STAT 3820. Strong grades in 4000 level STAT courses is recommended.
- Minimum GPA: 3.0.
- Timeline for admission: Application cycles in Fall and Spring; students recommended to apply in Spring semester the year before degree completion.
- Application materials: Statement of purpose and two references from the Statistics Department or Data Science program. Optional third reference and/or additional context question. Fill out this form (<https://forms.office.com/r/VzTwRpckhW>).

Program Learning Objectives

1. Demonstrate mastery of core statistical theory;
2. Demonstrate proficiency in statistical methodology and data analysis;
3. Select, justify, and apply appropriate inferential and predictive methods;
4. Responsibly interpret results and output of statistical analyses;
5. Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines);

6. Write code for statistical applications in one or more languages;
7. Gather and manage data from a variety of sources;
8. Collaborate with researchers and clients to solve data-oriented problems that arise in other disciplines; and,
9. Conduct independent learning and research.

Code	Title	Units
REQUIRED COURSES		
STAT 4610	Probability Theory	3
STAT 4620	Statistical Theory	3
STAT 5530	Generalized Linear Models	3
STAT/DATA 5550	Statistical Learning with R	3
STAT 5566	Graduate Consulting Practicum	2
STAT 5590	Graduate Seminar in Statistics	2
STAT 5599	Thesis	5
Approved Electives		
Select from the following: ¹		9
CSC 5666	Advanced Machine Learning	
DATA 4610	Fundamentals of Machine Learning	
DATA 4620	Foundations and Applications of Deep Learning	
DATA 4632	Graph Mining	
STAT 4366	Statistical Communication, Collaboration, and Consulting	
STAT 4750	Bayesian Reasoning and Methods	
STAT 4760	Statistical Analysis of Time Series	
STAT 4770	Survival Analysis Methods	
STAT 4780	Categorical Data Analysis	
STAT 4790	Applied Multivariate Statistics	
STAT/DATA 4810	SAS Certification Preparation: Base Programming	
STAT/DATA 4820	SAS Certification Preparation: Advanced Programming	
STAT 5500	Independent Study	
STAT 5570	Special Advanced Topics	
STAT 5710	Applied Stochastic Processes	
STAT 5740	Advanced Design and Analysis of Experiments	
Total Units		30

¹ A minimum of 3 units must be at the 5000 level.