

QUANTITATIVE ECONOMICS (MS)

Offered at: San Luis Obispo Campus

<https://gradbusiness.calpoly.edu/ms-economics/>

Our 10-month, in-person MS in Quantitative Economics delivers structured thinking about empirical problems and incentives. The program integrates econometrics, machine learning for prediction and causal inference, experimentation, and the hands-on analysis of real-world data, all guided by economic theory. Our program is ideal for those looking to acquire advanced skills for successful careers in the private and public sector, or to ramp up quantitative skills for Ph.D. programs.

Requirements for Admission

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

International Students must meet all the standard eligibility criteria and demonstrate proficiency in English (English Proficiency Exam Requirements (<https://www.calpoly.edu/admissions/international-student/selection-criteria/english-exam-requirements/>))

Prerequisites: Applicants must have completed at least two college-level courses in calculus and two college-level courses in statistics. One of the calculus course requirements can be fulfilled by a mathematical economics course, and one of the statistics course requirements can be fulfilled by a course in econometrics or probability. Applicants may be granted admission to the program conditional on completing any coursework that may be missing.

Minimum GPA: 2.5.

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 2.5 or higher.

Culminating Experience

Comprehensive exam: The comprehensive exam covers topics from six graduate courses:

- ECON 5015 Computing and Machine Learning for Economics
- ECON 5021 Advanced Econometrics I
- ECON 5022 Advanced Econometrics II
- ECON 5023 Microeconometrics
- ECON 5030 Microeconomic Analysis
- ECON 5040 Dynamic Stochastic Modeling

The professors who taught these courses will evaluate the corresponding section of the comprehensive examination.

Program Learning Objectives

1. Demonstrate sufficient knowledge of the main quantitative methods of economic analysis (both theoretical and empirical). (Knowledge)
2. Proficiently apply quantitative economics techniques in new and unfamiliar circumstances and develop the ability to adapt and innovate to solve relevant economic problems. (Application and Analysis)
3. Effectively communicate the implications of analyses to the relevant audience. (Communication)

Code	Title	Units
REQUIRED COURSES		
ECON 5010	Essential Mathematics for Economic Analysis	3
ECON 5015	Computing and Machine Learning for Economics	3
ECON 5020	Essential Statistics for Econometrics	3
ECON 5021	Advanced Econometrics I	3
ECON 5022	Advanced Econometrics II	3
ECON 5023	Microeconometrics	3
ECON 5030	Microeconomic Analysis	3
ECON 5040	Dynamic Stochastic Modeling	3
ECON 5597	Comprehensive Examination	0

Approved Electives

Select from the following:		9
ECON 5012	Evidence-Based Decision Analysis	
ECON 5016	Collaborative Software Development Environment for Economists	
ECON 5024	Modeling Financial Time Series	
ECON 5025	Machine Learning for Prediction and Causal Inference	
ECON 5031	Industrial Economics	
ECON 5032	Incentives and Market Design	
ECON 5052	Public Economics	
ECON 5053	Advanced Labor Economics	
ECON 5061	International Economics	
ECON 5071	Environmental and Natural Resource Economics	
ECON 5500	Independent Study	
ECON 5560	Applied Economics Project	
ECON 5570	Special Advanced Topics	

Total Units	33
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