



SACRAMENTO  
STATE

**Master of Science in Quantitative Economics  
Department of Economics**

**Graduate Student Handbook  
(updated September 2024)**

This handbook is designed to facilitate progress through the Master of Science in Quantitative Economics at Sac State. Students are encouraged to seek the advice of the Graduate Coordinator as they enter the program and through their graduate program experience. The Coordinator can help outline a program of study for the student to complete the program in a timely manner and assist the student with navigating the administrative steps required to complete the degree. Students are also urged to consult the University catalog and the Office of Graduate Studies regarding University requirements for the completion of a graduate degree at CSUS. The web site of the Office of Graduate Studies (<https://www.csus.edu/graduate-studies/>) provides a variety of information and forms useful to graduate students.

## I. Specific Unit Requirements for Completing the M.S. Degree

### Program Requirements

All students are required to complete the core course sequence outlined below with a minimum grade of "B" in each course. After completing the core courses, the student selects a thesis plan to finish the degree requirements. The core courses, elective options, and the thesis, are outlined below.

<b>Core Courses (15 Units)</b>		
<a href="#">ECON 200A</a>	Advanced Macroeconomic Theory	3
<a href="#">ECON 200B</a>	Advanced Microeconomic Theory	3
<a href="#">ECON 200C</a>	Advanced Applied Economics	3
<a href="#">ECON 200M</a>	Mathematics for Economists	3
<a href="#">ECON 241</a>	Applied Econometric Analysis	3
<b>Elective Courses (12 Units)</b>		
Select 12 units of electives from the following list of courses <sup>1</sup>		12
<a href="#">ECON 213</a>	U.S. Economic Development in Historical Perspective	
<a href="#">ECON 230</a>	Public Finance	
<a href="#">ECON 238</a>	Monetary and Fiscal Policy	
<a href="#">ECON 251</a>	Urban Problems, Economics and Public Policy	
<a href="#">ECON 260</a>	Industrial Organization and Performance	
<a href="#">ECON 263</a>	Food Economics	
<a href="#">ECON 265</a>	Cost Benefit Analysis	
<a href="#">ECON 290</a>	International Trade	
<a href="#">STAT 115A</a>	Introduction to Probability Theory	

<a href="#">STAT 128</a>	Statistical Computing	
<a href="#">STAT 129</a>	Analyzing and Processing Big Data	
<a href="#">MATH 100</a>	Applied Linear Algebra	
<a href="#">MATH 108</a>	Introduction to Formal Mathematics	
<a href="#">MATH 130A</a>	Functions of a Real Variable	
<a href="#">CSC 177</a>	Data Analytics and Mining	
<b>Culminating Requirement (3 Units)</b>		
<a href="#">ECON 500</a>	Master's Thesis	3
Total Units		30

<sup>1</sup>Of these 12 units, at least **six** units (i.e., 2 courses) must come from 200-level courses. Note the following:

- 100-level economics electives with prerequisites can substitute as graduate electives, but there can be no 100-level/200-level duplication of similar courses (e.g., you cannot receive credit towards the Master's degree for both [ECON 130](#) and [ECON 230](#), [ECON 138](#) and [ECON 238](#), etc.).
- STAT 115A, MATH 100, MATH 130A, and CSC 177 have additional prerequisites.
- Students interested in careers in data analysis are encouraged to select STAT 128 Statistical Computing and/or STAT 129 Analyzing and Processing Big Data as 100-level electives. STAT 128 is a prerequisite for STAT 129.
- Students interested in pursuing a Ph.D. in Economics are encouraged to select MATH 100, MATH 130A, and/or STAT 115A, or other math and statistics courses as 100-level electives. A maximum of 6 units of 100-level electives can be applied to the MA degree.
- Selected courses (e.g., Math, Statistics, or Computer Science) from other departments may be allowed as substitutes with the approval of the Graduate Coordinator.
- [ECON 295](#) and [ECON 298](#) do not count as electives toward satisfying the 12 unit requirement without the approval of the Graduate Coordinator.

Each student will complete a minimum of 30 semester units with a 3.0 minimum GPA. Three of these units will be for completion of a thesis as the culminating experience. Further each student must complete 15 semester units of core coursework, consisting of the following 5 courses:

ECON 200M	Mathematics for Economists
ECON 241	Applied Econometric Analysis
ECON 200A	Advanced Macroeconomic Theory
ECON 200B	Advanced Microeconomic Theory
ECON 200C	Advanced Applied Economics

Students must earn a minimum grade of “B” in each of the core courses listed above.

Each student will also complete 12 units of elective course work. No less than 6 of these units will be from 200-level courses. Students must earn a minimum grade of “B” in each of the elective courses.

#### *Credit hour*

For graduate courses, each credit hour in lecture or discussion courses will typically require 50 minutes (one classroom hour) of classroom or direct faculty instruction and three hours of out-of-class student work for each week of a fifteen week semester (a total of 60 hours per unit per semester). For more details visit <https://www.csus.edu/academic-affairs/internal/documents/credit-hour-policy.pdf>

This amounts to at least 9 hours of independent preparation (e.g. reading additional materials, homework, final paper/project work, etc.) for a regular three unit class (or 120 hours per semester). Students working full time are strongly encouraged to take no more than two three unit classes per semester. While the program is designed to be completed within two years, students have up to seven years to complete their degree requirements. Learn more at <https://www.csus.edu/graduate-studies/current-students/graduate-student-guide.html#seven-year-deadline-masters>

#### *Advancement to Candidacy*

Each student must file an application for Advancement to Candidacy as soon as the graduate student has:

- successfully completed ECON 200M, ECON 241, ECON 200A, and ECON 200B with a minimum grade of "B";
- begun or successfully completed ECON 200C;
- satisfied the University Graduation Writing Assessment Requirement for Graduate Students,
- removed any conditional classifications.

Advancement to Candidacy forms are available through the Office of Graduate Studies website. The student fills out the form after planning a degree program in consultation with the Economics Department Graduate Coordinator. The completed form is then returned to the Office of Graduate Studies for approval.

#### University Writing Requirement

All students must satisfy University Writing Assessment Requirements for Graduate Students in order to advance to candidacy. Econ 241 is in the process of being approved as a Graduate Writing Intensive (GWI) course. For more information go to <https://www.csus.edu/undergraduate-studies/writing-program/graduate-gwar.html>.

#### Conditional Classification

A student admitted to the graduate program with Conditional Classification must change his/her status to Classified before advancing to candidacy. The Application for Classification found on the Graduate Studies website should be completed as soon as the individual student’s conditions for admission are met.

### **III. Culminating Experience Requirement**

All students complete a thesis to satisfy the culminating experience requirement. In the semester prior to enrolling in ECON 500 (Thesis), the student must be advanced to candidacy. The student is expected to complete a thesis under the guidance of a thesis advisor and a thesis committee. The thesis committee will consist of at least two faculty members, of which one serves as the thesis advisor. The thesis advisor can provide the student with assistance in choosing additional members of the committee. Once the student selects a thesis committee, the student must provide written notification of the committee members to the Graduate Coordinator. The student shall enroll in ECON 500 for 3 units in the semester they plan to complete all degree requirements. Before enrolling in Econ 500, the student in consultation with his/her thesis advisor, will develop a timeline for satisfactory progress during Econ 500, and for completing the thesis. A thesis advising form (found on the department website) should be completed at this time so satisfactory progress conditions can be established. This form will be submitted to the Graduate Coordinator before being added to ECON 500. If the student does not complete all degree requirements during the semester he/she is enrolled in Econ 500, he/she has to sign up for Continuous Enrollment (see below) in the consecutive(s) semester(s). Continuous enrollment is limited to three additional semesters. After that time, the student will need to take ECON 500 again.

Upon completion of a thesis draft, the student will present his/her work in an oral examination before the thesis committee and other members of the department. The oral examination will be graded "pass" or "fail". Following the examination, the student will receive feedback and guidance on recommended changes prior to submission of the final version of the thesis. Should the student fail the oral examination, he/she will be given specific guidelines on additional work required to complete the degree. Thesis defenses should be completed no less than two weeks prior to the closing thesis deadline each semester as established by the Office of Graduate Studies.

The thesis advisor, second reader, and Graduate Coordinator will sign off on the completed version of the thesis. This version must adhere to all university regulations regarding thesis completion. Please consult the Office of Graduate Studies (<https://www.csus.edu/graduate-studies/current-students/thesis-project-dissertation.html>) for further details.

### Continuous Enrollment

Graduate students who have advanced to candidacy and who have completed all course work can maintain the required active degree program status without additional University registration by enrolling in "Continuous Enrollment" with the Office of Graduate Studies. There are no units associated with this enrollment. Such enrollment is valid as long as the student is within the time period allowed for the completion of the culminating experience requirement. Students are allowed a maximum of three semesters past the first semester of registration to complete the thesis. For more information, forms, deadlines, and fees please consult the Office of Graduate Studies (<https://www.csus.edu/graduate-studies/current-students/graduate-student-guide.html>).

#### IV. Sample Two-Year Plan

The degree program is designed to be completed within two years. The following is a suggested sequence of courses:

	Fall Semester	Spring Semester
First Year:	ECON 200M ECON 241 ECON Elective (100-level)	ECON 200A ECON 200B ECON Elective (100-level)
Second Year:	ECON 200C ECON Elective (200-level)	ECON Elective (200-level) ECON 500

## V. Fields of Specialization

The recent hiring of new faculty members has expanded the scope of economic inquiry within the Department of Economics at CSUS. In anticipation of students selecting faculty to work with, below are listed the major research areas our faculty are actively exploring:

- Behavioral and Experimental Economics (Burghart, Kaplan)
- Economic Development (Chalmers, Ford, Wang, Zhou)
- Economic History (Siegler, Wang)
- Economic Theory and Game Theory (Kaplan, Lang)
- Economics of Education (Lang)
- Environmental and Resource Economics (Kaplan, Tadle)
- Financial Economics (Ford, Tadle, Van Gaasbeck)
- Health Economics (Burghart)
- History of Economic Thought (Chalmers, Ford)
- Industrial Organization and Regulation (Kaplan)
- International Economics (Ford, Gabriel, Tadle, Zhou)
- Labor Economics (Lang, O'Keefe)
- Macroeconomics; Monetary Economics (Gabriel, Siegler, Tadle, Van Gaasbeck, Wang, Zhou)
- Public Finance (Chalmers, O'Keefe)
- Real Estate Economics (Li)
- Regional Economics (Chalmers, Li, O'Keefe)
- Sports Economics (Ford, Lang)

## VI. Description of Current 200-Level Economics Courses

Listed below are the current 200-level Economics course offerings applicable to the M.S. program for graduate-level credit. All courses are 3 units unless otherwise noted.

**ECON 200M Mathematics for Economists.** Equips students with the mathematical techniques necessary for the study of economics and econometrics at the graduate level. Covers linear algebra, derivatives, comparative static analysis, optimization, integrals, and differential equations, with specific applications from economic and econometric theory. **Prerequisite:** ECON 100A, ECON 100B, MATH 26A.

**ECON 200A Advanced Macroeconomic Theory.** Theories of the determinants of aggregate income, employment and prices. May be taken independently of ECON 200B. **Prerequisites:** ECON 141, and ECON 200M.

**ECON 200B Advanced Microeconomic Theory.** Theories of the consumer, producer, and market structure. May be taken independently of ECON 200A. **Prerequisites:** ECON 200M.

**ECON 200C Advanced Applied Economics.** Applies empirical analysis to topics in microeconomics and macroeconomics. Topics may include stationarity, vector autoregression, vector error correction

models, calibration, fixed effects, instrumental variables, multinomial logit, and duration models. Students implement these models using econometric software. Students will write an empirical paper intended to become a prospectus for the master's thesis. **Prerequisite:** Econ 241, ECON 200A and, ECON 200B.

**ECON 213 U.S. Economic Development in Historical Perspective.** Introduction and analysis of American economic development from a historical perspective, focusing on the trajectory of American economic development from recent advances in theoretical and empirical economics literature. Cover topics on long-term economic growth, technological change, business cycles and fluctuations, financial markets, labor markets, and economic impacts of social change.

**ECON 230 Public Finance.** Analysis of the allocation and distribution effects of government expenditures and taxation. **Prerequisite:** ECON 200B.

**ECON 238 Monetary and Fiscal Policy.** Analysis of the policies of central bank and fiscal authorities as they relate to full employment and stability of the national economy.

**ECON 241 Applied Econometric Analysis.** Applied econometric analysis with emphasis on the use of econometric techniques in actual economic research settings, and expressing economic theory in the form of econometric models, data collection, estimation, and interpretation of results. Students work individually or as a team on a preselected research topic by instructor. Students usually work on a current research topic, chosen from various fields of economics. **Prerequisite:** Econ 141.  
**Corequisite:** ECON 200M.

**ECON 251 Urban Problems, Economics and Public Policy.** Historical development, economics and possible policy solutions of the most pressing problems facing central cities and urban areas in the United States are presented. Problems discussed include poverty, crime, urban abandonment/suburban sprawl, edge cities, deteriorating infrastructures, and fiscal stress. Cross-listed as PPA 251; only one may be counted for credit.

**ECON 260 Industrial Organization and Performance.** A modern analysis of industry structure, conduct, and performance. Emphasis is placed on the use of game theory to address firm behavior, including price and output decisions, entry and exit, horizontal mergers, technological change, and marketing issues.

**ECON 263. Food Economics.** Introduction to advanced economic theory and econometric methods applied to the economics of food with emphasis on food consumption and the complexity of individual food choices. Utilizing cost-benefit analyses and concepts like constrained utility maximization, household production, opportunity costs of time, and information search, implications for a global food system will be derived. We will apply learned concepts to health and environmental concerns by discussing the recent applied economics and policy evaluation literature.

**ECON 265 Cost Benefit Analysis.** Examination of the theories, foundations, and philosophies of economic welfare. Specifically, the basic techniques of cost benefit analysis will be presented and applied to various policy issues.



**ECON 290 International Trade.** An analysis of modern trade theories, their empirical relevance, and the role of multinational firms in the evolution of international trade patterns. Discussion focuses on theoretical and empirical evaluation of trade policy instruments. Various trade agreements are also discussed in the context of economic integration and globalization.

**ECON 295 Economic Internship.** Supervised work experience or research on economic topics in government, financial, business, charitable or other kinds of institutions to provide an opportunity for the student to apply principles and theories learned in the classroom to the "real world." Partial supervision may be supplied by persons in the institution under study. Graded Credit/No Credit. 1-3 units.

**ECON 298 Teaching Assistantship in Economics.** Supervised teaching activity at educational institutions including CSUS. Teaching assistant will work closely with instructor on defining joint responsibilities for teaching a particular course. Teaching activities will include at least three of the following: facilitate a discussion section or tutorial; hold weekly office hours; e-mail contact; grade homework; create assignments, exams, or projects; and prepare answer keys or supplementary notes. Prior approval must be obtained from graduate coordinator. Emphasis is on the development of effectiveness in teaching of economics. Graded Credit/No Credit. 1-3 units.

**ECON 299 Special Problems.** Individual projects or directed reading. Admission requires approval of the faculty sponsor and the Department Chair. Graded Credit/No Credit. 1-3 units.

**ECON 500 Master's Thesis.** Completion of a thesis approved for the Master's degree. Should be taken in final semester prior to the completion of all requirements for the degree. **Prerequisite:** Advanced to candidacy and chair permission of his/her thesis committee. Graded Credit/No Credit.