

# Economics Ph.D. Program Specialization Coursework

Students are required to complete a minimum of 28 *unique* units of advanced coursework in their second year of the Ph.D. program, not counting new seminars. The courses taken must fulfill the requirements for at least two fields they wish to specialize in. A course may count for more than one field, but 28 unique units from the UCSB Economics department are required. Core and Elective courses offered for each specialization are listed in the table below. **All classes are 2 units (i.e., half a quarter of instruction) unless specified otherwise, and classes with an asterisk will be offered in the 2024/5 academic year.** A repository of class syllabi is available at <https://tinyurl.com/3y4mu29y>.

## Fulfilling Requirements for a Specialization

- If a specialization offers elective classes, students must complete 16 units in total. At least 8 of these units must come from core courses.
- If a specialization does not offer elective classes, students must complete 12 units in total. All 12 units must come from core courses.
- A passing grade of B or better is required for a course to count towards a field of specialization or elective.

Field	Core Courses	Elective Courses
<b>Macroeconomics</b>  <b>16 total units. At least 8 Core units required.</b>	214A Economic Development* (4 units) 228 Aggregate Economics (4 units) 253A Job Search Theory 253B Topics in Search and Marketing 227 Computational Methods for Macroeconomics* (4 units)	260E Natural Resource: Continuous-Time Methods* 260G Environmental Externalities and Regulation* 260I Time, Uncertainty, and Environmental Policy* 230A Public Economics I* 230B Public Economics II* 245N Causal Machine Learning (4 units)
<b>Experimental and Behavioral Economics</b>  <b>12 Core units required</b>	278A Experimental Methods* 278B Games in the Laboratory* 278C Individual Decision Making in the Laboratory 278H Attention and Perception* 214C Behavioral Development Economics 215H Behavioral Economics* 245J Field Experiments* 260I Time, Uncertainty, and Environmental Policy*	
<b>Econometrics</b>  <b>12 Core units required</b>	245B Time Series Econometrics 245E Introduction to Bayesian Econometrics 245F Generalized Method of Moments and Instrumental Variables 245G Panel Data and Difference-in-Differences 245H Clustering, Bootstrapping, and Multiple Comparisons* 245I Regression Discontinuity Designs* 245J Field Experiments* 245L Nonparametric Econometrics* 245M Data Wrangling 245N Causal Machine Learning (4 units)	<p><b>For 2024-5 only, ONE of the following may count as an Econometrics "Core" class:</b></p> 227 Computational Methods for Macroeconomics (4 units) PS231 Introduction to Statistical Machine Learning (4 units) PS274 Time Series (4 units) <p>Students wishing to take a different UCSB class to complete this field may petition Prof. Steigerwald for permission.</p>

<b>Environmental and Natural Resource Economics</b>  <b>16 total units. At least 8 Core units required.</b>	260D Natural Resource: Dynamic Programming Methods* 260E Natural Resource: Continuous-Time Methods* 260G Environmental Externalities and Regulation* 260I Time, Uncertainty, and Environmental Policy* 260K Environmental and Development Economics	214C Behavioral Development Economics 230A Public Economics I* 230B Public Economics II* 230C Individual Taxation* 230D Capital Taxation* 245G Panel Data and Difference-in-Differences 245H Clustering, Bootstrapping, and Multiple Comparisons* 245I Regression Discontinuity Designs* 245J Field Experiments* 245L Nonparametric Econometrics* 245M Data Wrangling 245N Causal Machine Learning (4 units) 227 Computational Methods for Macroeconomics* (4 units)
<b>Labor Economics</b>  <b>16 total units. At least 8 Core units required.</b>	250D Population Economics* (4 units) 250E Labor Supply* 250F Labor Demand and Wage Differentials 250G Economics of Education 250H Human Capital 250I Personnel Economics* 250J Empirical Search and Recruiting 230I Health Economics* 230J Health Economics II* 250K Personnel Economics II* 214C Behavioral Development Economics	245F Generalized Method of Moments & Instrumental Variables 245G Panel Data and Difference-in-Differences 245H Clustering, Bootstrapping, and Multiple Comparisons* 245I Regression Discontinuity Designs* 245J Field Experiments* 245L Nonparametric Econometrics* 245M Data Wrangling 245N Causal Machine Learning (4 units)
<b>Public Economics</b>  <b>16 total units. At least 8 Core units required.</b>	230A Public Economics I* 230B Public Economics II* 230C Individual Taxation* 230D Capital Taxation* 230F Behavioral Public Finance 230G Tax Incidence	214C Behavioral Development Economics 245F Generalized Method of Moments and Instrumental Variables 245G Panel Data and Difference-in-Differences 245H Clustering, Bootstrapping, and Multiple Comparisons* 245I Regression Discontinuity Designs* 245J Field Experiments* 245L Nonparametric Econometrics* 245M Data Wrangling 230I Health Economics* 230J Health Economics II* 260I Time, Uncertainty, and Environmental Policy* 260G Environmental Externalities and Regulation* 250D Population Economics* (4 units)

**Department of Economics Graduate Course Offerings during Academic Year 2024 - 2025**

Designation	Weeks	Fall 2024	Weeks	Winter 2025	Weeks	Spring 2025	
1st Yr PhD Required Course	All 10 Weeks	Economics 204A <i>(Javier Birchenall)</i>	All 10 Weeks	Economics 204B <i>(Peter Rupert)</i>	All 10 Weeks	Economics 204C <i>(Yueyuan Ma)</i>	
1st Yr PhD Required Course	All 10 Weeks	Economics 210A <i>(Ignacio Esponda)</i>	All 10 Weeks	Economics 210B <i>(Erik Eyster)</i>	All 10 Weeks	Economics 210C <i>(Cheng-Zhong Qin)</i>	
1st Yr PhD Required Course	All 10 Weeks	Economics 241A <i>(Dick Startz)</i>	All 10 Weeks	Economics 241B <i>(Douglas Steigerwald)</i>	All 10 Weeks	Economics 241C <i>(Gonzalo Vazquez-Bare)</i>	
1st Yr PhD Required Course	All 10 Weeks	Economics 297 <i>(Heather Royer)</i>					
2nd Yr PhD Course	Weeks 1-5	Economics 245J <i>(Royer)</i>	Weeks 1-5	Economics 245H <i>(Steigerwald)</i>	Weeks 1-5	Economics 245I <i>(Varquez-Bare)</i>	Econometrics
			Weeks 6-10	Economics 245L <i>(Varquez-Bare)</i>			
2nd Yr PhD Course	All 10 Weeks	Economics 250D <i>(Lundberg)</i>	Weeks 6-10	Economics 250E <i>(Kuhn)</i>	Weeks 6-10	Economics 250K <i>(Hoffman)</i>	Labor Economics
			Weeks 1-5	Economics 250I <i>(Kuhn)</i>			
2nd Yr PhD Course	Weeks 6-10	Economics 230A <i>(Bergstrom)</i>	Weeks 1-5	Economics 230C <i>(Tazhitdinova)</i>	Weeks 6-10	Economics 230B <i>(Bergstrom)</i>	Public Economics
	Weeks 1-5	Economics 230I <i>(Frech)</i>	Weeks 6-10	Economics 230D <i>(Tazhitdinova)</i>			
	Weeks 6-10	Economics 230I <i>(Silver)</i>					
2nd Yr PhD Course	All 10 Weeks	Economics 214A <i>(Birchenall)</i>	Weeks 1-5	Economics 227 <i>(Fernandez-Villaverde)</i>			Macroeconomics
2nd Yr PhD Course	Weeks 1-5	Economics 260E <i>(Plantinga)</i>	Weeks 6-10	Economics 260G <i>(Meng)</i>	Weeks 1-5	Economics 260D <i>(Costello)</i>	Environmental Economics
					Weeks 6-10	Economics 260I <i>(Millner)</i>	
2nd Yr PhD Course			Weeks 1-5	Economics 278A <i>(Oprea)</i>			Experimental & Behavioral
			Weeks 6-10	Economics 278B <i>(Oprea)</i>			
			Weeks 1-5	Economics 215H <i>(Martin)</i>			
			Weeks 6-10	Economics 278H <i>(Martin)</i>			
3rd & 4th Year Econ Ph.D. student are required to Register each quarter for one of the following.	All 10 Weeks	Economics 294 <i>(Micro CARE Seminars - Tazhitdinova)</i>	All 10 Weeks	Economics 294 <i>(Micro CARE Seminars - Tazhitdinova)</i>	All 10 Weeks	Economics 294 <i>(Micro CARE Seminars - Tazhitdinova)</i>	
		Economics 294 <i>(Micro TEC Seminars - Oprea)</i>		Economics 294 <i>(Micro TEC Seminars - Oprea)</i>		Economics 294 <i>(Micro TEC Seminars - Oprea)</i>	
		Economics 295 <i>(Macro AEC Seminars -Ma)</i>		Economics 295 <i>(Macro AEC Seminars -Ma)</i>		Economics 295 <i>(Macro AEC Seminars -Ma)</i>	
<b>Working groups (Economics 290's) will be assigned and students will receive notification as to which group to register for.</b>							
Applied I	All 10 Weeks	Economics 290 Applied I: Research Topics in Labor and Health Economics <i>Peter Kuhn</i>	All 10 Weeks	Economics 290 Applied I: Research Topics in Labor and Health Economics <i>Peter Kuhn</i>	All 10 Weeks	Economics 290 Applied I: Research Topics in Labor and Health Economics <i>Peter Kuhn</i>	
Applied II		Economics 290 Applied II: Research Topics in Public and Labor Economics <i>Ted Frech</i>		Economics 290 Applied II: Research Topics in Public and Labor Economics <i>Ted Frech</i>		Economics 290 Applied II: Research Topics in Public and Labor Economics <i>Ted Frech</i>	
Environmental		Economics 290 Research Topics in Environmental Economics <i>Olivier Deschenes and Antony Millner</i>		Economics 290 Research Topics in Environmental Economics <i>Olivier Deschenes and Antony Millner</i>		Economics 290 Research Topics in Environmental Economics <i>Olivier Deschenes and Antony Millner</i>	
Experimental / Behavioral Theory		Economics 290 Research Topics in Experimental and Behavioral Economics <i>Ryan Oprea and Ignacio Esponda</i>		Economics 290 Research Topics in Experimental and Behavioral Economics <i>Ryan Oprea and Ignacio Esponda</i>		Economics 290 Research Topics in Experimental and Behavioral Economics <i>Ryan Oprea and Ignacio Esponda</i>	
Macroeconomics		Economics 290 Research Topics in Macroeconomics <i>Peter Rupert</i>		Economics 290 Research Topics in Macroeconomics <i>Peter Rupert</i>		Economics 290 Research Topics in Macroeconomics <i>Peter Rupert</i>	