Economics

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Economics addresses the problem of using scarce resources to satisfy society's unlimited wants. The discipline is divided into two general areas —microeconomics and macroeconomics. Microeconomics explores questions about the way society allocates resources; it applies to public policy in such areas as urban, industrial organization, and labor economics. Macroeconomics considers such questions as the causes of inflation and unemployment; it applies to such areas as monetary policy, development and international economics.

Faculty

Bruce A. Blonigen, Philip H. Knight Professor (international trade, industrial organization, applied econometrics); dean for faculty and operations, College of Arts and Sciences. BA, 1988, Gustavus Adolphus; MA, 1992, PhD, 1995, California, Davis. (1995)

Alfredo Burlando, associate professor (development, labor economics, industrial organization). BA, 2003, MA, 2003, California, Davis; PhD, 2010, Boston. (2010)

Trudy Ann Cameron, professor (applied microeconomics, applied econometrics); Raymond F. Mikesell Chair in Environmental and Resource Economics. BA, 1977, British Columbia; PhD, 1982, Princeton. (2001)

Shankha Chakraborty, professor (growth and development, macroeconomics). BS, 1992, Presidency; MA, 1994, Delhi School of Economics; PhD, 1999, California, Los Angeles. (1999)

Mark Colas, assistant professor (public economics and urban economics). BA, 2009, California, Davis; MS, 2013, PhD, 2017, Wisconsin, Madison. (2017)

Anca D. Cristea, associate professor (international economics, industrial organization, applied econometrics). BA, 2003, Babes-Bolyai; MA, 2005, Clemson; PhD, 2010, Purdue, West Lafayette. (2010)

Jonathan M. V. Davis, assistant professor (applied microeconomics, labor economics). BA, 2009, PhD, 2016, Chicago. (2018)

Timothy A. Duy, assistant professor with title of professor of practice (macroeconomics, monetary policy, international finance); director, Oregon Economic Forum. BA, 1991, Puget Sound; MS, PhD, 1998, Oregon. (2002)

Christopher J. Ellis, professor (applied economic theory, public economics, political economy). BA, 1978, Essex; MA, 1979, PhD, 1983, Warwick. (1983)

David Evans, assistant professor (macroeconomics, computational economics, public finance). BS, 2008, Stanford; PhD, 2015, New York. (2015)

George W. Evans, professor (econometrics, macroeconomics); John Hamacher Chair in Economics. BA, 1972, Oxford; BA, 1974, MA, 1976, PhD, 1980, California, Berkeley. (1994)

Benjamin Hansen, W. E. Miner Professor in Economics (labor economics, public economics, econometrics); associate professor. BA, 2004, Brigham Young; MA, 2005, PhD, 2009, California, Santa Barbara. (2010)

William T. Harbaugh, professor (public economics, behavioral economics, neuroeconomics). BS, 1983, MS, 1986, Montana State; PhD, 1995, Wisconsin, Madison. (1995)

Van Kolpin, professor (microeconomic theory, game theory, social choice theory). BA, 1982, Coe; MS, 1983, MA, 1984, PhD, 1986, Iowa. (1986)

Michael Kuhn, assistant professor (behavioral economics, labor, public finance). BA, 2009, California, Los Angeles; PhD, 2014, California, San Diego. (2014)

Grant R. McDermott, assistant professor (environmental and natural resource economics, applied econometrics, uncertainty and Bayesian learning), BS, 2004, Cape Town; MS, 2011, PhD, 2015, Norwegian School of Economics. (2017)

Bruce McGough, professor (macroeconomics). BA, 1991, Reed; MS, 1993, PhD, 2000, Oregon. (2012)

Keaton Miller, assistant professor (industrial organization, health economics, applied econometrics). BS, 2008, Wisconsin, Madison; PhD, 2015, Minnesota, Twin Cities. (2015)

Jeremy M. Piger, professor (macroeconomics, econometrics). BA, 1996, Seattle Pacific; MA, 1998, PhD, 2000, Washington (Seattle). (2006)

Edward A. Rubin, assistant professor (environmental and energy, development economics, econometrics and data science). BS, 2007, MS, 2013, Nebraska, Lincoln; MS, 2015, PhD, 2018, California, Berkeley. (2018)

Mark A. Thoma, professor (econometrics, macroeconomics). BA, 1980, California State, Chico; PhD, 1985, Washington State. (1987)

Michael B. Urbancic, senior instructor (behavioral economics, experimental economics, economic history). BA, BA, BS, 2002, Arizona; MA, 2007, PhD, 2012, California, Berkeley. (2012)

Anne van den Nouweland, professor (game theory, microeconomic theory). BA, 1984, MA, 1989, Nijmegen; PhD, 1993, Tilburg. (1996)

Glen R. Waddell, professor (applied econometrics, industrial organization, labor economics). BS, 1995, Trent; MS, 1996, Miami; PhD, 2000, Purdue. (2001)

Wesley W. Wilson, professor (applied econometrics, industrial organization, transportation economics). BS, BA, 1980, North Dakota; MA, 1984, PhD, 1986, Washington State. (1989)

Woan Foong Wong, assistant professor (international economics, international trade). BA, 2009, Oberlin; MS, 2013, PhD, 2017, Wisconsin, Madison. (2017)

Jiabin Wu, assistant professor (experimental economics, behavior economics, political economy). BA, 2008, Hong Kong; MS, 2010, PhD, 2014, Wisconsin, Madison. (2014)

Eric Y. Zou, assistant professor (environmental economics, health economics). BS, 2012, East China Normal; MS, 2013, PhD, 2018, Illinois, Urbana-Champaign. (2018)

Emeriti

Henry N. Goldstein, professor emeritus. BA, 1950, North Carolina, Chapel Hill; MS, 1953, PhD, 1967, Johns Hopkins. (1967)

Jo Anna Gray, professor emerita. BA, 1971, Rockford; AM, 1973, PhD, 1976, Chicago. (1989)

Stephen E. Haynes, professor emeritus. BA, 1968, PhD, 1976, California, Santa Barbara. (1978)

Peter J. Lambert, professor emeritus. PhD, 1971, Oxford. (2002)

Joe A. Stone, professor emeritus. BA, 1970, Texas, El Paso; MA, 1974, PhD, 1977, Michigan State. (1979)

W. Ed Whitelaw, professor emeritus. BA, 1963, Montana; PhD, 1968, Massachusetts Institute of Technology. (1967)

The date in parentheses at the end of each entry is the first year on the University of Oregon faculty.

- **Bachelor of Arts**
- **Bachelor of Science**
- **Minor**

Undergraduate Studies

The Department of Economics offers an undergraduate major leading to a bachelor's degree. Undergraduate courses in economics provide broad knowledge of the field as a part of the program of liberal education offered by the College of Arts and Sciences. They also lay a solid foundation in economics to students interested in professional graduate training in economics or in careers in business, law, government, or journalism.

For more detailed information, students are encouraged to visit the department website.

Preparation

Suggested preparation for freshman students is four years of high school mathematics. Prospective majors are strongly urged to satisfy part of their science group requirement with an introductory calculus sequence and the combination of mathematics and computer and information science required for the bachelor of science degree, to be taken in the freshman or sophomore year. Suggested preparation for second-year college transfer students is

1. the equivalents of EC 201 Introduction to Economic Analysis: Microeconomics and EC 202 Introduction to Economic Analysis: Macroeconomics and
2. the equivalents of MATH 251 Calculus I, MATH 252 Calculus II—or MATH 241 Calculus for Business and Social Science I, MATH 242 Calculus for Business and Social Science II for students not intending to pursue graduate training in economics—as well as MATH 243 Introduction to Methods of Probability and Statistics.

Career and Advising Services

The Career and Advising Services office in the Department of Economics provides academic planning and career development support for economics majors and minors. This includes advice about courses, minors, and concentrations, as well as assistance with résumés, job and internship search, and interviewing preparation. Career opportunities in economics include technical roles (actuarial, data analyst, financial analyst, researcher, consulting) as well as less technical roles (management, sales, human resources). Common employers include banks, financial institutions, government agencies, corporations, small businesses, and nonprofit organizations.

Online Economics Courses

Code	Title	Credits
EC 201	Introduction to Economic Analysis: Microeconomics	4
EC 202	Introduction to Economic Analysis: Macroeconomics	4
EC 313	Intermediate Macroeconomic Theory	4
EC 320	Introduction to Econometrics	4
EC 380	International Economic Issues	4
EC 421	Introduction to Econometrics	4

These courses are self-paced; the examinations are administered in the Social Sciences Instructional Laboratory for on-campus students and online for off-campus students. The courses, which must be completed within a standard ten-week term, are open to enrolled and community-education students and to high school students who want accredited university course work.

Careers

Career opportunities in economics are found in federal, state, and local government agencies; private industry; various nonprofit organizations; and journalism. A bachelor's degree in economics provides an excellent background for graduate admission in law, business, and public policy. Students with superior undergraduate academic records frequently go on to graduate work in economics, which leads to careers in higher education, economic research organizations in government, and private industry.

For more information, visit Bill Sherman (http://economics.uoregon.edu/profile/wsherman), director of career and advising services, in 475 Prince Lucien Campbell Hall.

Bachelor of Arts Degree Requirements

Code	Title	Credits
EC 201 & EC 202	Introduction to Economic Analysis: Microeconomics and Introduction to Economic Analysis: Macroeconomics [1]	8
MATH 241–242	Calculus for Business and Social Science I-II [1]	8
or MATH 251–252	Calculus I-II	
or MATH 261–262	Calculus with Theory I-II	
MATH 243	Introduction to Methods of Probability and Statistics [1]	4
EC 311 & EC 313	Intermediate Microeconomic Theory and Intermediate Macroeconomic Theory [2,3,4]	8
EC 320 & EC 421	Introduction to Econometrics and Introduction to Econometrics [2,3]	8

or EC 423–424	Econometrics	
Economics courses numbered 300 or above [3,5]		28

1. Should be completed by the end of the sophomore year.
2. Should be completed by the end of the junior year.
3. At least 28 of the 44 required upper-division credits required for the major (i.e., EC 311 Intermediate Microeconomic Theory, EC 313 Intermediate Macroeconomic Theory, EC 320 Introduction to Econometrics, EC 421 Introduction to Econometrics, and the 28 required field course credits) must be taken at the University of Oregon
4. Students cannot receive credit for both EC 311 and FIN 311.
5. At least 20 credits in courses numbered 400 or above. No more than 8 of the 28 credits may be in courses numbered 401, 404, 405, 407, or 408; no more than 2 credits in course numbered 407 may count toward the 8 of the 28 credits.

Grades of C– or better in courses taken to satisfy major requirements.

Bachelor of Science Degree Requirements

Code	Title	Credits
EC 201 & EC 202	Introduction to Economic Analysis: Microeconomics and Introduction to Economic Analysis: Macroeconomics [1]	8
MATH 241–242	Calculus for Business and Social Science I-II [1]	8
or MATH 251–252	Calculus I-II	
or MATH 261–262	Calculus with Theory I-II	
MATH 243	Introduction to Methods of Probability and Statistics [1]	4
EC 311 & EC 313	Intermediate Microeconomic Theory and Intermediate Macroeconomic Theory [2,3,4]	8
EC 320 & EC 421	Introduction to Econometrics and Introduction to Econometrics [2,3]	8
or EC 423–424	Econometrics	
Economics courses numbered 300 or above [3,5]		28

1. Should be completed by the end of the sophomore year.
2. Should be completed by the end of the junior year.
3. At least 28 of the 44 required upper-division credits required for the major (i.e., EC 311 Intermediate Microeconomic Theory, EC 313 Intermediate Macroeconomic Theory, EC 320 Introduction to Econometrics, EC 421 Introduction to Econometrics, and the 28 required field course credits) must be taken at the University of Oregon
4. Students cannot receive credit for both EC 311 and FIN 311.
5. At least 20 credits in courses numbered 400 or above. No more than 8 of the 28 credits may be in courses numbered 401, 404, 405, 407, or 408; no more than 2 credits in course numbered 407 may count toward the 8 of the 28 credits.

Grades of C– or better in courses taken to satisfy major requirements.

Courses Offered Pass/No Pass Only

Code	Title	Credits
EC 401	Research: [Topic]	1-21
EC 404	Internship	1-4
EC 405	Reading and Conference: [Topic]	1-21
EC 408	Workshop: [Topic]	1-21

EC 320 Introduction to Econometrics (or EC 423 Econometrics) is a prerequisite for almost all 400-level courses. EC 311 Intermediate Microeconomic Theory and sometimes EC 313 Intermediate Macroeconomic Theory are as well. Because MATH 242 Calculus for Business and Social Science II and MATH 243 Introduction to Methods of Probability and Statistics are prerequisites for EC 320 Introduction to Econometrics, it is important for students to take those courses early. See the course listings for details on prerequisites.

Advanced Options

Students interested in pursuing graduate work in economics, or who otherwise wish to pursue a more advanced track, may make any or all of the substitutions displayed to the standard requirements for the major.

Code	Title	Credits
EC 201 & EC 202	Introduction to Economic Analysis: Microeconomics and Introduction to Economic Analysis: Macroeconomics [1]	8
MATH 251–252	Calculus I-II [2]	8
or MATH 261–262	Calculus with Theory I-II	
EC 423–424	Econometrics [1,3]	8
EC 411 & EC 413	Advanced Microeconomic Theory and Advanced Macroeconomic Theory [4,5]	8
Economics courses numbered 300 or above [3,4]		28
Any upper-division mathematics course in statistics in place of MATH 243		4

1. Should be completed by the end of the sophomore year.
2. In place of Calculus for Business and Social Science I-II (MATH 241–242).
3. In place of Introduction to Methods of Probability and Statistics (MATH 243), Introduction to Econometrics (EC 320), and Introduction to Econometrics (EC 421). Econometrics (EC 425) is recommended but not required. These can also count as 400-level field courses if one has already taken Introduction to Econometrics (EC 320) and Introduction to Econometrics (EC 421).
4. Take either course or both courses in place of Intermediate Microeconomic Theory (EC 311) and Intermediate Macroeconomic Theory (EC 313). If Intermediate Microeconomic Theory (EC 311) and/or Intermediate Macroeconomic Theory (EC 313) have already been taken, these 400-level courses may be used as field courses. Should be completed by the end of the junior year.
5. At least 28 of the 44 required upper-division credits required for the major must be taken at the University of Oregon.

Departmental Honors

Qualified students may apply to graduate with honors in economics. Two requirements must be met:

1. Completion of upper-division economics courses with at least a 3.50 grade point average
2. Completion of a research paper, written under the guidance of a faculty member, for 4 credits in EC 401 Research: [Topic]. A copy of the completed paper, approved by the faculty advisor, must be presented to the department by Friday of the week before final examinations during the term the student plans to graduate

Students interested in honors also should consider taking EC 418 Economic Analysis of Community Issues I and EC 419 Economic Analysis of Community Issues II. Instructor approval is required for EC 418–419. Students who intend to satisfy these requirements should notify the director of undergraduate studies early in the term in which they intend to graduate.

Professional Concentrations

Given the breadth of a degree in economics, students have the opportunity to choose one or more professional concentrations that are consistent with their career goals. Suggested course work for seven professional concentrations is described below. Sample programs for each concentration, descriptions of career possibilities, and recommendations for additional preparation are available in the Academic Support Office or with any economics advisor.

Please note, these concentrations represent suggested guides to a potential path through the economics major. Students need not "declare" a concentration, and a chosen concentration will not appear on any transcripts or graduation material. They are intended to be useful in helping select courses that will most likely match student interests.

Business Economics—Banking and Finance

1. Complete major requirements including

Code	Title	Credits
EC 370	Money and Banking	4
or EC 470	Monetary Policy	
or EC 471	Monetary Theory	
EC 360	Issues in Industrial Organization	4
or EC 460	Theories of Industrial Organization	
or EC 484	Multinational Corporations	
EC 380	International Economic Issues	4
or EC 480	International Finance	
or EC 481	International Trade	
or EC 482	Economics of Globalization	

2. Complete a minor or approved equivalent in business administration

Business Economics—Management, Marketing, and Accounting

1. Complete major requirements including

Code	Title	Credits
EC 350	Labor Market Issues	4
or EC 450	Labor Economics	
EC 430	Urban and Regional Economics	4
or EC 432	Economy of the Pacific Northwest	
or EC 440	Public Economics	
EC 360	Issues in Industrial Organization	4
or EC 460	Theories of Industrial Organization	
or EC 484	Multinational Corporations	

2. Complete a minor or approved equivalent in business administration

Economics and Public Policy and Administration

1. Complete major requirements including

Code	Title	Credits
EC 340	Issues in Public Economics	4
or EC 440	Public Economics	
EC 430	Urban and Regional Economics	4
or EC 432	Economy of the Pacific Northwest	
or EC 462	Economics of Transportation	
EC 360	Issues in Industrial Organization	4
or EC 441	Public Economics: Taxation	
or EC 460	Theories of Industrial Organization	
or EC 484	Multinational Corporations	
EC 350	Labor Market Issues	4
or EC 450	Labor Economics	

2. Complete a minor or equivalent in political science or planning, public policy and management

Environmental Economics

1. Complete major requirements including

Code	Title	Credits
EC 333	Resource and Environmental Economic Issues	4
EC 340	Issues in Public Economics	4
or EC 440	Public Economics	
EC 434	Environmental Economics	4
or EC 435	Natural Resource Economics	

2. Complete the environmental studies minor or an approved equivalent

Graduate Preparation in Economics and Mathematical Economics

1. Complete major requirements including

Code	Title	Credits
EC 411	Advanced Microeconomic Theory	4
or EC 413	Advanced Macroeconomic Theory	
MATH 251–252	Calculus I-II	8
or MATH 261–262	Calculus with Theory I-II	
EC 423 & EC 424	Econometrics and Econometrics	8
EC 427	Games and Decisions	4
or EC 428	Behavioral and Experimental Economics	

2. Complete a minor in mathematics

International and Development Economics

1. Complete major requirements including

Code	Title	Credits
EC 480 & EC 481	International Finance and International Trade	8
EC 390	Problems and Issues in the Developing Economies	4
or EC 490	Economic Growth and Development	
or EC 491	Issues in Economic Growth and Development	
EC 360	Issues in Industrial Organization	4
or EC 460	Theories of Industrial Organization	
or EC 484	Multinational Corporations	
EC 370	Money and Banking	4
or EC 470	Monetary Policy	
or EC 471	Monetary Theory	
or EC 482	Economics of Globalization	

2. Complete a minor or the equivalent in business administration, political science, history, international studies, or an area studies program

Law and Economics and Political Economy

1. Complete major requirements including

Code	Title	Credits
EC 340	Issues in Public Economics	4
or EC 440	Public Economics	
EC 350	Labor Market Issues	4
or EC 450	Labor Economics	
EC 360	Issues in Industrial Organization	4
or EC 460	Theories of Industrial Organization	
or EC 484	Multinational Corporations	
EC 441	Public Economics: Taxation	4
or EC 448	Political Economy	
EC 427	Games and Decisions	4

2. Complete a minor or equivalent in political science

Economics Minor

Code	Title	Credits
EC 201	Introduction to Economic Analysis: Microeconomics	4
EC 202	Introduction to Economic Analysis: Macroeconomics	4
EC 311	Intermediate Microeconomic Theory	4
EC 313	Intermediate Macroeconomic Theory	4
Two additional upper-division 4-credit courses in economics		8
Total Credits		24

Two of the four upper-division 4-credit courses must be taken from the UO economics department. Minor requirements cannot be satisfied with EC 401 Research: [Topic], EC 404 Internship, EC 405 Reading and Conference: [Topic], EC 407 Seminar: [Topic], or EC 408 Workshop: [Topic]. Courses applied to the economics minor must be completed with grades of C– or better.

Kindergarten through Secondary Teaching Careers

Students who complete a degree in economics are eligible to apply to the College of Education's fifth-year licensure program in middle-secondary teaching or the fifth-year licensure program in elementary teaching. More information is available in the **College of Education** section of this catalog.

Four-Year Degree Plan

The degree plan shown is only a sample of how students may complete their degrees in four years. There are alternative ways. Students should consult their advisor to determine the best path for them.

Bachelor of Arts in Economics

Course	Title	Credits	Milestones
First Year			
Fall			
MATH 111	College Algebra	Initial math placement determined by testing	4
WR 121	College Composition I		4
General-education course in social science			4
First term of first-year second-language sequence		Initial language placement determined by testing	5
	Credits		17
Winter			
EC 201	Introduction to Economic Analysis: Microeconomics		4
MATH 241 or MATH 251	Calculus for Business and Social Science I or Calculus I	MATH 112 or sufficient placement test score required for MATH 251; students considering graduate work in economics should take MATH 251 and 252 to enable them to take upper-division math courses	4

General-education course in social science			4
Second term of first-year second-language sequence			5
	Credits		17
Spring			
WR 122 or WR 123	College Composition II or College Composition III	Complete writing requirement by the end of the first year	4
EC 202	Introduction to Economic Analysis: Macroeconomics	Complete EC 201 and 202 by the end of the first year	4
MATH 242 or MATH 252	Calculus for Business and Social Science II or Calculus II		4
Third term of first-year second-language sequence			5
	Credits		17
	Total Credits		51

Course	Title		Credits Milestones
Second Year			
Fall			
MATH 243	Introduction to Methods of Probability and Statistics		4
EC 311	Intermediate Microeconomic Theory		4
General-education course in social science			4
First term of second-year second-language sequence			5
	Credits		17
Winter			
EC 313	Intermediate Macroeconomic Theory		4
General-education course in science			4
Multicultural course			4
Second term of second-year second-language sequence			5
	Credits		17
Spring			
EC 320	Introduction to Econometrics	Complete EC 311, EC 313, and EC 320 by the end of the second year	4
General-education course in arts and letters			4
Multicultural course			4
Third term of second-year second-language sequence			5
	Credits		17
	Total Credits		51

Course	Title		Credits Milestones
Third Year			
Fall			
Upper-division EC course			4
Group-satisfying course in arts and letters			4
Elective courses		Possible requirement for second major or minor	8
	Credits		16
Winter			
EC 421	Introduction to Econometrics		4
Upper-division EC course			4
Group-satisfying course in arts and letters			4
Elective course		Possible requiremer for second major or minor	4
	Credits		16
Spring			
Upper-division EC course			4
Group-satisfying course in arts and letters			4
Elective courses			8
	Credits		16
	Total Credits		48

Course	Title		Credits Milestones
Fourth Year			
Fall			
Upper-division EC course			4
Elective courses		Possible requiremer for second major or minor	8
	Credits		12
Winter			
Upper-division EC courses			8
Elective courses		Possible requirement for second major or minor	4
	Credits		12
Spring			
Upper-division EC course			4

Elective courses		Possible requiremer for second major or minor	8
	Credits		12
	Total Credits		36

Bachelor of Science in Economics

Course	Title		Credits Milestones
First Year			
Fall			
BA 101	Introduction to Business		4
MATH 111 or MATH 112	College Algebra or Elementary Functions		4
WR 121	College Composition I		4
General-education course in arts and letters			4
	Credits		16
Winter			
EC 201	Introduction to Economic Analysis: Microeconomics		4
MATH 241 or MATH 251	Calculus for Business and Social Science I or Calculus I	MATH 112 or sufficient placement test score required for MATH 251; students considering graduate work in economics should take MATH 251 and 252 to enable them to take upper-division mathematics courses	4
General-education course in arts and letters			4
General-education course in social science			4
	Credits		16
Spring			
WR 122 or WR 123	College Composition II or College Composition III		4
EC 202	Introduction to Economic Analysis: Macroeconomics		4
MATH 242 or MATH 252	Calculus for Business and Social Science II or Calculus II		4
General-education course in arts and letters			4
	Credits		16
	Total Credits		48

Course	Title		Credits Milestones
Second Year			
Fall			
MATH 243	Introduction to Methods of Probability and Statistics		4
EC 311	Intermediate Microeconomic Theory		4
General-education course in social science			4
General-education course in science			4
	Credits		16
Winter			
EC 313	Intermediate Macroeconomic Theory		4
General-education course in arts and letters			4
General-education course in science			4
Multicultural course			4
	Credits		16
Spring			
EC 320	Introduction to Econometrics		4
General-education course in science			4
Elective courses		Possible requirement for second major or minor	8
	Credits		16
	Total Credits		48

Course	Title		Credits Milestones
Third Year			
Fall			
Upper-division EC course			4
Elective courses		Possible requiremer for second major or minor	8
Multicultural course			4
	Credits		16
Winter			
EC 421	Introduction to Econometrics		4
Upper-division EC course			4

Elective courses		Possible requirement for second major or minor	8
	Credits		16
Spring			
Upper-division EC course			4
Elective courses			12
	Credits		16
	Total Credits		48

Course	Title	Credits	Milestones
Fourth Year			
Fall			
Upper-division elective EC course			4
Elective courses		Possible requiremer for second major or minor	8
	Credits		12
Winter			
Upper-division EC courses			8
Elective courses		Possible requirement for second major or minor	4
	Credits		12
Spring			
Upper-division EC course			4
Elective courses		Possible requiremer for second major or minor	8
	Credits		12
	Total Credits		36

- **Master of Arts**
- **Master of Science**
- **Doctor of Philosophy**

Graduate Studies

The Department of Economics offers graduate work leading to the degrees of master of arts (MA), master of science (MS), and doctor of philosophy (PhD). Graduate fields include macroeconomics; applied econometrics; game theory; economic growth and development; industrial organization; and international, labor, public, environmental, and behavioral-experimental economics. A detailed description of degree requirements may be obtained from the department website.

General information about graduate work at the University of Oregon is available in the **Graduate School** section of this catalog.

Applicants for admission must submit the following to the department:

1. Scores on the general test of the Graduate Record Examinations (GRE), sent by the testing center
2. Three letters of recommendation
3. Complete transcripts of previous work sent by the issuing institutions
4. A brief statement of purpose or personal statement
5. Curriculum vitae or résumé

At minimum, applicants should have substantial knowledge of intermediate economic theory and of mathematics equivalent to:

Code	Title	Credits
EC 311	Intermediate Microeconomic Theory	4
EC 313	Intermediate Macroeconomic Theory	4
MATH 251	Calculus I	4
MATH 252	Calculus II	4
MATH 253	Calculus III	4
MATH 281	Several-Variable Calculus I	4
MATH 341	Elementary Linear Algebra	4
MATH 243	Introduction to Methods of Probability and Statistics	4
or MATH 425	Statistical Methods I	

Strong grades in economics and mathematics courses, in addition to scholarly potential, will be valued by the admissions committee.

Applicants whose native language is not English must also submit their scores on the Test of English as a Foreign Language Internet-Based Test or the International English Language Testing System examination. Applicants to the master's program may waive this requirement if they received a bachelor's degree from an accredited institution in the United States, Australia, Canada (excluding Quebec), Ireland, New Zealand, or the United Kingdom.

Master's Degree

The Department of Economics offers an intensive one-academic-year master's degree. Students gain applied skills in microeconomics, macroeconomics, and econometrics while specializing through elective courses. The program prepares students for consulting, applied research, and data science careers in private industry and government. The program also offers outstanding preparation for students interested in pursuing a PhD in economics.

The master's degree program consists of the following departmental requirements in addition to university and Graduate School requirements for the master of arts (MA) or the master of science (MS) degree. Each master's degree candidate chooses either the course work or the research option.

Credit Requirements

The course work option requires a minimum of 48 graduate credits. The research option requires a minimum of 45 graduate credits if the candidate writes a research paper or a minimum of 51 graduate credits if the candidate writes a thesis.

Master of Arts Degree Requirements

Code	Title	Credits
Core Courses		
EC 523–525	Econometrics [1]	12
EC 511	Advanced Microeconomic Theory [1]	4
EC 513	Advanced Macroeconomic Theory [1]	4
Elective Economics Courses [2]		
Option 1: Course work		
Seven elective courses taken at the 500 level.		
Option 2: Research		
Five elective courses taken at the 500 level. [3]		

1. To be completed by the end of the first full academic year.
2. Excluding EC 503 Thesis. PhD students who transfer to the master's program and who have completed the micro- and macroeconomics core courses (EC 607 Seminar: [Topic]) may apply those courses to master's degree requirements.
3. No more than 5 credits in EC 601 Research: [Topic] may be applied to the 45-credit minimum for the research paper and no more than 9 credits in EC 503 Thesis may be applied to the 51-credit minimum for the thesis.

Master of Science Degree Requirements

Code	Title	Credits
Core Courses		
EC 523–525	Econometrics [1]	12
EC 511	Advanced Microeconomic Theory [1]	4
EC 513	Advanced Macroeconomic Theory [1]	4
Elective Economics Courses [2]		
Option 1: Course work		
Seven elective courses taken at the 500 level.		
Option 2: Research		
Five elective courses taken at the 500 level. [3]		

1. To be completed by the end of the first full academic year.
2. Excluding EC 503 Thesis. PhD students who transfer to the master's program and who have completed the micro- and macroeconomics core courses (EC 607 Seminar: [Topic]) may apply those courses to master's degree requirements.
3. No more than 5 credits in EC 601 Research: [Topic] may be applied to the 45-credit minimum for the research paper and no more than 9 credits in EC 503 Thesis may be applied to the 51-credit minimum for the thesis.

The thesis or research paper, on a topic from the area of economics in which a 500-level field course was taken, must be approved by two department faculty members. The candidate's committee must have approved a prospectus for the thesis or research paper before the term in which the thesis or research paper is approved.

Courses taken to satisfy master's degree requirements (except EC 503 Thesis, EC 601 Research: [Topic], and EC 605 Reading and Conference: [Topic]) must be taken for letter grades and completed with at least a 3.00 cumulative grade point average. A GPA below the level of 3.00 at any time during a graduate student's studies or the accumulation of more than 5 credits of N or F grades, regardless of GPA, is considered unsatisfactory and may lead to termination from the program.

Unless on-leave status has been approved, a student must attend the university continuously until all program requirements have been completed. The student must register for 3 graduate credits each term, excluding summer sessions, to be continuously enrolled. A minimum of 30 credits toward the master's degree must be taken in residence over a period of at least two terms.

Substitutions and Waivers

Substitutions of alternative courses or courses taken elsewhere require the joint approval of the master's program committee and the department head before they can be counted toward the credit minimum. Any other waivers or exceptions to departmental requirements require the approval of the department faculty.

Time Limits

Students who choose the course work option must complete all the master's degree requirements within three years. Students who choose the research option must complete all the master's degree requirements within five years.

The master's degree typically requires five to six terms of full-time work. A few well-qualified students have satisfied requirements for the degree in four terms.

Doctor of Philosophy

Degree Requirements

A PhD in economics prepares students to teach at liberal arts and research universities; to work in state, federal, and international organizations; and to conduct research or work as a consultant for private industry. Graduate students seeking the PhD degree in economics at the University of Oregon must complete the following departmental requirements as well as all university requirements. Except for EC 601 Research: [Topic], EC 603 Dissertation, EC 605 Reading and Conference: [Topic], and EC 609 Practicum: [Topic], economics courses must be taken for letter grades.

Code	Title	Credits
Microeconomic theory (three terms) [1]		
Macroeconomics theory (three terms) [1]		
Econometrics (three terms) [1]		
EC 607	Seminar: [Topic] (two-term sequences) [2]	1-5
EC 601	Research: [Topic] [3]	6
EC 607	Seminar: [Topic] (five courses) [4]	1-5
EC 603	Dissertation [4]	18

[1] Students who complete these courses with a GPA of 2.90 or higher will be invited to take the qualifying examination in microeconomic and macroeconomic theory when it is offered in early summer. Records of students whose GPA is lower than 2.90 are evaluated to determine eligibility for the qualifying examination. Students who fail the qualifying examination may be asked to retake it early the following September. Students who pass the qualifying examination but have a GPA less than 3.00 in econometrics must take a competency examination in econometrics, which is administered the Thursday before the first week of fall classes. Students who fail the competency examination must retake each econometrics course in which they received a grade of less than B and pass it with a grade of B or better. Students must file an approved program of study by December 15 following the qualifying examination.

[2] Sequences in two fields of economics must be completed with a 3.00 GPA or better. Credit for Research: [Topic] (EC 601), Dissertation (EC 603), Reading and Conference: [Topic] (EC 605), or Practicum: [Topic] (EC 609) cannot be counted toward the field requirement.

[3] By winter term of the third year, a research paper for at least 6 credits must be completed in one of the fields and approved by two members of the faculty with specialties in that field

[4] Must be taken outside the two fields of economics previously chosen and completed with a 3.00 GPA or better. Credit for Research: [Topic] (EC 601), Dissertation (EC 603), Reading and Conference: [Topic] (EC 605), or Practicum: [Topic] (EC 609) cannot be counted toward the field requirement. Advancement to candidacy may be requested after the student has completed the above requirements and orally defended a prospectus for the dissertation, which must include a minimum of 6 credits in Research: [Topic] (EC 601). Students must be enrolled for at least 3 credits during the term of advancement.

[5] The dissertation must be a significant contribution to the field and must be completed in conjunction with at least 18 credits of Dissertation (EC 603). A formal, public defense must take place on the UO campus at a date set by the committee chair and approved by the Graduate School.

Time Limits

The seven-year time limit for completion of PhD degree requirements begins with the first term of admission—either conditional or unconditional—as a doctoral student at the university. The required year of residency on the Eugene campus, passing of comprehensive examinations for advancement to candidacy, and completion of the doctoral dissertation must all be accomplished within this seven-year limit.

Courses other than those described above and courses taken elsewhere may not be substituted without approval of the PhD program committee and the department head. In no instance can the qualifying examination be waived.

Students in the PhD program may apply to be awarded a master's degree upon completion of the master's program requirements and the approval of the master's program advisor.

Detailed information is given on the department's website.

Support Services

College of Arts and Sciences Data Services Laboratory

Garron Hale, Director
541-346-1335
451 McKenzie Hall

The College of Arts and Sciences Data Services Laboratory specializes in data acquisition, access to online data, and the archiving of local data. The laboratory's membership in the Interuniversity Consortium for Political and Social Research entitles the university community to order data from the largest data archive in the world. Data available to consortium members include the panel study of income dynamics, international financial statistics, census data, national crime statistics, and current population surveys. The laboratory also participates in the National Center for Health Statistics' electronic data dissemination program. The laboratory stores data from the panel study of income dynamics, international financial statistics, World Development Indicators, Global Insight, and the Organization for Economic Cooperation and Development. Users can easily obtain data at their desks by using file transfer protocol (FTP).

Laboratory services include using the Internet to locate data, ordering data, subsidizing data purchases, creating subsets of those data, and offering users advice on data structures. The laboratory also archives data sets generated by campus researchers.

Social Science Instructional Laboratory

Garron Hale, Director
541-346-2547
442 and 445 McKenzie Hall

The Social Science Instructional Laboratory is an advanced microcomputer laboratory that facilitates teaching with technology. Staff members assist social science instructors with educational technology applications, computer classroom laboratories, distance education course design, and course testing software. Staff members teach students computer applications, offer consulting services, provide students with access to real-world data, and provide research assistance to social science graduate students. Any UO student may use the laboratory when it is not in use by a class.

The facility consists of a twenty-six-station laboratory, a thirty-six-station laboratory, and an eight-station advanced lab. All three have state-of-the-art computers with fast processors and ample RAM and storage in a campus-networked environment. The two larger classroom laboratories are equipped with an instructor station, teaching software, a wheelchair-accessible station, a scanner, and a computer projector system. Printing capabilities include color laser printers and a large-format plotter. The classroom laboratories have a large selection of statistical software and software for geographic information systems, web editing, graphics, and specific class needs.

The Social Science Instructional Laboratory houses the instructional geographic information systems (GIS) laboratory, in which students can use the powerful ArcInfo software to create maps and conduct spatial analyses.

Courses

EC 101. Contemporary Economic Issues. 4 Credits.
Examines contemporary public policy using economic principles. Topics may include balanced budgets and tax reform, unemployment, health care, poverty and income redistribution, environmental policy, and international trade policy.

EC 199. Special Studies: [Topic]. 1-5 Credits.
Repeatable.

EC 201. Introduction to Economic Analysis: Microeconomics. 4 Credits.
Examines how consumers, firms, and governments make decisions when facing scarce resources and how those decisions affect market outcomes, such as prices and output. MATH 111 recommended.

EC 202. Introduction to Economic Analysis: Macroeconomics. 4 Credits.
Examines the aggregate activity of a market economy, the problems that arise, such as inflation and unemployment, and how the government can use macroeconomic policy to address these problems. EC 201 recommended.

EC 311. Intermediate Microeconomic Theory. 4 Credits.
Consumer and firm behavior, market structures. General equilibrium theory, welfare economics, collective choice, rules for evaluating economic policy. Students cannot receive credit for both EC 311 and FIN 311.
Prereq: EC 201, MATH 111.

EC 313. Intermediate Macroeconomic Theory. 4 Credits.
Determination of aggregate income, employment, and unemployment; evaluation of macroeconomic policies.
Prereq: EC 202, MATH 111; EC 311 strongly recommended.

EC 320. Introduction to Econometrics. 4 Credits.
Application of classical statistical techniques of estimation, hypothesis testing, and regression to economic models. Includes laboratory section in Social Science Instructional Laboratory.
Prereq: MATH 242, 243.

EC 327. Introduction to Game Theory. 4 Credits.
Introductory course in game theory. Develops game-theoretic methods of rational decision making and equilibriums, using many in-class active games. Ellis.
Prereq: one from EC 101, 201.

EC 330. Urban and Regional Economic Problems. 4 Credits.
Topics may include urban and metropolitan growth, land use, race and poverty, education systems, slums and urban renewal, transportation, crime, and pollution and environmental quality.
Prereq: EC 201.

EC 333. Resource and Environmental Economic Issues. 4 Credits.
Economic analysis of replenishable and nonreplenishable natural resources; environmental issues and policies.
Prereq: EC 201.

EC 340. Issues in Public Economics. 4 Credits.
Principles and problems of government financing. Expenditures, revenues, debt, and financial administration. Production by government versus production by the private sector. Tax measures to control externalities.
Prereq: EC 201.

EC 350. Labor Market Issues. 4 Credits.
Topics may include the changing structure of employment, the minimum wage, the dual labor market hypothesis, collective bargaining, discrimination, and health and safety regulation.
Prereq: EC 201.

EC 360. Issues in Industrial Organization. 4 Credits.
Topics may include analysis of market power, trends in industrial structure, the role of advertising, pricing policies and inflation, impact of social regulation (e.g., OSHA, EPA), and international comparisons.
Prereq: EC 201.

EC 370. Money and Banking. 4 Credits.
Operations of commercial banks, the Federal Reserve System, and the Treasury that affect the United States monetary system.
Prereq: EC 202.

EC 380. International Economic Issues. 4 Credits.
Exchange across international boundaries, theory of comparative advantage, balance of payments and adjustments, international financial movements, exchange rates and international financial institutions, trade restrictions and policy.
Prereq: EC 201.

EC 390. Problems and Issues in the Developing Economies. 4 Credits.
Topics may include the role of central planning, capital formation, population growth, agriculture, health and education, interaction between economic and cultural change, and the "North-South debate."
Prereq: EC 201.

EC 399. Special Studies: [Topic]. 1-5 Credits.
Repeatable.

EC 401. Research: [Topic]. 1-21 Credits.
Repeatable.

EC 404. Internship. 1-4 Credits.
Repeatable for maximum of 4 credits.

EC 405. Reading and Conference: [Topic]. 1-21 Credits.
Repeatable.

EC 407. Seminar: [Topic]. 1-5 Credits.
Repeatable only when the topic changes. Yearly offerings vary depending on interests and needs of students and on availability of faculty members.

EC 408. Workshop: [Topic]. 1-21 Credits.
Repeatable.

EC 410. Experimental Course: [Topic]. 1-5 Credits.
Repeatable only when the topic changes.
Prereq: EC 311; EC 313; one from EC 320, EC 423.

EC 411. Advanced Microeconomic Theory. 4 Credits.
Advanced theory of consumer and firm behavior, market structures.
Prereq: one from MATH 253, MATH 263.

EC 413. Advanced Macroeconomic Theory. 4 Credits.
Advanced theory about the determination of aggregate income, employment, unemployment; evaluation of macroeconomic policies.
Prereq: one from MATH 253, MATH 263.

EC 418. Economic Analysis of Community Issues I. 2 Credits.
Hands-on experience applying economic analysis and econometrics to problems that face local community nonprofits and government agencies.
Prereq: EC 311, EC 313; one from EC 320, EC 423.

EC 419. Economic Analysis of Community Issues II. 4 Credits.
Hands-on experience applying economic analysis and econometrics to problems that face local community nonprofits and government agencies.
Prereq: EC 311,320.

EC 421. Introduction to Econometrics. 4 Credits.
Application of classical statistical techniques of estimation, hypothesis testing, and regression to economic models.
Prereq: one from EC 320, EC 423.

EC 422. Economic Forecasting. 4 Credits.
Basic techniques of economic forecasting that are typically used in a business environment.
Prereq: one from EC 320, EC 423; coreq: one from EC 421, EC 424.

EC 423. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: MATH 281, 341; MATH 282 and 461 strongly recommended.

EC 424. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: one from EC 423, EC 523.

EC 425. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: one from EC 424, EC 524.

EC 427. Games and Decisions. 4 Credits.
Game-theoretic methods of decision-making. Topics may include extensive-form games, noncredible threats, subgame perfect equilibrium, strategic-form games, undominated strategies, Nash equilibrium, coalitional games, and the core.
Prereq: EC 311; one from EC 320, EC 423.

EC 428. Behavioral and Experimental Economics. 4 Credits.
Investigates the "rational choice" model and behavioral alternatives, using laboratory experiments. Topics may include altruism, auctions, bargaining, behavioral finance, hyperbolic discounting, and decision-making under uncertainty.
Prereq: EC 311; one from EC 320, EC 423.

EC 430. Urban and Regional Economics. 4 Credits.
Location theory; urbanization and metropolitan growth; regional analysis; intraurban rent, location and land use, size distribution of urban areas; welfare economics, political economy, and urban problems.
Prereq: EC 311; one from EC 320, EC 423.

EC 432. Economy of the Pacific Northwest. 4 Credits.
Locational factors influencing development of the region's major industries; recent changes in income and population; problems and governmental policies in the areas of taxation, environment, and planning.
Prereq: EC 311; one from EC 320, EC 423.

EC 434. Environmental Economics. 4 Credits.
Introduction to the field that includes theoretical environmental policy, issues in environmental regulation, and empirical techniques used by practitioners.
Prereq: EC 311; one from EC 320, EC 423.

EC 435. Natural Resource Economics. 4 Credits.
Applications of economic theory and empirical methods to natural resources problems: ecosystems and renewable resources (land, water, fisheries, forests); exhaustible resources (energy, minerals).
Prereq: EC 311, EC 320.

EC 440. Public Economics. 4 Credits.
Theory of public goods and their optimal provision. Collective choice versus private choice and implications for resource allocation and efficiency.
Prereq: EC 311; one from EC 320, EC 423.

EC 441. Public Economics: Taxation. 4 Credits.
Theory of taxation, analysis of tax policy, and theory of government debt and budget deficits.
Prereq: EC 311; one from EC 320, EC 423.

EC 443. Health Economics. 4 Credits.
Includes moral hazard and adverse selection; incentives faced by health care providers through reimbursement, managed care, and malpractice; rationale for government intervention in the health care sector.
Prereq: EC 311; one from EC 320, EC 423.

EC 448. Political Economy. 4 Credits.
Covers the economic problems that arise when the government is a self-interested actor in the economy. We study political agency, voting, the economic origins of political institutions and the size and number of nations.
Prereq: EC 311, EC 313, EC 320.

EC 450. Labor Economics. 4 Credits.
Supply and demand for labor, wage determination under various market structures, minimum wage and worker exploitation, human capital investments, labor market signaling and sorting, discrimination, uncertainty, and job matching.
Prereq: EC 311; one from EC 320, EC 423.

EC 451. Issues in Labor Economics. 4 Credits.
Topics may include the determination of wages, employment, and unemployment; globalization and immigration; income inequality; internal labor markets; the role of unions; human capital, education, and schools.
Prereq: EC 311; one from EC 320, EC 423.

EC 460. Theories of Industrial Organization. 4 Credits.
Theories, quantitative measures, and institutional descriptions of the structure, conduct, and results that characterize American industry. Emphasis is on the determinants and consequences of market power.
Prereq: EC 311; one from EC 320, EC 423.

EC 461. Industrial Organization and Public Policy. 4 Credits.
Major policy instruments that have been developed to cope with social problems created by market power. The two principal instruments are antitrust and income policies.
Prereq: EC 311; one from EC 320, EC 423.

EC 462. Economics of Transportation. 4 Credits.
Examines economic transportation issues and models, including regulation, demand-cost modeling, productivity analysis, random utility and choice modeling, and spatial economics.
Prereq: EC 311; one from EC 320, EC 423.

EC 470. Monetary Policy. 4 Credits.
Federal Reserve System strategies and methods of monetary and credit control. Effects of federal policies on prices, output, and employment.
Prereq: EC 313; one from EC 320, EC 423.

EC 471. Monetary Theory. 4 Credits.
Money creation, deficit finance, and taxation in monetary economies. Topics may include the government budget constraint, causes and consequences of inflation, Richardian equivalence, and seigniorage.
Prereq: EC 311, 313; one from EC 320, EC 423.

EC 480. International Finance. 4 Credits.
Foreign exchange markets, interaction between spot and forward markets, speculation and interest arbitrage, balance-of-payments accounting, measures of deficits and surpluses, "open-economy" macroeconomic issues.
Prereq: EC 311, 313; one from EC 320, EC 423.

EC 481. International Trade. 4 Credits.
Theories of international trade, direction of trade flows, determination of prices and volumes in international trade, tariffs, quotas, customs unions, free versus restricted trade.
Prereq: EC 311; one from EC 320, EC 423.

EC 482. Economics of Globalization. 4 Credits.
Applications of economic theories and empirical methods to globalization issues: market integration of goods and factors, international labor and environmental standards, economic growth and income inequality, financial stability, global governance.
Prereq: EC 311, EC 320.

EC 484. Multinational Corporations. 4 Credits.
Economist's perspective of multinational corporations. Explores the policies governments use to influence corporate behavior and patterns of investment; taxation as a tool for implementing public policy.
Prereq: EC 311; one from EC 320, EC 423.

EC 490. Economic Growth and Development. 4 Credits.
Experience of developed countries and theories of development. Analysis of specific development programs, role of agriculture, sources of investment, techniques and strategies of investment planning.
Prereq: EC 311, 313; one from EC 320, EC 423.

EC 491. Issues in Economic Growth and Development. 4 Credits.
Economic issues in developing countries, including use of central planning or markets, capital formation, agriculture, population growth, health and education systems, and the "North-South debate."
Prereq: EC 311, 313; one from EC 320, EC 423.

EC 493. The Evolution of Economic Ideas. 4 Credits.
Economic thought from the ancient world to the 20th century. Major schools of economic thought and their relationship to other social ideas of their times.
Prereq: EC 311, 313; one from EC 320, EC 423.

EC 503. Thesis. 1-16 Credits.
Repeatable.

EC 507. Seminar: [Topic]. 1-5 Credits.
Repeatable only when the topic changes. Yearly offerings vary depending on interests and needs of students and on availability of faculty members.

EC 508. Workshop: [Topic]. 1-21 Credits.
Repeatable.

EC 510. Experimental Course: [Topic]. 1-5 Credits.
Repeatable only when the topic changes.

EC 511. Advanced Microeconomic Theory. 4 Credits.
Advanced theory of consumer and firm behavior, market structures.

EC 513. Advanced Macroeconomic Theory. 4 Credits.
Advanced theory about the determination of aggregate income, employment, unemployment; evaluation of macroeconomic policies.

EC 522. Economic Forecasting. 4 Credits.
Basic techniques of economic forecasting that are typically used in a business environment.

EC 523. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: MATH 281, 341; MATH 282 and 461 strongly recommended.

EC 524. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: EC 423/523.

EC 525. Econometrics. 4 Credits.
Introductory topics in probability theory and statistical inference; regression problems of autocorrelation, heteroskedasticity, multicollinearity, and lagged dependent variables; special single-equation estimating techniques; the identification problem in a simultaneous equation setting; development of simultaneous equation estimating procedures.
Prereq: EC 424/524.

EC 527. Games and Decisions. 4 Credits.
Game-theoretic methods of decision-making. Topics may include extensive-form games, noncredible threats, subgame perfect equilibrium, strategic-form games, undominated strategies, Nash equilibrium, coalitional games, and the core.

EC 528. Behavioral and Experimental Economics. 4 Credits.
Investigates the "rational choice" model and behavioral alternatives, using laboratory experiments. Topics may include altruism, auctions, bargaining, behavioral finance, hyperbolic discounting, and decision-making under uncertainty.

EC 530. Urban and Regional Economics. 4 Credits.
Location theory; urbanization and metropolitan growth; regional analysis; intraurban rent, location and land use, size distribution of urban areas; welfare economics, political economy, and urban problems.

EC 532. Economy of the Pacific Northwest. 4 Credits.
Locational factors influencing development of the region's major industries; recent changes in income and population; problems and governmental policies in the areas of taxation, environment, and planning.

EC 534. Environmental Economics. 4 Credits.
Introduction to the field that includes theoretical environmental policy, issues in environmental regulation, and empirical techniques used by practitioners.

EC 535. Natural Resource Economics. 4 Credits.
Applications of economic theory and empirical methods to natural resources problems: ecosystems and renewable resources (land, water, fisheries, forests); exhaustible resources (energy, minerals).

EC 540. Public Economics. 4 Credits.
Theory of public goods and their optimal provision. Collective choice versus private choice and implications for resource allocation and efficiency.
Prereq: EC 311.

EC 541. Public Economics: Taxation. 4 Credits.
Theory of taxation, analysis of tax policy, and theory of government debt and budget deficits.

EC 543. Health Economics. 4 Credits.
Includes moral hazard and adverse selection; incentives faced by health-care providers through reimbursement, managed care, and malpractice; rationale for government intervention in the health-care sector.

EC 548. Political Economy. 4 Credits.
Covers the economic problems that arise when the government is a self-interested actor in the economy. We study political agency, voting, the economic origins of political institutions and the size and number of nations.

EC 550. Labor Economics. 4 Credits.
Supply and demand for labor, wage determination under various market structures, minimum wage and worker exploitation, human capital investments, labor market signaling and sorting, discrimination, uncertainty, and job matching.

EC 551. Issues in Labor Economics. 4 Credits.
Topics may include the determination of wages, employment, and unemployment; globalization and immigration; income inequality; internal labor markets; the role of unions; human capital, education, and schools.

EC 560. Theories of Industrial Organization. 4 Credits.
Theories, quantitative measures, and institutional descriptions of the structure, conduct, and results that characterize American industry. Emphasis is on the determinants and consequences of market power.

EC 561. Industrial Organization and Public Policy. 4 Credits.
Major policy instruments that have been developed to cope with social problems created by market power. The two principal instruments are antitrust and income policies.

EC 562. Economics of Transportation. 4 Credits.
Examines economic transportation issues and models, including regulation, demand-cost modeling, productivity analysis, random utility and choice modeling, and spatial economics.

EC 570. Monetary Policy. 4 Credits.
Federal Reserve System strategies and methods of monetary and credit control. Effects of federal policies on prices, output, and employment.

EC 571. Monetary Theory. 4 Credits.
Money creation, deficit finance, and taxation in monetary economies. Topics may include the government budget constraint, causes and consequences of inflation, Richardian equivalence, and seigniorage.

EC 580. International Finance. 4 Credits.
Foreign exchange markets, interaction between spot and forward markets, speculation and interest arbitrage, balance-of-payments accounting, measures of deficits and surpluses, "open-economy" macroeconomic issues.

EC 581. International Trade. 4 Credits.
Theories of international trade, direction of trade flows, determination of prices and volumes in international trade, tariffs, quotas, customs unions, free versus restricted trade.

EC 582. Economics of Globalization. 4 Credits.
Applications of economic theories and empirical methods to globalization issues: market integration of goods and factors, international labor and environmental standards, economic growth and income inequality, financial stability, global governance.

EC 584. Multinational Corporations. 4 Credits.
Economist's perspective of multinational corporations. Explores the policies governments use to influence corporate behavior and patterns of investment; taxation as a tool for implementing public policy.

EC 590. Economic Growth and Development. 4 Credits.
Experience of developed countries and theories of development. Analysis of specific development programs, role of agriculture, sources of investment, techniques and strategies of investment planning.

EC 591. Issues in Economic Growth and Development. 4 Credits.
Economic issues in developing countries, including use of central planning or markets, capital formation, agriculture, population growth, health and education systems, and the "North-South debate."

EC 593. The Evolution of Economic Ideas. 4 Credits.
Economic thought from the ancient world to the 20th century. Major schools of economic thought and their relationship to other social ideas of their times.

EC 601. Research: [Topic]. 1-16 Credits.
Repeatable.

EC 602. Supervised College Teaching. 1-5 Credits.
Repeatable.

EC 603. Dissertation. 1-16 Credits.
Repeatable.

EC 605. Reading and Conference: [Topic]. 1-16 Credits.
Repeatable.

EC 607. Seminar: [Topic]. 1-5 Credits.
Repeatable. Recent topics are Econometrics, Game Theory, Labor Economics, and Public Finance.

EC 608. Workshop: [Topic]. 1-16 Credits.
Repeatable.

EC 609. Practicum: [Topic]. 1-16 Credits.
Repeatable. Graduate teaching fellows may earn 3 credits a term; available to other graduate students with department head's consent.