

Economics (BSEco)

This program is an alternative to the Bachelor of Arts, designed to include a more extensive natural science curriculum that better prepares students for employment in technical and research jobs, and for graduate study in economics and related disciplines. Students interested in areas of economics that heavily utilize mathematics, statistics, data science, and computation have the opportunity to develop breadth and depth in fields that complement their areas of interest within economics. To accomplish this goal, the curriculum for the Bachelor of Science in Economics incorporates substantial emphasis on mathematics, statistics, and computer science courses.

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
<u>First-Year Signature Course (090)</u>		3
RHE 306	Rhetoric and Writing	3
ECO 304K	Introduction to Microeconomics	3
M 408K	Differential Calculus	4
<u>Natural Science and Technology, Part I (030)</u>		3
Hours		16
Semester 2		
<u>Visual and Performing Arts (050)</u>		3
ECO 304L	Introduction to Macroeconomics	3
M 408L	Integral Calculus	4
<u>Humanities (040)</u>		3
Hours		13
Year 2		
Semester 1		
<u>Natural Science and Technology, Part II (093)</u>		3
<u>American and Texas Government (070)</u>		3
ECO 329	Economic Statistics	3
<u>Foreign Language other than English, Beginning Proficiency</u>		6
ECO 101S	Professional Development and Career Planning	1
Hours		16
Semester 2		
ECO 420S	Mathematical Microeconomic Theory with Advanced Applications	4
Hours chosen from: Natural Sciences		3
<u>American and Texas Government (070)</u>		3
<u>Foreign Language other than English, Beginning Proficiency</u>		6
Hours		16
Year 3		
Semester 1		
ECO 441K	Introduction to Econometrics	4
Hours chosen from: Upper-division ECO		3
<u>U.S. History (060)</u>		3
Minor/Certificate course		3
Hours chosen from: Natural Sciences		3
Hours		16
Semester 2		
ECO 320L	Macroeconomic Theory	3
Hours chosen from: Upper-division ECO		3
Hours chosen from: Natural Sciences		3
<u>U.S. History (060)</u>		3

Minor/Certificate course	3
Hours	15
Year 4	
Semester 1	
Hours chosen from: Upper-division ECO	3
<u>Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)</u>	3
Hours chosen from: Upper-division Natural Sciences	3
Upper-division Minor/Certificate course	3
<u>Social and Behavioral Sciences (080)</u>	3
Hours	15
Semester 2	
Hours chosen from: Upper-division ECO	3
Hours chosen from: Upper-division Natural Sciences	4
Minor/Certificate course	3
Upper-division Minor/Certificate course	3
Hours	13
Total Hours	120

Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy General Education requirements, including Core Curriculum.

Code	Title	Hours
Major		
ECO 304K	Introduction to Microeconomics (with a grade of at least C-)	3
ECO 304L	Introduction to Macroeconomics (with a grade of at least C-)	3
ECO 420S	Mathematical Microeconomic Theory with Advanced Applications (with a grade of at least C-; must be completed in residence)	4
ECO 320L	Macroeconomic Theory (with a grade of at least C-; must be completed in residence)	3
ECO 329	Economic Statistics (with a grade of at least C-; must be completed in residence)	3
ECO 341K	Introduction to Econometrics (with a grade of at least C-; must be completed in residence)	3
or		
ECO 441K	Introduction to Econometrics (with a grade of at least C-; must be completed in residence)	
ECO 101S	Professional Development and Career Planning (with a grade of at least C-)	1
Hours chosen from:		
List A Electives (see course list tab)		6
List A or List B Electives (see course list tab)		3
List A, B or C Electives (see course list tab)		3
<i>Subtotal</i>		32
Degree		
<i>Literature and Writing</i>		
RHE 306	Rhetoric and Writing	3
Hours chosen from: <u>Writing intensive coursework-see course list</u> (may also be counted toward Core Curriculum; Plan II honors requires a minimum grade of C-)		3
Hours chosen from: Upper-division <u>Writing intensive coursework-see course list</u> (may also be counted toward Core Curriculum; Plan II honors requires a minimum grade of C-)		6
E 316L	British Literature	3

or E 316M	American Literature	
or E 316N	World Literature	
or E 316P	Masterworks of Literature	
<u>Foreign Language and Culture (may not also be counted toward Cultural Expression, Human Experience, and Thought)</u>		6
<u>Additional Social Science (may not also be counted toward Core Curriculum)</u>		3
<u>Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)</u>		3
<i>Mathematics, Statistics, Computer Science, and Advanced Applications</i>		
M 403K and M 403L or their equivalent may not be counted.		
Choose a sequence below: (with a minimum grade of C- in each)		8
Sequence 1:		
M 408C	Differential and Integral Calculus	
or M 408K	Differential Calculus	
or M 408N	Differential Calculus for Science	
M 408L	Integral Calculus	
Sequence 2:		
M 408C	Differential and Integral Calculus	
M 408D	Sequences, Series, and Multivariable Calculus	
Sequence 3:		
M 408C	Differential and Integral Calculus	
or M 408K	Differential Calculus	
or M 408N	Differential Calculus for Science	
M 408S	Integral Calculus for Science	
Additional Hours chosen from: (may not also be counted toward major)		16
C S 303E	Elements of Computers and Programming	
or C S 312	Introduction to Programming	
or ECE 306	Introduction to Computing	
C S 313E	Elements of Software Design	
or C S 314	Data Structures	
or ECE 312	Software Design and Implementation I	
C S 323E	Elements of Scientific Computing	
or M 348	Scientific Computation in Numerical Analysis	
or M E 318M	Programming and Engineering Computational Methods	
C S 327E	Elements of Databases	
C S 330E	Elements of Software Engineering I	
or C S 373	Software Engineering	
C S 331E	Elements of Software Engineering II	
C S 429	Computer Organization and Architecture	
C S 331	Algorithms and Complexity	
C S 363M	Principles of Machine Learning I	
or		
ECE 461P	Data Science Principles	
C S 364M	Principles of Machine Learning II	
or		
ECE 460J	Data Science Laboratory	
C S 371P	Object-Oriented Programming	
or		
ECE 422C	Software Design and Implementation II	
C S 311	Discrete Mathematics for Computer Science	
or M 325K	Discrete Mathematics	
M 328K	Introduction to Number Theory	
M 340L	Matrices and Matrix Calculations	
or M 341	Linear Algebra and Matrix Theory	
M 346	Applied Linear Algebra	
M 368K	Numerical Methods for Applications	
M 427J	Differential Equations with Linear Algebra	
or M 427K	Advanced Calculus for Applications I	
M 427L	Advanced Calculus for Applications II	
M 372K	Partial Differential Equations and Applications	
or M 374M	Mathematical Modeling in Science and Engineering	
M 362K	Probability I	
or ECE 351K	Probability and Random Processes	
or		
SDS 431	Probability and Statistical Inference	
M 378P	Decision Analytics	
M 362M	Introduction to Stochastic Processes	
M 361K	Introduction to Real Analysis	
or M 365C	Real Analysis I	
M 365D	Real Analysis II	
M 367K	Topology I	
M 358K	Applied Statistics	
or M 378K	Introduction to Mathematical Statistics	
or SDS 378	Introduction to Mathematical Statistics	
M 378N	Generalized Linear Models	
M 329F	Theory of Interest	
M 339D	Introduction to Financial Mathematics for Actuaries	
M 339G	Predictive Analytics	
M 339J	Probability Models with Actuarial Applications	
M 339U	Actuarial Contingent Payments I	
M 339V	Actuarial Contingent Payments II	
M 349P	Actuarial Statistical Estimates	
SDS 322E	Elements of Data Science	
or SDS 313	Introduction to Data Science	
SDS 326E	Elements of Statistical Machine Learning	
SDS 374E	Visualization and Data Analysis for Science and Engineering	
ECO 342L	Advanced Econometrics	
M E 366L	Operations Research Models	
M E 366Q	Deterministic Methods for Operations Research	
M E 366R	Stochastic Methods for Operations Research	
PHL 313	Introductory Symbolic Logic	
or PHL 313K	Logic, Sets, and Functions	
or PHL 313Q	Logic and Scientific Reasoning	
PHL 321K	Theory of Knowledge	
Hours chosen from: Approved list (see advisor)		
Free electives: Additional coursework to reach total hours required.		10
<i>Subtotal</i>		61
<u>General Education</u>		
<u>Remaining Core Curriculum (42 hours total)</u>		27
<u>Foreign Language other than English, Beginning Proficiency</u>		
<i>Subtotal</i>		27
<u>College Requirements - Liberal Arts</u>		
<u>General University Requirements</u>		
Total Hours		120

Additional Requirements and Policy

At least:

- 39 upper-division hours are required.
- 36 lower- or upper-division hours must be completed in residence.
- 24 upper-division hours must be completed in residence.
- a 2.00 grade point average in major hours taken in residence is required.

No student may register for more than 11 economics hours in any one semester without approval of a Department of Economics undergraduate advisor.

Students may not earn both the Bachelor of Arts with a major in economics and the Bachelor of Science in Economics.

Students in this program may pursue any Bachelor of Arts honors program in the college except for Plan II Honors.

Major hours may not also be counted toward the mathematics, statistics, computer science, and advanced applications degree requirements.

Hours may be counted toward more than one requirement only in the following cases:

1. Hours that fulfill Core Curriculum may also be counted toward specific degree requirements unless otherwise stated.
2. Major hours may also be counted toward Core Curriculum and College of Liberal Arts requirements unless otherwise stated.
3. Up to 3 hours counted toward the degree or Core Curriculum may also be counted toward a minor or certificate. Completion of a transcript-recognized minor or certificate is not a requirement of the degree, but may be earned.

List A, Advanced Economics Electives

Code	Title	Hours
ECO 336M	Economics of Auctions	3
ECO 342L	Advanced Econometrics	3
ECO 348K	Advanced Topics in Econometrics	3
ECO 343K	Causal Inference	3
ECO 350K	Advanced Topics in Economics	3
ECO 350L	Advanced Macroeconomics	3
ECO 351M	Managerial Economics	3
ECO 353M	Empirical Public Economics	3
ECO 354K	Introductory Game Theory	3
ECO 358R	Supervised Research	3
ECO 363C	Computational Economics	3
ECO 369F	Financial Economics	3

List B, Advanced or Intermediate Economics

Code	Title	Hours
ECO 321	Public Economics	3
ECO 322	Money and Banking	3
ECO 324	Introduction to Labor Economics	3
ECO 325K	Health Economics	3
ECO 326L	Economics of Education	3
ECO 328	Industrial Organization	3
ECO 333K	Development Economics	3
ECO 333L	Development and Population	3

ECO 334K	Urban Economics	3
ECO 334L	Regional Economics	3
ECO 334M	Migration Economics and Policy	3
ECO 335K	Energy Economics	3
ECO 339K	International Trade and Investment	3
ECO 339L	International Finance	3
ECO 342M	Applied Econometrics and Data Analysis	3
ECO 351K	Current Issues in Business Economics	3
ECO 351N	Economic Principles of Managerial Decisions	3
ECO 352K	Business Strategy	3
ECO 352R	Economics of Entrepreneurship	3
ECO 353K	Antitrust Law and Economics	3
ECO 359M	Environmental and Natural Resource Economics	3
ECO 367R	Monetary Economics	3
ECO 376N	Personnel Economics	3

List C, Additional Economics Electives

Code	Title	Hours
ECO 323L	Political Economy	3
ECO 325L	Economics of Health	3
ECO 327	Comparative Economic Systems	3
ECO 330T	Topics in Economics	3
ECO 354M	Experimental Economics	3
ECO 355	Development Problems and Policies in Latin America	3
ECO 368	Survey of the History of Economic Thought	3
ECO 370E	Economics of Gender, Race, and Ethnicity	3
ECO 370M	Behavioral Economics	3
ECO 371M	Social Economics: Outside the Market	3

Complete course lists are on our website at <https://liberalarts.utexas.edu/economics/undergraduate-program/degree-requirement>