

ECONOMICS, BACHELOR OF SCIENCE (B.S.) [COLLEGE OF HUMANITIES AND SCIENCES]

Undergraduate work in economics is excellent preparation for careers in business, government and teaching, as well as for graduate work in economics and professional schools such as law, public administration and medicine. Specialization in economics prepares students for careers that emphasize analytical thinking, a broad understanding of the economy and business organizations and the proper choice of policies by governments and business enterprises. Because of their analytical, quantitative and decision-making skills, students who major in economics are sought after for a wide array of management and analyst positions.

Economics majors are strongly encouraged to take additional courses in statistics and mathematics, especially if they intend to pursue either careers as practicing economists or graduate study in economics or business. Recommended mathematics courses include one or more of the following courses:

Course	Title	Hours
ECON 403	Introduction to Mathematical Economics	3
MATH 201	Calculus with Analytic Geometry II	4

Recommended statistics courses include one or more of the following courses:

Course	Title	Hours
ECON 501	Introduction to Econometrics	3
SCMA 302	Business Statistics II	3
STAT 314	Applications of Statistics	4

Students should consult with their advisers to determine which of these courses fit their particular interests and backgrounds.

Mission

The mission of the B.S. in Economics is to provide undergraduate students with economic knowledge and skills which will enable them to compete successfully in changing regional, national and global economic environments.

Learning goals

The goal of the economics curriculum is to impart critical-thinking skills, communication skills and quantitative proficiency to its students.

Student learning outcomes

- Students will solve key microeconomic problems.
- Students will solve key macroeconomic problems.
- Students will be able to interpret and analyze data and express economic relationships using graphs, equations and words.
- Students will demonstrate strong oral and written communication skills.
- Students will be able to employ economic models and data to analyze questions of economic significance.

Declaration of major and transfer policies

Admission to the B.S. in Economics program requires a minimum GPA of 2.5. Transfer students who have not yet earned VCU credit must have earned a minimum overall GPA of 2.5 at their previous institution.

Continuing students must have a minimum VCU GPA of 2.5 to enroll in the economics program. To be admitted to the program a student must have earned a minimum grade of C in ECON 210 and ECON 211 or their equivalents.

In addition to meeting the general requirements of the university and the College of Humanities and Sciences, transfer students who plan to enroll in the economics major must comply with the following requirements:

1. Incoming transfer students must have a minimum cumulative GPA of 2.5 from all accredited institutions.
2. Only courses completed at an accredited four-year university will be considered for acceptance to fulfill major requirements at the 300-level or above. Courses completed at an accredited two-year institution will be considered for acceptance to fulfill major requirements at the 200-level.
3. Transfer credits may be applied to no more than 12 hours in the major requirements at the 300-level or above.

Special requirements

The curriculum requires 33 credits of ECON courses. Students also must take MATH 200 or BUSN 212, as well as STAT 210 as collateral requirements as outlined in the degree requirements below. Students may need to take additional mathematics courses to satisfy the prerequisites for MATH 200 or BUSN 212.

Degree requirements for Economics, Bachelor of Science (B.S.)

Course	Title	Hours
General education (http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/)		
Select 12-13 credits from general education foundations and 17-18 credits from areas of inquiry.		30
Major requirements		
• Major core requirements		
ECON 300	Contemporary Economic Issues	3
ECON 301	Microeconomic Theory	3
ECON 302	Macroeconomic Theory	3
• Additional major requirements		
ECON 211	Principles of Macroeconomics	3
ECON 431	Labor Economics	3
or ECON 441	Experimental Economics	
or ECON 442	Economic Growth	
or ECON 461	Monetary Policy Seminar	
or ECON 489	Senior Seminar in Economics	
• Major electives		
Select ECON (300- or 400-level or 501)		15
Ancillary requirements		
ECON 210	Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and AOI for global perspectives)	3

HUMS 202	Choices in a Consumer Society	1
MATH 200	Calculus with Analytic Geometry I (either satisfies general education quantitative foundations)	3-4
or BUSN 212	Differential Calculus and Optimization for Business	
STAT 210	Basic Practice of Statistics	3
or SCMA 301	Business Statistics I	
Experiential fine arts ¹		1-3
Foreign language through the 102 level (by course or placement)		0-6
Open electives		
Select any course.		46-54
Total Hours		120

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Course offered by the School of the Arts

The minimum number of credit hours required for this degree is 120.

What follows is a sample plan that meets the prescribed requirements within a four-year course of study at VCU. Please contact your adviser before beginning course work toward a degree.

Freshman year

		Hours
Fall semester		
MATH 151	Precalculus Mathematics (or a higher MATH course; any of these satisfies general education quantitative foundations)	3-4
or MATH 200		
or BUSN 212	or Calculus with Analytic Geometry I or Differential Calculus and Optimization for Business	
UNIV 101	Introduction to the University	1
UNIV 111	Focused Inquiry I (satisfies general education UNIV foundations)	3
Play course video for Focused Inquiry I		
Experiential fine arts		1-3
General education course (select AOI for creativity, innovation and aesthetic inquiry)		3
General education course (select AOI for scientific and logical reasoning)		3
Term Hours:		14-17

Spring semester

ECON 210	Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and AOI for global perspectives)	3
HUMS 202	Choices in a Consumer Society	1
STAT 210	Basic Practice of Statistics	3
UNIV 112	Focused Inquiry II (satisfies general education UNIV foundations)	3
Play course video for Focused Inquiry II		

General education course (select AOI for diversities in the human experience)	3
Open elective	3
Term Hours:	16

Sophomore year

Fall semester

ECON 211	Principles of Macroeconomics	3
UNIV 200	Inquiry and the Craft of Argument (satisfies general education UNIV foundations)	3
Foreign language 101		3
General education course (select BOK to complete breadth of knowledge requirement)		3
Open elective		3
Term Hours:		15

Spring semester

ECON 300	Contemporary Economic Issues	3
Foreign language 102		3
General education course (select BOK to complete breadth of knowledge requirement)		3
Open elective or MATH 200 or BUSN 212		3-4
Open elective		3
Term Hours:		15-16

Junior year

Fall semester

ECON 301	Microeconomic Theory	3
Major elective		3
Open electives		9
Term Hours:		15

Spring semester

ECON 302	Macroeconomic Theory	3
Major elective		3
Open electives		9
Term Hours:		15

Senior year

Fall semester

ECON 431	Labor Economics	3
or ECON 441	or Experimental Economics or Economic Growth	
or ECON 442	or Monetary Policy Seminar or Senior Seminar in Economics	
or ECON 461		
or ECON 489		
Major elective		3
Open electives		9
Term Hours:		15

Spring semester

Major electives		6
Open electives		9
Term Hours:		15
Total Hours:		120-124

The minimum number of credit hours required for this degree is 120.

Accelerated B.S. and M.A.

The accelerated B.S. and M.A. program allows qualified students to earn both the B.S. and M.A. in economics in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. Students in the program may count up to 12 hours of 600-level graduate courses toward both the B.S. and M.A. degrees. Thus, the two degrees may be earned with a minimum of 138 credits rather than the 150 credits necessary if the two degrees are pursued separately.

Students holding these degrees will be more competitive when seeking positions requiring the acquisition, manipulation and analysis of data. While undergraduates are required to obtain some data skills, the M.A. program is far more focused in this area with a course in mathematical economics and three econometrics classes. Furthermore, two of these econometrics classes require students to gather data, perform analysis and report on that analysis. Such practical skills are highly valued in the labor market.

Admission to the program

Minimum qualifications for admittance to the program include completion of 85 undergraduate credit hours including ECON 300, ECON 301 and ECON 302; an overall GPA of 3.25; and a GPA of 3.25 in economics and quantitative course work. Students who do not meet the minimum GPA requirements may submit GRE scores to receive further consideration. Successful applicants would enter the accelerated program in the summer following their junior year and start the M.A. program in the term after which they receive their bachelor's degree.

Undergraduate students must have departmental approval to participate in an accelerated program and must apply for admission to the master's program prior to beginning their final year of full-time undergraduate study. The entry term for the master's program will be the next available admission term following the last semester of undergraduate study. Admission to the master's program is provisional until the undergraduate degree has been conferred. Upon completion and conferral of the undergraduate degree, students are fully admitted to the master's program.

It is recommended that candidates submit applications for admission to the accelerated program immediately following completion of their junior year, but no later than May 15 of that year. Three reference letters (at least one from an economics faculty member) must accompany the application. Students who are interested in the accelerated program should consult with the faculty adviser to the economics M.A. program before they have completed 85 credits.

Once admitted into the accelerated program, students must meet the standards of performance applicable to graduate students as described in the "Satisfactory academic progress (<http://bulletin.vcu.edu/academic-regs/grad/satisfactory-academic-progress/>)" section of the Graduate Bulletin, including maintaining a 3.0 GPA. Guidance to students admitted to the accelerated program is provided by both the undergraduate economics adviser and the faculty adviser to the graduate program.

Degree requirements

The Bachelor of Science in Economics degree will be awarded upon completion of a minimum of 120 credits and the satisfactory completion of all undergraduate degree requirements as stated in the Undergraduate

Bulletin. A maximum of 12 graduate credits at the 600 level may be taken prior to completion of the baccalaureate degree. These graduate credits substitute for required major electives or open elective credits for the undergraduate degree. These courses are shared credits with the graduate program, meaning that they will be applied to both undergraduate and graduate degree requirements.

Students in the accelerated program are also required to take ECON 501 as an undergraduate major elective or open elective.

The graduate economics courses that may be taken as an undergraduate, once a student is admitted to the program, are:

Course	Title	Hours
ECON 604	Advanced Microeconomic Theory	3
ECON 612	Econometrics	3
ECON 614	Mathematical Economics	3
Elective ¹		3
Total Hours		12

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Students will choose an elective in consultation with the faculty adviser to the M.A. program to serve as an elective for both programs.

Recommended course sequence/plan of study

What follows is the recommended plan of study for students interested in the accelerated program beginning in the fall of the junior year prior to admission to the accelerated program in the senior year.

Course	Title	Hours
Junior year		
Fall semester		
ECON 300	Contemporary Economic Issues	3
ECON 301	Microeconomic Theory	3
	Experiential fine arts	1-3
	Open electives	9
Term Hours:		16-18
Spring semester		
ECON 302	Macroeconomic Theory	3
	Open electives	12
Term Hours:		15
Summer semester		
ECON 614	Mathematical Economics	3
Term Hours:		3
Senior year		
Fall semester		
ECON 431	Labor Economics	3
	or ECON 441	Experimental Economics
	or ECON 461	Monetary Policy Seminar
	or ECON 489	Senior Seminar in Economics
ECON 501	Introduction to Econometrics	3
	Open electives	7-10
Term Hours:		13-16
Spring semester		
ECON 604	Advanced Microeconomic Theory	3
ECON 612	Econometrics	3

M.A. elective		3
Open electives		6
Term Hours:		15
Fifth year		
Fall semester		
ECON 607	Advanced Macroeconomic Theory	3
ECON 642	Panel and Nonlinear Methods in Econometrics	3
M.A. elective		3
Term Hours:		9
Spring semester		
ECON 641	Econometric Time-series Analysis	3
M.A. electives		6
Term Hours:		9

ECON 101. Introduction to Political Economy. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Seminar on the development of critical thought and economic analysis of policy issues. Focus is on how policy choices affect society and the individual, the economic methodology that guides policy choices, and the institutional and political environments within which policy is derived. Issues cover a broad range of topics including environmental issues, tax policy, inflation expectations, unemployment, foreign trade and the effectiveness of fiscal and monetary policies. Crosslisted as: INTL 102.

ECON 203. Introduction to Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. A survey of economic principles, institutions and problems. The course is designed to provide basic economic understanding for students who do not expect to major in economics or in the School of Business. Not applicable for credit toward economics and business majors. Students may receive credit toward graduation for only one of the following three courses: ECON 203, ECON 205 or ECON 210.

ECON 205. The Economics of Product Development and Markets. 3 Hours.

Semester course; 3 lecture hours. 3 credits. An introduction to some of the fundamental economic concepts necessary to effectively operate in today's marketplace. Basic elements of microeconomics, net present value analysis and market strategy will be covered in class. The goal is to provide students with a better understanding of how to approach business problems and of proven problem-solving techniques. Intended for engineering students. Students may receive credit toward graduation for only one of the following three courses: ECON 203, ECON 205 or ECON 210.

ECON 210. Principles of Microeconomics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. A course designed to acquaint the student with a theoretical and practical understanding of the economic institutions and problems of the American economy with a focus on microeconomics. Students may receive credit toward graduation for only one of the following three courses: ECON 203, ECON 205 or ECON 210.

ECON 211. Principles of Macroeconomics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. A course designed to acquaint the student with a theoretical and practical understanding of the economic institutions and problems of the American economy with a focus on macroeconomics.

ECON 291. Topics in Economics. 1-3 Hours.

Variable hours. Variable credit. Maximum of 3 credits per topic. Prerequisite: permission of instructor. An in-depth study of selected business topics. Graded as pass/fail at the option of the department.

ECON 300. Contemporary Economic Issues. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and ECON 211. Students will learn to think critically about current policy issues using basic economic principles. Communication skills will be developed through presenting, discussing and debating alternative positions in class. Students will work in teams to outline the basic economic incentives and the direct and indirect costs and benefits associated with different policy actions. Through teamwork students will practice leadership skills and methods to manage group dynamics. Topics will vary by semester and may include the economics of discrimination, the environment, health care, cultural arts, education, business ethics, fiscal policy, monetary policy, globalization, inequality and immigration.

ECON 301. Microeconomic Theory. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and BUSN 212* or MATH 200. Analysis of the principles that govern production, exchange and consumption of goods and services. Topics include demand analysis, production and cost theory, price and output determination, theory of markets and distribution theory. *Formerly MGMT 212, SCMA 212.

ECON 302. Macroeconomic Theory. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; ECON 211; and BUSN 212* or MATH 200. A general survey of national income analysis and macroeconomic theory. Detailed study of public policies affecting price levels, employment, economic growth and the balance of payments. *Formerly MGMT 212, SCMA 212.

ECON 303. Managerial Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; ECON 211; and BUSN 212* or MATH 200. This course is restricted to students who have completed at least 54 credit hours (junior standing). Application of tools of economic analysis to allocation problems in profit and nonprofit organizations. Models for evaluating revenue, production, cost and pricing will be presented. Emphasis on developing decision rules for turning data into information for solving problems. *Formerly MGMT 212, SCMA 212.

ECON 305. Public Finance. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. An economic analysis of federal, state and local government budgeting, revenue sources and expenditures.

ECON 307. Money and Banking. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 211. A study of money, financial markets and the financial structure with emphasis on commercial banks and the Federal Reserve System. Relationships between economic activity and money supply are introduced.

ECON 312. E-commerce and Markets for Information Goods. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. This course surveys the ways that information and emerging information technologies affect market organization and market efficiency. Competitive strategies and regulatory policy for information markets also are considered. Topics include network effects, first mover advantages, auctions, price discrimination and organizational structure.

ECON 313. Economics of Transportation. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. An economic analysis of the transportation industry with special emphasis on regulation, public policy and urban transportation.

ECON 315. Economic Development. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and ECON 211. An introduction to the process of economic development. Surveys development theory and experiences of underdeveloped countries of Africa, Asia, Latin America and the Caribbean and of developed countries. Explores obstacles to development and policies and tools for stimulating economic development. Crosslisted as: INTL 315.

ECON 321. Urban Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. An introduction to urban economics, with an emphasis on the economics of agglomeration and the role of externalities in the urban economy. Economic analysis of the provision of urban public services and urban public financing, especially in politically fragmented areas. Crosslisted as: URSP 321.

ECON 325. Environmental Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). The application of economic analysis to externalities such as air and water pollution, pesticide control, land use planning and other environmental issues. The role of cost/benefit analysis in the decision-making process is developed. Efficiency and equity issues are evaluated.

ECON 329. International Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and ECON 211. An analysis of economic and political influences on exports and imports, balance of payments, foreign investment, exchange rates and international monetary systems. Crosslisted as: INTL 329.

ECON 333. Behavioral Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. Identifies when behavior systematically violates mainstream models and provides alternative behavioral models which are psychologically and empirically plausible. Discusses a variety of violations including endowment effects, framing, dynamic inconsistency and the winner's curse.

ECON 338. Game Theory. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. Analyzes strategic situations using game theory. Applies the analysis to a variety of settings and questions. Develops an understanding of the uses and limitations of the analysis.

ECON 402. Business Cycles and Forecasting. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and ECON 211. An examination of repetitive variations in business activity. The measurement and analysis of economic fluctuations and how they affect the business environment. Stresses modern forecasting techniques.

ECON 403. Introduction to Mathematical Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; ECON 211; and BUSN 212* or MATH 200. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). The application of mathematical techniques to economic theory and economic models. *Formerly MGMT 212, SCMA 212.

ECON 419. History of Economic Thought. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210; and ECON 211. A survey of the ideas of major economic contributors to modern economic thought. Theories of value, growth and distribution from the 18th through the 20th centuries will be presented.

ECON 421. Government and Business. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: ECON 203 with a minimum grade of B, ECON 205 with a minimum grade of B or ECON 210. The application of economic analysis to the behavior of business, industry and government regulation. Topics include the causes and exercise of monopoly power, antitrust enforcement, public utilities and industry studies.

ECON 431. Labor Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 300, 301 and 302; and SCMA 301*, STAT 210, STAT 212 or PSYC 214. This course is restricted to students who have completed at least 54 credit hours (junior standing). Analysis of labor markets and institutions to gain an understanding of the process of wage and employment determination. Both historic and current topics are included. *Formerly MGMT 301.

ECON 441. Experimental Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 300, ECON 301 and ECON 302; and SCMA 301*, STAT 210, STAT 212 or PSYC 214. Enrollment is restricted to students with junior standing. Students will learn about the leading models of decision making and human behavior in markets. The course will focus on using experimental methods to test the models' hypotheses. Students will learn how to design experiments, collect experimental data, and how to examine the data and interpret the results. *Formerly MGMT 301.

ECON 442. Economic Growth. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 300, ECON 301 and ECON 302; and SCMA 301*, STAT 210, STAT 212 or PSYC 214. Explores determinants of cross-country income differences using economic models, economic history and data analysis. Analyzes factors that influence productivity growth and diffusion of technology between countries. *Formerly MGMT 301.

ECON 461. Monetary Policy Seminar. 3 Hours.

Semester course; 3 lecture/seminar hours. 3 credits. Prerequisites: ECON 300, ECON 301 and ECON 302; and SCMA 301*, STAT 210, STAT 212 or PSYC 214. Enrollment is restricted to students with junior standing. Students work individually and in teams to formulate and justify a monetary policy recommendation. Students will base their recommendation on an economic analysis of current conditions and their prediction regarding the future state of the economy. The class is organized around discussions and presentations, with short lectures as needed. *Formerly MGMT 301.

ECON 489. Senior Seminar in Economics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: ECON 300, ECON 301 and ECON 302; SCMA 301*, STAT 210, STAT 212 or PSYC 214. Enrollment is restricted to students with junior standing. Analysis of economic theory and problems. Students will study a few topics in depth, focusing on understanding the current research, critically analyzing controversial issues and using data to investigate competing claims. *Formerly MGMT 301.

ECON 491. Topics in Economics. 1-3 Hours.

Semester course; variable hours. Variable credit. Maximum of 3 credits per topics course; maximum total of 6 credits for all topics courses. Prerequisite: junior standing. An in-depth study of a selected economic topic, to be announced in advance.

ECON 492. Independent Study in Economics. 1-3 Hours.

Semester course; 1-3 credits. Maximum total of 3 credits. Prerequisites: junior or senior standing as an economics major and approval of adviser and department chair prior to course registration. Intensive study under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

ECON 493. Internship in Economics. 1-3 Hours.

Semester course; the student is expected to work at the site 15-20 hours per week. 1-3 credits. Prerequisites: junior standing, a minimum of 3.0 GPA in economics courses, at least 15 economics credits and permission of the department chair. Intention to enroll must be indicated to the instructor prior to or during registration for semester of credit. The internship is designed to give students practical experience in an appropriate supervised environment in the public or private sector. Graded as pass/fail.