

309 **Netherlandic Civilization** (3). A study conducted in the English language of several important aspects of Netherlandic civilization: Literature, history, religion, art, architecture, social structure, and educa-

tion. Offered based on demand. See departmental chair.

390 **Independent Study**. Prerequisite: Approval of department chair. *Staff*.

## Economics and Business

*Professors D. Cook (chair), R. Hoksbergen, G. Monsma, K. Schaefer, R. Slager, J. Tiemstra, S. Vander Linde, E. Van Der Heide*

*Associate Professors A. Abadeer, R. Eames, S. Jackson, R. Medema, A. Mpesha, D. Reynolds, M. Sampson, L. Van Drunen*

*Assistant Professors A. Samuel, J. Voskuil*

The department has structured its major areas of study so that students may design programs that best prepare them for their chosen career fields. It offers five majors leading to a Bachelor of Arts degree — business, economics, a group concentration in business and communication, a group concentration in the social sciences, and a group concentration involving mathematics and economics or business. In addition, the department offers programs leading to a Bachelor of Science in Accountancy or a Bachelor of Science in Public Accountancy. Group concentrations must form a coherent, planned program approved by an advisor. In the selection of electives, only one interim course may serve as part of any major or minor in the department, and only if the interim course has a prerequisite from the department. The department offers a variety of experiential learning options that can be integrated into any of the department's majors. The department participates with computer science in offering a major in information systems. The department also offers minors in business and in economics, and a teacher education minor in economics. In addition, the department co-sponsors an interdisciplinary major and minor in international development studies.

### **BUSINESS MAJOR**

Business 160  
Business 203  
Business 204  
Business 360  
Business 363  
Business 370  
Business 380  
Business 367 or 396  
Economics 200 (1 hour)  
Economics 221  
Economics 222  
One from Economics 323-326  
Two departmental electives

**Cognates**  
Mathematics 143, 243, or 343  
Mathematics 201  
Information Systems 171 (1 hour)

### **BUSINESS MINOR**

Business 160  
Business 203  
Economics 221  
Economics 222  
Two Business electives

### **ECONOMICS MAJOR**

Economics 221  
Economics 222  
Economics 323 or 325  
Economics 324 or 326  
Economics 395  
Three from Economics 331-343  
Two department electives

### **Cognates**

Mathematics 143, 243, or 343  
Mathematics 132 or 161  
Information Systems 171

One from Information Systems 151, 153, 221, 141, 271  
Or Computer Science 104, 108 or 112

**ECONOMICS MINOR**

Economics 221  
Economics 222  
One from Economics 323-326  
Three from Business 203, Economics 323-343

**ACCOUNTING MAJOR**

Business 160  
Business 203  
Business 204  
Business 215  
Business 301  
Business 302  
Business 305  
Three from Business 306, 310, 311, or 315  
Business 350  
Business 370  
Business 380  
Economics 221  
Economics 222  
One from Economics 323-326  
One from Economics 323-326, 330-339

**Cognates**

Mathematics 132 or 161  
Mathematics 143 or 243  
Information Systems 171  
One from Information Systems 151, 153, 221, 141, 271  
or Computer Science 104, 108 or 112

**BUSINESS/MATHEMATICS GROUP MAJOR**

Business 203  
Business 204  
Economics 221  
Economics 222  
Two department electives  
Mathematics 161  
Mathematics 162  
Mathematics 256  
Mathematics 261  
Mathematics 343  
Mathematics 344

**Cognates**

Information Systems 171  
One from Information Systems 151, 153, 221, 141, 271  
or Computer Science 104, 108 or 112

**MATHEMATICS/ECONOMICS GROUP MAJOR**

Economics 221  
Economics 222  
One from Economics 323/325  
One from Economics 324/326  
Two department electives  
Mathematics 161  
Mathematics 162  
Mathematics 256  
Mathematics 261  
Mathematics 343  
Mathematics 344

**Cognates**

Information Systems 171  
One from Information Systems 151, 153, 221, 141, 271  
or Computer Science 104, 108 or 112

**BUSINESS/CAS GROUP MAJOR**

Business 160  
Business 203  
Business 380  
Economics 221  
Economics 222  
One from Business 365, 381, or 382  
One 300 level Economics or Business elective  
CAS 140  
CAS 352  
One from CAS 101 or 240  
Two from CAS 253, 260, 285, 305, 354, and 399  
One from CAS 200, 248, or English 262

**Cognates**

Mathematics 143, 243, or 343  
Information Systems 171  
One from Information Systems 151, 153, 221, 141, 271  
or Computer Science 104, 108 or 112

**SOCIAL SCIENCE GROUP MAJOR-BUSINESS EMPHASIS**

Business 160  
Business 203  
Business 380  
Economics 221  
Economics 222  
One from Economics 323-343 or an approved interim  
Four courses from one of the social sciences (sociology, psychology, political science, or history)  
Two department electives

**Cognates**

Mathematics 143, 243, or 343  
 Information Systems 171  
 One from Information Systems 151, 153,  
 221, 141, 271  
 or Computer Science 104, 108 or 112

**SOCIAL SCIENCE GROUP MAJOR-ECONOMICS EMPHASIS**

Economics 221  
 Economics 222  
 One from Economics 323-326  
 Two from Economics 323-343  
 Two department electives  
 Four courses from one of the social sciences (sociology, psychology, political science, or history)

**Cognates**

Mathematics 143, 243, or 343  
 Information Systems 171  
 One from Information Systems 151, 153,  
 221, 141, 271  
 or Computer Science 104, 108 or 112

**SECONDARY EDUCATION ECONOMICS MINOR**

Economics 221  
 Economics 222  
 Economics 338

Economics 339

A minimum of seven additional semester hours from within the department.  
 One advisor approved interim may be included.

**ELEMENTARY SOCIAL STUDIES GROUP MAJOR**

Students must take two specified courses from each of the following four disciplines: Economics, Geography, History, and Political Science. (Specific course choices are listed in the *Teacher Education Program Guidebook*). In addition, students must complete a sequence of courses from one of these disciplines chosen in consultation with a social studies education advisor. Advisors: D. Miller and D. Howard, History Department.

**ELEMENTARY SOCIAL STUDIES GROUP MINOR**

Economics 221  
 Economics 222  
 Geography 110  
 One from Geography 210, 230, 310, or 320  
 History 151 or 152  
 History 229  
 Political Science 101  
 Political Science 202

**BACHELOR OF ARTS IN BUSINESS PROGRAM**

The business major provides a thorough understanding of business and the context in which it operates. The business curriculum is designed to progressively develop the knowledge and skills relevant to contemporary business. Students desiring to develop additional depth in a business specialty such as marketing, human resource management, or finance are encouraged to consult with their departmental advisor.

A model program for the Bachelor of Arts in Business is:

<i>First year</i>	<i>Semester Hours</i>
Foreign Language 101 and 102	8
English 101	3
History 151 or 152	4
Mathematics 143	4
Persons in Community (Psychology 151, Political Science 110 or Philosophy 221)	3
Information Systems 171	1
Biblical/Theological Foundations I (Religion 121 or 131)	3
Business 160	3
Interim (IDIS W50)	3
Prelude (IDIS 149)	1
Research and Information Technology (IDIS 110)	1

	<i>Semester Hours</i>
<i>Second year</i>	
Foreign Language 201 and 202	8
Business 203 and 204	7
Economics 200, 221 and 222	8
Mathematics 201	4
Philosophy 153	3
Interim elective	3
<i>Third year</i>	
Business 360, 363, 370, and 380	12
Economics 323 or 324 or 325 or 326	4
Literature	3
Rhetoric in Culture	3
Biblical/Theological Foundations II	3
Interim elective	3
Health and Fitness	2
<i>Fourth year</i>	
Business 367 or 396	3
Departmental Electives	6
Global and Historical Studies	3
Physical World	4
Living World	4
The Arts	3
Cross cultural engagement	1
Open Elective	3
Health and Fitness	1

### **BACHELOR OF SCIENCE IN ACCOUNTANCY (B.S.A.)**

The Bachelor of Science in Accountancy degree is intended for students who want to prepare for a career in accounting in the context of a Christian liberal arts education. The program requires 55 credit hours in the Department of Economics and Business and a modified core.

This program is designed for students who are interested in a career in accounting other than public accounting (CPA). Those students interested in public accounting should refer to the next section of the catalog (Bachelor of Science in Public Accountancy). Students who enroll in this four-year program find positions in banking, industry as well as not-for-profit institutions.

Students qualifying in accounting with this degree and desiring to include an internship (experiential learning) should work out this program with a faculty advisor.

In addition to the specified courses from the Department of Economics and Business, the student must complete a modified core. All core categories must be met by this degree with the exception of one year in a foreign language and one of the courses in Religion.

A model program for the Bachelor of Science in Accountancy is:

	<i>Semester Hours</i>
<i>First year</i>	
English 101	3
History 151 or 152	4
Mathematics 143-132 (or alternative mathematics cognate)	8
Philosophy 153	3
Computer science or Information Science	2
Religion (either Religion 121 or 131)	3
Business 160	3

Interim (IDIS W50)	3
Prelude (IDIS 149)	1
Foundations of Information Technology (IDIS 110)	1
<i>Second year</i>	
Business 203, 204, and 215	9
Economics 221 and 222	7
Persons in Community (Philosophy 221, Political Science 110 or Psychology 151)	3
Physical world	4
Literature	3
Rhetoric in Culture	3
Interim elective	3
Health and Fitness	1
<i>Third year</i>	
Business 301, 302, 305, 315, and 370	19
Global and Historical studies	3
Economics 323 or 324 or 325 or 326	4
Living World	4
Interim elective	3
Health and Fitness	1
<i>Fourth year</i>	
Business 306, 310, 311, 350, and 380	18
Economics 331-339 (or a second course from Economics 323-326)	3
The Arts	3
Cross cultural engagement	1
Integrative studies	3
Health and fitness	1
(Assumes that student takes all four from Business 306, 310, 311, and 315)	

### **BACHELOR OF SCIENCE IN PUBLIC ACCOUNTANCY (BSPA) PROGRAM**

The BSPA (a five year program) is designed to meet the 150 hours education requirement adopted by Michigan and most other states for CPAs. It includes the course work listed above for the B.S. in Accountancy plus two additional accounting courses and the liberal arts core (with a two course reduction in the foreign language requirement). Student pursuing certification in Michigan should also take English 262.

A model program for BSPA is:

<i>First year</i>	<i>Semester Hours</i>
English 101	3
Mathematics 143-132 (or alternative mathematics cognate)	8
Foreign Language	8
Computer or Information Science	2
History 151 or 152	4
Business 160	3
Interim (Interdisciplinary W50)	3
Prelude (Interdisciplinary 149)	1
Foundations of Information Technology (Interdisciplinary 110)	1
<i>Second year</i>	
Business 203, 204, and 215	9

Economics 221 and 222	7
Persons in Community (Philosophy 221, Political Science 110 or Psychology 151)	3
Biblical Foundations	3
Interim elective	3
Philosophy 153	3
Literature	3
Health and Fitness	1
<i>Third year</i>	
Business 301, 302, 305, and 315	16
Global and Historical studies	3
Economics 323 or 324 or 325 or 326	4
Living World	4
Interim (English 262)	3
Electives	3
Health and Fitness	1
<i>Fourth year</i>	
Business 306, 380, and 370	10
Economics 331-339 (or a second course from 323-326)	3
The Arts	3
Cross cultural engagement	1
Integrative studies	3
Health and Fitness	1
Electives	9
<i>Fifth year</i>	
Business 310, 311, and 350	11
Business 307	3
Rhetoric in Culture	3
Natural World	4
Theological Foundations	3
Electives	6

Prerequisite for admission to the Bachelor of Science in Accountancy and Bachelor of Science in Public Accountancy major is a minimum grade of “C” (2.0) in both Business 203 and Business 204. Prerequisite for admission to all other major concentrations is a minimum grade of “C” (2.0) in Economics 221. The core requirement for “Social Structures in North America” is met by Economics 151 or Economics 241 or, for students majoring or minoring in economics or business, Economics 221.

## COURSES

### Business

**160 Introduction to Business and Organization Management** (3). F and S. An intro-

duction to the functional areas of business and other organizations from a manager’s perspective. The course analyzes and evaluates how managers integrate different facets of business such as law, finances, accounting, information systems, ethics and social responsibility, marketing, and human resources into a successful business or non-profit organization. General management styles and strategies, and aspects of organizational change are also covered. Christian evaluation of management topics is a constant theme throughout the course.

**203 Introduction to Managerial Accounting** (4). F. After a brief introduction to the principles of financial accounting and the purpose of financial statements, the course provides an introduction to managerial ac-

counting concepts, budgeting, incremental cost and profit analysis, breakeven analysis, responsibility reporting, and the use of financial analysis for managerial decision-making. Not open to first-year students..

**204 Financial Accounting (3).** S. A continuation of the study of accounting. After considering the importance of generally accepted accounting principles and the study of the accounting cycle, the course emphasizes asset valuation, classification, and measurement of liabilities, and income determination. Prerequisite: Business 203.

**215 Accounting Process and Methods (2).** S. A study and application of accounting processes and techniques. The operations of accounting are explored in depth enabling the accounting major to apply generally accepted accounting principles to the transactions of the accounting cycle. The course will include significant exposure to computerized accounting applications and will parallel the topics covered in Business 204. Prerequisites: Business 203 and at least concurrent enrollment in Business 204.

**269 International Business (3).** F A study of the global business environment, management challenges, and cross-cultural issues involved in international business and organization management with an emphasis on developing regional expertise and Christian perspective. Prerequisite: Business 160 or permission of the instructor.

**301 Intermediate Accounting (4).** \* F A study of financial accounting theory and generally accepted accounting principles as applied to the measurement and valuation of assets and liabilities. Prerequisites: Business 204 and 215.

**302 Intermediate Accounting II (4).** \* S. Continuation of Business 301. A study of financial accounting theory and generally accepted accounting principles as applied to the measurement and valuation of stockholders' equity, issues related to income determination, and preparation and analysis of corporate financial statements. Prerequisite: Business 301.

**305 Cost Accounting (4).** \* F Principles and methods of accounting for manufac-

turing and operating costs, with emphasis on analysis and reporting to management to facilitate planning, control, and decision-making. Prerequisites: Business 204 and Information Systems 171.

**306 Income Tax (4).** \* F A study of Federal income tax law and of tax cases to provide a basis for an understanding and evaluation of that law and of the rate structure. Includes the implications of income taxation for business decisions. Emphasis on taxation of individuals with limited coverage of partnerships and corporations. Prerequisite: Business 203.

**307 Advanced Taxation (3).** \* S. A study of Federal tax law and of tax cases as they apply to corporations, partnerships, estates, and trusts. This course will analyze and evaluate the Internal Revenue Code, the IRS Regulations, and appropriate case law as the basis for understanding the law, for utilizing the law in tax planning, and for ethically interpreting the law. Tax research will be emphasized. Prerequisite: Business 306.

**310 Advanced Accounting (4).** \* F Preparation of consolidated financial statements, accounting for partnerships, and accounting for installment and consignment sales. Introduction to governmental and fund accounting. Prerequisites: Business 301 and Information Systems 171.

**311 Auditing (4).** \* S. The theory and philosophy of auditing, including an examination of the ethical and other professional standards required of the Certified Public Accountant. Prerequisite: Completion of or concurrent registration in Business 301.

**315 Accounting Systems (4).** \* S. A study of accounting systems, which provides information for decision-making. The course examines business structures, information needed for decision-making, internal controls in manual and computerized systems, systems development, systems controls, and ethical aspects of the computer environment. Computerized accounting applications are incorporated using accounting software and spreadsheets. Prerequisites: Business 204 and Information Systems 171.

**350 Law in Business (3).** \* F and S. An introduction to American business law: Ori-

gins, development, legal institutions, and processes. The legal environment of business; Uniform Commercial Code and case law of business transactions; other topics selected from agency, property, partnership, corporation, regulatory, and administrative law.

**351 Organizational Behavior (3).** S. A consideration of psychological concepts and research related to human action in work situations, particularly organizations. The course includes discussions of the psychological processes of individuals involved in work and management (e.g., perceptual discrimination in varying tasks, strategies in problem solving, motivation for power and achievement, and effects of compensation on learning), and the social psychology of the work organization (communication patterns, decision-making processes, performance evaluation, conflict, and stress). The relationship of psychological theory and practice are analyzed through case studies of organizational experiences. Also listed as Psychology 301. Prerequisite: Psychology 151 or permission of the instructor.

**357 Business Aspects for Engineers (2).** F An overview of the aspects of business important to engineering. Selected topics from economics, accounting, finance, marketing, management, and business law are included. Prerequisites: Economics 151 and junior or senior standing in the engineering program.

**359 Internship in Business (4).** F and S. Internships involve a minimum of ten to fifteen hours of work a week in a professional setting with an approved employer-supervisor in business or nonprofit organizations. Academic work involves readings, seminars/workshops, reflective journals, and a major paper/presentation. Students may take Business 359 two times, but only one will fulfill an elective requirement in a department major. Prerequisites: Three courses in business or economics and permission of the internship coordinator.

**360 Perspectives on Management (3).** F and S. This course attempts to help students develop an integrated understanding of management based on God's revelation in creation and His Word. It develops this

understanding through critical engagement with management perspectives of scholars and practitioners writing from both secular and Christian foundations. Prerequisites: Business 160 and Economics 151 or 221. Biblical Foundations I or Theological Foundations I, Developing a Christian Mind and Philosophical Foundations. Not open to first-year or sophomore students.

**361 Health Care Administration and Economics (3).** \* The course develops an economic framework for understanding health care institutions and emphasizes the response of health care administrators and business professionals to current health system changes and challenges. Discussion issues include health care reimbursement and finance, health provider management and marketing strategies, business strategies for managing healthcare costs, and health care policy. Prerequisites: Economics 221 and Business 160 or permission of the instructor. Not offered 2005-2006.

**363 Production and Operations Management (3).** \* S. A study of the management of production and operations within a business, including planning, control, and evaluation of resources, inventory, schedules, and product or service quality. Techniques for making location decisions, implementing just-in-time purchasing and production, scheduling production, and using statistical process control (SPC) are studied. Computer applications are occasionally integrated for analysis and simulation purposes. Prerequisites: Business 160 and Mathematics 143 or its equivalent and junior level status.

**365 Human Resource Management (3).** \* F and S. A study of the principles and problems involved in personnel management in an organization, including recruitment, selection, training, evaluation, motivation, compensation, human resource planning, career development, and collective bargaining. Prerequisites: Business 160 or permission of the instructor and junior level status.

**367 Small Business Management (3).** \*F. A study of the business management principles applicable to the challenges and opportunities unique to small businesses.

The course emphasizes strategic analysis of management, marketing, and financial issues facing small firms from an entrepreneurial perspective. This course includes experiential learning through consulting activities with local firms. Prerequisite: Senior departmental status.

Calvin College's Small Business Institute (SBI) was founded by Professor Jack Brothers in the mid-1980's. Today, SBI students consult with local businesses (including not-for-profits) in the areas of small business planning, marketing communications, and consumer behavior. Clients have included schools, neighborhood associations, bookstores, bikeshops, mechanical contractors, printers, photo shops, social agencies, business associations, media companies, etc. Projects have involved observing shoppers in a retail environment, surveying customers in-store and through the mail, implementing and interpreting focus groups and in-depth interviews, and writing marketing communications plans, marketing plans, and business plans.

**370 Financial Principles (3).** \* F and S. A study of the principles and problems of the financial management of the firm, including such topics as stock and bond valuation, working capital management, cost of capital and capital budgeting, capital structure, and dividend policy. Prerequisites: Business 204 and Economics 221.

**371 Financial Instruments and Markets (3).** \*S. An extension of Business 370 into topics such as leasing, mergers, and multinational finance; application of the theory of finance to investment instruments, including stocks, bonds, options, futures markets, and commodities, and to financial markets and institutions, including investment companies and the stock exchanges. Prerequisite: Business 370.

**380 Marketing (3).** \* F and S. A study of the principles and practice of planning and controlling marketing programs, including the conception, development, pricing, promotion, and distribution of ideas, goods, services, experiences, and values that attempts to satisfy individual and organizational needs and objectives. Prerequisite: Economics 221.

**381 Advanced Topics In Marketing (3).** \* S. A study of marketing theory, strategy and tactics. This course includes experiential learning under the auspices of Calvin's Small Business Institute (see Business 367). Prerequisites: Mathematics 143 and Business 380.

**382 Consumer Behavior Theory and Practice (3).** \* An in-depth look at the processes involved when consumers purchase and use products, explanations for purchase and use, and implications for marketing research and marketing strategy. This course includes experiential learning under the auspices of Calvin's Small Business Institute (see Business 367). Prerequisites: Business 380, Mathematics 143, or equivalent. Not offered 2005-2006.

**390 Independent Study.** F, I, and S. Prerequisite: Permission of the department chair.

**396 Strategic Management (3).** \* S. An integrative study of strategic management, requiring contemporary, comprehensive case applications of concepts from economics, marketing, accounting, finance, management, and international business. Ethical aspects of strategic decision making are emphasized. Student teams study cases and present their analyses. This course is recommended for students wishing to understand the formulation and implementation of ethical strategies in diversified businesses. Prerequisites: Business 160, 370, and 380; Economics 222 or permission of the instructor.

**590 Independent Study.** F, I, and S. Prerequisite: Permission of the department chair.

### Economics

**151 Principles of Economics (3).** F and S. The institutions of the North American market economy are studied, examining the determinants of resource allocation, income distribution, prices, production, income and employment levels, and economic growth. Topics include international economic relations and the role of government in the economy. Christian ideas about justice, freedom, and stewardship are applied to economic questions. Students intending to major or minor in economics or business should not take this course, but should take Economics 221 to satisfy this core requirement.

**200 Calculus Applications for Business** (1). An introduction to differential calculus and optimization techniques used in business applications. The concept of changes at the margin and derivatives will be applied to problems in operations management, management decision theory and economic analysis. Students will also study constrained and unconstrained optimization and use it to solve problems in areas such as product pricing, production, capital budgeting, and assessing risk in markets. This course will generally be taken concurrently with Economics 221 by students not presenting a regular calculus course. Not offered 2005-2006.

**221 Principles of Microeconomics** (4). F and S. This course involves a study of the institutions of mixed-market economies such as those of North America, their role in resource allocation, and the determination of prices, outputs, and income distribution. Topics include the role of the government in the economy and environmental impact of economic activity. Christian views concerning justice, freedom, stewardship, and the nature of human beings and society are applied to economic analysis and issues.

**221H Principles of Microeconomics** (4). The honors section of "Principles of Microeconomics" is similar to other sections regarding content and general course requirements. However, the honors section will be conducted with greater opportunities for group discussion and classroom reporting of student research results. This course meets a core requirement in the Societal Structures category. Enrollment in honors ECON 221 is limited to 20 and is normally not open to first-year students. Not offered 2005-2006.

**222 Principles of Macroeconomics** (3). F and S. A continuation of Economics 221. A study and evaluation of the determination of national income, including analysis of consumer spending and saving patterns, business investment, government spending, taxation, monetary policy, unemployment, and inflation. The course includes an introduction to international trade and finance. Prerequisite: Economics 221.

**241 Health Economics and Health Policy** (3). S. An introduction to economics in the context of a study of health economics and health policy, with detailed focus on the U.S. health care system. The intent of the course is to develop an understanding of economic principles that can be used with other criteria to evaluate the historical and future direction of the U.S. health care system. Topics include efficiency and the equity of resource allocation, ethical perspectives of health care access, history and reform of health care policy, the evolution and influence of managed care, and financial planning and budgeting. Students will be challenged to further develop and apply a reformed Christian world-view to these issues. This course is especially recommended for students seeking a professional career in mental health, medicine, nursing, or public policy. Not open to first-year students.

**323 Intermediate Microeconomics** (4). \*F. An intermediate-level study of the microeconomic theory of a market economy, emphasizing the analysis of the behavior of firms and consumers and an evaluation of the efficiency and equity of the market system of organization of economic activity. Students may not receive credit for both this course and Economics 325. Prerequisites: Economics 221 and Mathematics 132 or 161.

**324 Intermediate Macroeconomics** (4). \*S. An intermediate-level study of macroeconomic theory, including the theory of aggregate demand, the level of employment, the general level of prices, and economic growth. The course provides the tools for monitoring and understanding general economic events. Computer simulations are used to demonstrate macroeconomic dynamics. Students may not receive credit for both this course and Economics 326. Prerequisites: Economics 222 and Mathematics 143, 243, or 343.

**325 Managerial Economics** (4). \*S. An intermediate-level study of microeconomic theory emphasizing applications to managerial decision-making in such areas as market and risk analysis, demand forecasting, production and cost analysis, product pricing, profit planning, and capital budgeting. Goals of firms and the use of economic theory in achieving them are examined and

evaluated. Students may not receive credit for both this course and Economics 323. Prerequisites: Economics 221, Mathematics 143, 243, or 343, Mathematics 132 or 161, and Information Systems 171.

**326 Business Cycles and Forecasting (4).** \* F An intermediate-level study of macroeconomic theory emphasizing analysis of general business activity and the implications of changing business conditions for business and public policy. Basic forecasting techniques are explained and the use of forecast information in firm and individual decision-making are evaluated. Computer lab work is used to demonstrate the application of economic theory to business planning and forecasting. Students may not receive credit for both this course and Economics 324. Prerequisites: Economics 222 and Mathematics 143, 243, or 343.

**330 Urban Regional Economics (3).** F This course initially introduces students to regional economic and location theory and then explores regional issues of metropolitan development as they relate to national economic growth. Basic concepts of the study that will be examined include location determinants, land use, inter-regional economic flows of people and resources, exports, infrastructure, and transport systems. Tools of national and regional forecasting and the concept of social accounting systems will be taught to help analyze and develop appropriate policy by business firms and governments at different levels. The course will illustrate applications of theory and policy by considering, typically, the West Michigan economy. Questions concerning economic health of downtown districts, transportation problems, urban sprawl, the role of lending agencies and realtors, and local governmental cooperation with business will be considered in the course. Prerequisites: Economics 221, 222, Mathematics 143, or their equivalents.

**331 Money and Banking (3).** \* F A study of the principles of money, banking, and credit with emphasis on monetary theory and policy and their role in domestic and international economics. Prerequisite: Economics 222.

**332 Environmental Economics and Public Policy (3).** \* An introduction to the theory and practice of environmental policy. The course provides a survey of the problems considered by environmental economics and an evaluation of the policies that have been developed—problems related to pollution and other forms of environmental deterioration, to the use of energy and other resources, and to related issues. Prerequisite: Economics 221 or permission of the instructor.

**334 Industrial Markets and Public Control (3).** \* S. A study and evaluation of business strategies in imperfectly competitive markets, including entry barriers, pricing, product differentiation, vertical integration, and mergers. Examination of relevant public policies, such as antitrust law and utility regulation. Prerequisite: Economics 221.

**335 Labor Economics (3).** \* S. A study of labor markets and their relationship to the economy as a whole, including labor-force participation, human-capital formation, wage theory, discrimination, unemployment, income distribution, labor unions, and related public policies. Prerequisite: Economics 221.

**337 World Poverty and Economic Development (3).** \* S. A study of the characteristics of poor nations in many regions of the world, and of factors that cause and influence economic development within countries. After examining conditions within poor nations, students analyze theories of economic growth and economic development. Subsequently, the course investigates differences and similarities in human and capital resource endowments, production, and trade relations. Problems, possibilities, and policies are analyzed in each of these topic areas. Prerequisites: Economics 221 and 222.

**338 International Economics (3).** \* F A study of international economic relations, stressing the fundamentals of trade theory, the balance of payments, problems of international disequilibrium, trade barriers, and efforts to promote international economic stability and growth. Prerequisite: Economics 222.

339 **Public Finance** (3). \* F A study of the economic effects of government spending and taxation on resource allocation and on the distribution of income. Students analyze the economic role of government, and current policy issues and the political process regarding taxation and government spending. Prerequisite: Economics 221.

343 **Quantitative Economics and Econometrics** (3). \* F An introduction to econometric methods that are frequently used in applied economic research and business practice. Emphasis on creating, interpreting, and critically evaluating empirical results. Topics include the classical linear regression model, functional form, dummy explanatory variables, binary choice models, heteroskedastic and autocorrelated disturbance terms, and an introduction to simultaneous-equation and time-series models. Students learn to write their own programs in a major statistical programming language. Prerequisites: Mathematics 132 and 143 or their equivalents.

349 **Internship in Economics** (4). F and S. These internships, which will require the student to use the tools of economic analy-

sis, involve ten to fifteen hours of work a week under an employer supervisor, and a series of internship seminars on campus. Each intern keeps an analytical journal, submits a final summary paper, and participates in a biweekly seminar. Prerequisites: Appropriate courses in economics, completion of the mathematics cognate requirements, junior or senior standing, and permission of the internship coordinator.

390 **Independent Study**. \* F, I, and S. Prerequisite: Permission of the department chair.

395 **Economics Seminar** (3). \* S. This course includes a study of the methodological underpinnings of distinct schools of thought in economics. The course first examines these schools on their own terms, then considers them in the light of reflections by Christian philosophers on social science methodology, and finally evaluates them on the basis of the work and thought of contemporary Christian economists. Prerequisites: Senior economics major status; Biblical Foundations I or Theological Foundations I, Developing a Christian Mind, and Philosophical Foundations.

## Education

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### Undergraduate Teacher Education Program

The undergraduate teacher education program is described in detail in the *Teacher Education Program Guidebook*, which is available at [www.calvin.edu/academic/education](http://www.calvin.edu/academic/education). In Michigan, teachers are generally certified to teach at the elementary (K-8) or secondary (7-12) level. There are a few specialty areas in which students can be certified to teach in Grades K-12 (e.g. art, foreign languages, music, physical education, and special education). All teacher education students are required to complete the liberal arts core and a series of education courses. In addition, students are required to complete a major and minor or multiple minors in content specialty areas (e.g. history, language arts, early childhood education, etc.). Students who wish to teach at the middle school level are advised to follow the elementary teacher education core requirements and choose two minors that they would like to teach in a middle school setting (e.g., language arts and integrated science).