

## Computer and Information Sciences – Economics

### IDTH 410 Operations Research I (4 credits) (formerly QMCS 410)

Introduction to computer and analytic techniques to support the decision-making process. Topics include: Introduction to linear programming algorithms, sensitivity, duality, transportation, assignment, transshipment, integer linear programming, network models, project scheduling, inventory models, and waiting line models. This course fulfills the second-level Computer Competency requirement in the core curriculum.

Prerequisites: MATH 113 or MATH 114 or MATH 128; and either IDTH 220 or MATH 314

### IDTH 411 Operations Research II (4 credits) (formerly QMCS 411)

Advanced modeling and analytic techniques to support the decision-making process. Topics include: forecasting, decision analysis, multicriteria decision problems, simulation, Markov processes, dynamic programming, and non-linear programming.

Prerequisites: IDTH 410 and MATH 114

### IDTH 460 Senior Project (4 credits)

Work on a software analysis, design, and implementation project or on a computer support project under the direction of a faculty member.

Prerequisite: Senior standing and permission of the instructor

### IDTH 475, 476 Experiential Learning (2 credits)

### IDTH 477, 478 Experiential Learning (4 credits)

See the description of these courses at the beginning of the “Curricula” section of this catalog.

### IDTH 483, 484 Seminar (2 credits)

### IDTH 485, 486 Seminar (4 credits)

See the description of these courses at the beginning of the “Curricula” section of this catalog.

### IDTH 487, 488 Topics (2 credits)

### IDTH 489, 490 Topics (4 credits)

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

### IDTH 491, 492 Research (2 credits)

### IDTH 493, 494 Research (4 credits)

See the description of these courses at the beginning of the “Curricula” section of this catalog.

### IDTH 495, 496 Individual Study (2 credits)

### IDTH 497, 498 Individual Study (4 credits)

See the description of these courses at the beginning of the “Curricula” section of this catalog.

## Criminal Justice

See Sociology and Criminal Justice

## Economics (ECON)

College of Arts and Sciences, Department of Economics  
O’Shaughnessy Education Center (OEC) 427, (651) 962-5675

Papagapitos (chair), Fairchild, Hartmann, Hendrickson, Kim, Marcott, Riley, Saavedra, Vincent, Walsh, Wilson, Wu

The economics program develops a logical, consistent and rigorous method of thinking about the world and its problems. The economic way of thinking can be applied to a wide variety of topics including inflation, unemployment, financial markets, international trade, poverty, income inequality, currency depreciation, monopoly power, bank failures, sports, budget deficits and health-care costs.

The Department of Economics offers two majors and a minor in economics. All three programs are designed to provide excellent career-entry skills and those skills providing preparation for possible career shifts.

Whether a major or minor in economics is pursued, students are strongly encouraged to complement their studies with work in other fields. In recent years, for example, graduates have done complementary coursework in such fields as mathematics, foreign languages, business, environmental studies, computer science, international studies and English.

The choice of major and of a complementary field depends upon the path the student wishes to pursue. For example, students pursuing a liberal arts major, wishing to double major, or who are interested in continuing studies in professions other than economics would likely find the Bachelor of Arts (B.A.) best suited to their needs. Students wishing to engage the discipline at a deeper level would find the Bachelor of Science (B.S.) a better alternative.

Students graduating with a major in economics will be able to integrate the tools and concepts of the discipline in the analysis of an economic issue. The background provided by this major should equip the student with sound preparation for career advancement.

The core for each degree consists of five economics courses and two allied requirements. The B.A. requires three additional electives of the student's choosing. The B.S. has three possible paths. Each path requires three specified electives, two additional electives of the student's choosing, and additional allied requirements suitable to the different paths.

Students wishing to pursue graduate study in economics should consider the path in Mathematical Economics. Students interested in international affairs should consider the path in International Economics. Students seeking an economics degree supplemented with additional technical skills and an introduction to the business field or who are looking towards an eventual MBA degree should consider the Business Economics path.

Majors must complete a minimum of twenty credits in economics at St. Thomas. Minors must complete a minimum of twelve credits in economics at St. Thomas.

#### Economics Honor Society

*Omicron Delta Epsilon*, the international fraternity in economics, was organized at St. Thomas in 1967. Candidates must have completed at least sixteen credits in economics and have an average of 3.40 or better in both economics and their overall work.

#### Economics Honors Program

Candidates for honors in economics must complete a research paper and an additional four credits in economics chosen in consultation with the department chair. The research papers of honors candidates are to be read by a committee of three faculty, appointed by the department chair. Each will determine if the paper is suitable for the honors requirement, with a majority rule determining honors designation. Candidates must achieve a grade-point average of 3.50 or higher in the major and 3.25 or higher overall.

#### Major in Economics (B.A.)

ECON 251 Principles of Macroeconomics (4 credits)  
 ECON 252 Principles of Microeconomics (4 credits)  
 ECON 315 Empirical Methods in Economics (4 credits)  
 ECON 351 Macroeconomic Theory (4 credits)  
 ECON 352 Microeconomic Theory (4 credits)

#### Plus:

Twelve credits in courses numbered 300 and above.

*Note:* Students are strongly encouraged to take ECON 315, 351 and 352 by the end of the junior year.

#### Allied requirements

*Four credits from the following:*

MATH 109 Calculus with Review II (4 credits)  
 MATH 111 Calculus for Business and Social Science (4 credits)  
 MATH 113 Calculus I (4 credits)

#### Plus either:

IDTH 220 Statistics I (4 credits) *or* MATH 303 Statistics for the Applied Sciences (4 credits)

*or*

MATH 313 Probability (4 credits) *and* MATH 314 Mathematical Statistics (4 credits)

#### Major in Economics (B.S.)

ECON 251 Principles of Macroeconomics (4 credits)  
 ECON 252 Principles of Microeconomics (4 credits)  
 ECON 315 Empirical Methods in Economics (4 credits)  
 ECON 351 Macroeconomic Theory (4 credits)  
 ECON 352 Microeconomic Theory (4 credits)

*Note:* Students are strongly encouraged to take ECON 315, 351 and 352 by the end of the junior year.

#### Plus:

A set of courses in one of the three paths below: Business, International, or Mathematical.

#### Allied requirements

*Four credits from the following:*

MATH 109 Calculus with Review II (4 credits)  
 MATH 111 Calculus for Business and Social Science (4 credits)  
 MATH 113 Calculus I (4 credits)

#### Plus either:

IDTH 220 Statistics I (4 credits) *or* MATH 303 Statistics for the Applied Sciences (4 credits)

*or*

MATH 313 Probability (4 credits) *and* MATH 314 Mathematical Statistics (4 credits)

#### Business Economics

A path which emphasizes additional tools for analyzing business situations as well as incorporating a basic foundation in the field of business.

ECON 311 Forecasting (4 credits)

## Economics

ECON 332 Industrial Organization (4 credits)  
ECON 401 Managerial Decision Making (4 credits)

*Plus:*

Eight credits in elective economics courses numbered 300 or above

*Plus:*

ACCT 210 Introduction to Financial Accounting (4 credits)  
MGMT 305 Management and Organizational Behavior (4 credits) (or BUSN 201 from previous semesters)

*Plus four credits from the following:*

FINC 300 Finance for Non-Business Majors (4 credits)  
FINC 321 Financial Management (4 credits)

### International Economics

A path which prepares students for careers in which an understanding of the complexities of cultural differences and international economic relationships is crucial.

ECON 345 Economics of Development and Growth (4 credits)  
ECON 346 Country and Area Studies in Economics (4 credits)  
ECON 348 International Economics (4 credits)

*Plus:*

Eight credits in elective economics courses numbered 300 or above (ECON 346 can only be included one time in fulfillment of the path requirement, and not as one of the additional electives)

*Plus:*

A minor in a foreign language or significant study abroad experience approved by the department chair

### Mathematical Economics

A path which prepares students for the core competencies necessary for graduate study in economics.

ECON 355 Game Theory (4 credits)  
ECON 418 Mathematical Economics (4 credits)

*Plus four credits from the following:*

ECON 301 History of Economic Thought (4 credits)  
ECON 337 Economics of the Public Sector (4 credits)  
ECON 339 Labor Economics (4 credits)  
ECON 348 International Economics (4 credits)

*Plus:*

Eight credits in elective economics courses numbered 300 or above

*Plus:*

MATH 114 Calculus II (4 credits)  
MATH 200 Multi-Variable Calculus (4 credits)  
MATH 210 Introduction to Differential Equations and Systems (4 credits)  
*Note:* MATH 333 Applied Statistical Methods may be substituted for ECON 315

### Teacher Education

Elementary Education with a Specialty in Social Studies (5-8)  
Co-major in Social Studies (5-12) and a Co-major in Secondary Education  
*See Education*

### Minor in Economics

ECON 251 Principles of Macroeconomics (4 credits)  
ECON 252 Principles of Microeconomics (4 credits)

*Plus four credits from the following:*

ECON 351 Macroeconomic Theory (4 credits)  
ECON 352 Microeconomic Theory (4 credits)

*Plus:*

Twelve credits in elective economics courses numbered 300 and above.

### ECON 211 Current Economic Issues (4 credits)

Poverty, health care, tax reform, international trade, crime, income inequality, inflation, and business mergers are some of the contemporary topics that raise interesting questions for public policy and economic analysis. This course will focus on a series of these macroeconomic and microeconomic topics. The goal is to develop economic concepts and analytical tools within a context of direct application to economic issues. Consideration of equity or fairness will be included in discussions of public policy. Student preferences will be considered in selecting many of the issues. This course fulfills the Social Analysis requirement in the core curriculum.

NOTE: Not open to students who have completed ECON 251 or 252.

**ECON 251 Principles of Macroeconomics (4 credits)**

An introduction to macroeconomics: national income analysis, unemployment, price stability, and growth; monetary and fiscal policies; international trade and finance; application of economic theory to current problems. Students who enroll in this course are expected to be able to use high-school algebra. This course fulfills the Social Analysis requirement in the core curriculum.

**ECON 252 Principles of Microeconomics (4 credits)**

An introduction to microeconomics: theory of household (consumer) behavior, theory of the firm, market structures, market failures, economic efficiency, factor markets, and income distribution. Students who enroll in this course are expected to be able to use high-school algebra. This course fulfills the Social Analysis requirement in the core curriculum.

**ECON 295, 296 Topics (2 credits)****ECON 297, 298 Topics (4 credits)**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

**ECON 301 History of Economic Thought (4 credits)**

A survey of the content and method of economics and an analysis of the theories of the great economists from the ancient Greeks to the present; mercantilism, physiocracy, the classical school and its critics, particularly Marx; the marginalist school; Alfred Marshall and Keynes, recent developments in economic thought.

Prerequisites: ECON 251 and 252

**ECON 311 Forecasting (4 credits)**

An introduction to techniques used in forecasting with emphasis on analyzing economic and business data. The emphasis is on time-series data, although cross-sectional analysis is also covered. Techniques presented include variants of moving averages, variants of exponential smoothing, regression and ARIMA processes. This course fulfills the second-level Computer Competency requirement in the core curriculum.

Prerequisites: ECON 251, 252 and IDTH 220

**ECON 315 Empirical Methods in Economics (4 credits)**

An introduction to the application of statistical models and methods to economic problems; simple and multiple linear regression models; generalized least-squares; model building and related topics. Emphasis is on use of econometric software to analyze data and to test hypotheses. This course fulfills the second-level Computer Competency requirement in the core curriculum.

Prerequisites: ECON 251 and 252, IDTH 220 or MATH 303

**ECON 321 Law and Economics (4 credits)**

The relationship between legal and economic aspects of selected issues: property rights, liability laws, product-safety legislation, discrimination, crime control, and related topics.

Prerequisites: ECON 251, 252 or permission of instructor

**ECON 326 Industry Studies (4 credits)**

This course provides an analysis of a particular industry or sector of the U.S. economy. Among the topics included in the analysis will be: identification and description of the industry in question, past and present performance of the industry, the importance of the industry within the national and global economy, the level of competition present in the industry, and the role of government in this industry. Among the anticipated course offerings are Agricultural Economics, Economics of the Arts, Economics of Sports, Economics of Health Care, and Transportation Economics.

Prerequisites: ECON 251 and 252

**ECON 332 Industrial Organization (4 credits)**

Relationship between market structure, behavior and performance of business enterprises; government intervention and regulation; antitrust and other public-policy issues.

Prerequisites: ECON 251 and 252

**ECON 333 Regional and Urban Economics (4 credits)**

Principles underlying the location of economic activity; land-use patterns; transfer cost; location and structure of urban areas; growth of cities and regions; urban and regional problems and policies.

Prerequisite: ECON 252

**ECON 335 Money, Financial Markets, and the Economy (4 credits)**

The nature, evolution, and functions of money; the role of depository financial institutions; structure of financial markets; principles of central banking; monetary theory and monetary policy; introduction to international banking and finance.

Prerequisites: ECON 251 and 252

**ECON 337 Economics of the Public Sector (4 credits)**

This course examines the role of government in a modern economy. It develops a set of concepts that will allow students to evaluate policy alternatives. The following are among the particular topics likely to be addressed: external-

## Economics

ties and environmental protection, education, the redistribution of income, health care, social insurance, taxation and tax reform, cost-benefit analysis, fiscal federalism, and state and local government finance. In each case, the focus is on whether intervention by government is appropriate, what the most effective form of any such intervention is, and how alternative policy interventions affect the private decisions made by citizens and business firms.

Prerequisite: ECON 252

### **ECON 339 Labor Economics (4 credits)**

Labor supply and demand; determinants of the wage structure; education and training decisions; the role of labor unions; mobility and migration, discrimination; public policies in labor markets.

Prerequisite: ECON 252

### **ECON 345 Economics of Development and Growth (4 credits)**

Nature and measures of economic growth and development; theories of growth; developed and less-developed nations; economic planning; selection and financing of projects for economic growth and human development; environment, resources, and limits to growth. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisites: ECON 251 and 252

### **ECON 346 Country and Area Studies in Economics (4 credits)**

An analysis of the economic system(s) of a particular country or region of the world. Among the topics included in the analysis will be: functioning of key sectors of the system; the role of government in the economy; the resource base; the income distribution; trade and financial relations with other countries; contemporary economic issues and policies; past and present economic performance. Course offerings are anticipated for Japan, Russia, European Union, Latin America, China, and Australia. Students may take this course more than once provided the specific country/region is not duplicated. Some offerings of this course fulfill the Human Diversity requirement in the core curriculum.

Prerequisites: ECON 251 and 252

### **ECON 348 International Economics (4 credits)**

Analysis of trade between nations and regions of the world; trade and trade policy; economic integration; foreign-exchange markets; global financial system and world payments; cross-border movement of resources; economic interdependency of nations and regions; the economic system in a global framework.

Prerequisites: ECON 251 and 252

### **ECON 349 Comparative Economic Systems (4 credits)**

Analysis of the tools used to evaluate alternative economic systems; study of the structure and performance of *laissez faire*, centralized planning, democratic socialism and market socialism; historical evolution of economic systems; consideration of efficiency, growth, and social welfare; case studies: United States., CIS, China, the new market economies of Central Europe, others.

Prerequisites: ECON 251 and 252

### **ECON 351 Macroeconomic Theory (4 credits)**

Theories of money, interest, income and expenditure, employment, and inflation; monetary and fiscal policies; introduction to the theory of growth.

Prerequisites: 251 and 252

### **ECON 352 Microeconomic Theory (4 credits)**

Analysis of consumer behavior and demand theory; theory of production and costs; analysis of the firm and industry under various market structures; factor pricing; general equilibrium. Selected additional topics such as market failure, economics of information, welfare economics, income distribution.

Prerequisites: ECON 251, 252, and MATH 109 or 111 or 113 or equivalent.

### **ECON 355 Game Theory (4 credits)**

Game theory seeks to explain how rational people make decisions when outcomes are mutually interdependent. This course introduces the methods of game theory from a historical perspective with primary emphasis on applications to economics. Applications to the other social sciences, business and biology are also considered. Topics covered include: normal and extensive forms of games, strict and weak dominance, sub-game perfections, pure and mixed strategies, Nash equilibrium, bargaining, oligopoly, New Keynesian and Classical Economics, trade policy, environmental economics and conflict resolution.

Prerequisites: ECON 251 and 252, plus completion of the core curriculum mathematics requirement.

### **ECON 360 Experimental Economics (4 credits)**

Experimental economics refers to the practice of testing economic hypotheses by conducting controlled experiments rather than relying on more traditional econometric testing. This course provides a survey of experiments conducted by economists in a variety of areas. Discussion will focus on the basics of the theory being tested, the methodology employed, and the results for each experiment. In addition, attempts will be made to replicate some results by conducting these same experiments in the classroom. Topics may include experiments conducted in the theory of competitive markets, oligopoly markets, auctions, decision-making under risk and uncertainty, public goods and search theory.

Prerequisites: ECON 251, 252, and one additional ECON course numbered 300 or higher

**ECON 370 Environmental and Natural Resource Economics (4 credits)**

This course employs economic principles to analyze the problems of environmental pollution and natural-resource depletion. Economic systems, such as the private-market mechanism, are evaluated with respect to their effectiveness in the management of natural resources and the environment. Domestic and international environmental policies are examined and critiqued.

Prerequisite: ECON 252

**ECON 401 Managerial Decision Making (4 credits)**

Microeconomic theory applied to business decision making. Emphasis on quantitative techniques applied to business decision making under uncertainty, demand and cost estimation, linear production models, pricing decisions, capital budgeting, inventory problems, and group decision making. Quantitative tools include linear regression, statistical decision analysis and linear programming.

Prerequisites: ECON 352, and IDTH 220 or MATH 303 or permission of the instructor

**ECON 418 Mathematical Economics (4 credits)**

Introduction to a mathematical treatment of models of economic behavior; economic content includes consumer theory, theory of the firm and selected topics in macroeconomics.

Prerequisites: ECON 352, and MATH 200 or MATH 114 with permission of instructor

**ECON 470 Research in Economics (4 credits)**

The Research in Economics course deals with data collection and statistical analysis of economic hypotheses. It culminates in writing a research paper on a topic of the student's choosing.

Prerequisites: Senior standing and ECON 315, or permission of the instructor

**ECON 475, 476 Experiential Learning (2 credits)****ECON 477, 478 Experiential Learning (4 credits)**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

**ECON 483, 484 Seminar (2 credits)****ECON 485, 486 Seminar (4 credits)**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

**ECON 487, 488 Topics (2 credits)****ECON 489, 490 Topics (4 credits)**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

**ECON 491, 492 Research (2 credits)****ECON 493, 494 Research (4 credits)**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

**ECON 495, 496 Individual Study (2 credits)****ECON 497, 498 Individual Study (4 credits)**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

**Education (EDUC) - School of Education**

School of Education, Department of Teacher Education

Minneapolis Opus Hall (MOH) 217, (651) 962-4550

Warring (Chair), Payne (Associate Chair), Hansen, Hunter, Nistler, Reif, Smith, Taylor

**Note:** The University of St. Thomas Teacher Education programs are in alignment with Minnesota state licensure regulations. Changes in state regulations could affect the programs described below. Please maintain contact with the Department of Teacher Education for the most current information.

The University of St. Thomas Department of Teacher Education offers a full range of undergraduate and graduate programs for persons who wish to teach in elementary, middle, and secondary school settings. Candidates who become educators through the Department are part of a proud tradition that goes back over three-quarters of a century, completing programs that embrace the liberal arts, emphasize ethical practice, and prepare creative, reflective educators dedicated to the success of all learners. Current programs are offered within the School of Education's mission:

Inspired by Catholic intellectual tradition, the University of St. Thomas School of Education educates practitioners to be morally responsible leaders who think critically, act wisely and work skillfully to advance the common good.

Department of Teacher Education programs are based on a 5x5x10 model framework, representing:

- the five dispositions of the Mission Statement
  1. morally responsible leaders who
  2. think critically,
  3. act wisely, and
  4. work skillfully to
  5. advance the common good;