

# Economics (Applied)

<http://business.und.edu/undergraduate/economics-and-finance/index.cfm>

FACULTY: Professors Bagheri, Biederman, Flynn (Department Chair), Goenner (Graduate Director), Lee, Simlai, O'Neill, Tan, Wang, and Yang.

## Degree Granted: Master of Science in Applied Economics (M.S.A.E.)

The goal of the MS in Applied Economics program at the University of North Dakota is to provide students the quantitative and applied skills required to succeed as an economist involved in economic development, strategic planning, consulting, and applied research in a broad array of institutional settings. These goals are achieved through a program where coursework, experiential learning, and independent research develop a strong foundation to understand and apply economic theory, collect and analyze data, and communicate technical material effectively to others.

Details pertaining to admission requirements, degree requirements and courses offered can be found in the Degree section.

## Master of Science in Applied Economics (M.S.A.E.)

### Admission Requirements

1. A four-year bachelor's degree from a recognized college or university.
2. An overall undergraduate grade point average of 2.75 or greater for all undergraduate work or a GPA of at least 3.0 for the junior and senior years of undergraduate work (based on A=4.0).
3. Official scores from the Graduate Record Examination (GRE) General Test or Graduate Management Admission Test (GMAT). At the discretion of the MSAE Program Director, test scores may be waived for students holding a graduate degree in a business or STEM related field from an AACSB accredited institution.
4. Satisfy the School of Graduate Studies' English Language Proficiency requirements as published in the graduate catalog.
5. Complete ECON 308 Intermediate Microeconomic Theory, ECON 309 Intermediate Macroeconomic Theory and Policy, ECON 210, Introduction to Business and Economics Statistics, and MATH 146 Applied Calculus I, or equivalent.
6. Applicants may be eligible for admission in "Qualified" status with six credits of requisite undergraduate work provided that they meet all other stated admission criteria. In such cases, the student must satisfy all conditions in her/his admission letter in order to advance to "Approved" status. Failure to address the conditions of admission as stated in the admission letter will be viewed as unsatisfactory progress and could result in dismissal from the School of Graduate Studies.
7. ECON 416 Mathematics for Economists and ECON 411 Economic Forecasting are the two courses that students in the combined program are permitted to count toward both a UND bachelor's degree and the MSAE degree, but only if these courses are declared for graduate credit. All other courses taken for credit in the combined program must satisfy only bachelor's program requirements, or only MSAE program requirements.

Combined BS/MSAE Option: A combined BS/MSAE option is available to outstanding undergraduates who have completed 90 semester hours in a bachelor's program at UND. Interested students should consult with the MSAE Program Director.

### Degree Requirements

Students seeking the Master of Science in Applied Economics degree through the Department of Economics & Finance at the University of North Dakota must satisfy all general requirements set forth by the School of Graduate Studies as well as particular requirements set forth by the Department of Economics & Finance.

The MSAE curriculum varies according to whether the student chooses a non-thesis option or a thesis option (see below). The non-thesis option is the

program default and is meant to provide rigorous training in economic analysis and data analytics to students aspiring to become economic practitioners (e.g., consultants, analysts). The thesis option is available for students who seek to conduct original research. The thesis option is primarily targeted towards students planning to pursue further graduate work (e.g., Ph.D.) in Economics or related areas.

Thesis topics must be approved by the student's faculty advisory committee, conducted under the guidance of the student's faculty advisor, and then completed to the satisfaction of the faculty advisory committee. Students on the non-thesis track will complete an independent study which serves as a capstone for the program. The independent study allows the student to demonstrate her command of the methods and perspectives taught in the program in investigating a substantive problem. In contrast with the thesis, the independent study examines the student's ability to do independent scholarly work but does not demand an original contribution to knowledge.

### Non-Thesis option (minimum of 30 credit hours)

Required core courses:

ECON 411	Economic Forecasting	3
ECON 416	Mathematics for Economists	3
ECON 504	Advanced Price Theory	3
ECON 505	Advanced Macroeconomic Theory	3
ECON 506	Econometrics (Econometrics)	3
ECON 534	Applied Economic Analysis	3
ECON 997	Independent Study	3
Electives *		9
Total Credits		30

\*Electives (minimum of 9 credit hours):

Choices of cognate electives must be determined in consultation with and approved by the MSAE program director. Courses previously taken from UND for undergraduate credit may not be used to satisfy MSAE requirements.

### Thesis Option (minimum of 34 credit hours)

Required core courses:

ECON 411	Economic Forecasting	3
ECON 416	Mathematics for Economists	3
ECON 504	Advanced Price Theory	3
ECON 505	Advanced Macroeconomic Theory	3
ECON 506	Econometrics (Econometrics)	3
ECON 534	Applied Economic Analysis	3
ECON 596	Applied Economics Research Seminar	3
ECON 998	Thesis	4
Electives *		9
Total Credits		34

\*Electives (minimum of 9 credit hours):

Choices of cognate electives must be determined in consultation with and approved by the MSAE program director. Courses previously taken from UND for undergraduate credit may not be used to satisfy MSAE requirements.

#### Electives

ECON 438	International Money and Finance	3
ECON 510	Topics in Applied Econometrics	3
ECON 524	Advanced International Economics	3
ECON 545	Applied Public Economics	3
ECON 565	Demographic Methods for Economics	3
ECON 575	Advanced Special Topics	3
ECON 597	Economic Research Internship	3

## Outline of Full-Time Course Schedule

The MSAE is designed to be completed in one and a half years of full time study. The non-thesis option requires a minimum of 30 credits hours while the thesis option requires a minimum of 34 credits hours. Below is the recommended course schedule of completion.

First Year		
<b>Fall</b>		
ECON 416	Mathematics for Economists	3
ECON 506	Econometrics (Econometrics)	3
ECON 504	Advanced Price Theory	3
Elective 1		3
Credits		12
<b>Spring</b>		
ECON 411	Economic Forecasting	3
ECON 505	Advanced Macroeconomic Theory	3
ECON 534	Applied Economic Analysis	3
Elective 2		3
Credits		12
<b>Summer</b>		
ECON 596	Applied Economics Research Seminar *	3
Credits		3
<b>Second Year</b>		
<b>Fall</b>		
ECON 997	Independent Study **	3
ECON 998	Thesis *	4
Elective 3		3
Credits		10
Total Credits		30 or 34

\*If pursuing thesis option. \*\*If pursuing non-thesis option.

## Courses

### ECON 503. Government and Business. 3 Credits.

### ECON 504. Advanced Price Theory. 3 Credits.

Economic theory and methodology; theory of consumer behavior and demand; theory of production and distribution; equilibrium in commodity and factor markets; general equilibrium and welfare; behavior of economic agents in imperfect competition. Particular attention is given to efficiency and equity ramifications of perfectly competitive economic systems. Prerequisite: ECON 308. Prerequisite or Corequisite: ECON 416.

### ECON 505. Advanced Macroeconomic Theory. 3 Credits.

Advanced study of macroeconomic theoretical models with particular attention to the analysis of business cycles, income growth and evaluation of public policies concerned with inflation and unemployment. Prerequisites: ECON 309 and ECON 416.

### ECON 506. Econometrics. 3 Credits.

Econometric methods, theory, and applications. Topics include linear regression, least-squares estimation, inference, and hypothesis testing. Prerequisite: Admission to the MBA or MSAE program, or department consent required. S.

### ECON 509. Macroeconomic Decision Making. 3 Credits.

Examination and utilization of theory and empirical evidence on macroeconomics in the business decision-making process will be stressed. Particular emphasis will be placed on inflation, interest rate changes, business taxation, and exchange rate movements. Prerequisites: ECON 202 and MATH 146.

### ECON 510. Topics in Applied Econometrics. 3 Credits.

Statistical models and applied econometrics methods relevant to estimation and the testing of economic relationships. Prerequisite: ECON 506. S.

### ECON 514. Advanced Managerial Economics. 3 Credits.

Microeconomic analysis applied to business decision-making. Topics include: the nature and scope of the firm, strategic decisions concerning product line, pricing, entry or exit from specific markets and the internal organization of the firm. Case studies are utilized as a main method of analysis. Prerequisites: ECON 201, ISBC 217 and MATH 146, or consent of instructor.

### ECON 524. Advanced International Economics. 3 Credits.

This course provides a broad overview of international trade theory, policy, and/or international finance. The course focuses on empirical application based on these theories. Prerequisite: ECON 506. F.

### ECON 534. Applied Economic Analysis. 3 Credits.

This is an applied course in economics, the purpose of which is to build on the tools learned in previous coursework, learn new tools, and discover how to apply these tools to the analysis of data from the real world. The course includes theory, though the focus is on applying the tools of modern econometrics to the study of cross sectional, time series, and panel data. Prerequisites: ECON 411, ECON 416 and ECON 506. F.

### ECON 545. Applied Public Economics. 3 Credits.

This course aims to familiarize the student with the current literature on the economics and econometrics of policy and program evaluation. Prerequisites: ECON 506 and ECON 504. S.

### ECON 565. Demographic Methods for Economics. 3 Credits.

We examine the three key demographic processes: mortality, fertility, and migration. The course emphasis will be on model development for each of the processes. Applications include economic policy issues such as pensions, medical insurance, and other current issues. Prerequisite: ECON 210. SS.

### ECON 575. Advanced Special Topics. 1-3 Credits.

Topics of course will change from semester to semester but will typically emphasize an important aspect of economic theory or a significant issue in economic policy. Repeatable to 6 credits with different topics. Repeatable to 6 credits.

### ECON 580. Economic Development: Global, National, and Regional Issues. 3 Credits.

The first part of this course focuses on growth theories, globalization and economic development and sustainable growth among less developed, developing, and more developed countries, as well as countries in transition to market economies. The second part of the course specifically examines economic development for advanced nations, incorporating rural, urban and regional economic analysis. Issues such as rural technology, employment, poverty, housing, transportation, location problems, industrialization, urbanization and sustainable growth in North Dakota and North Central Region are explored. Prerequisite: Department consent. F.

### ECON 592. Research in Economics. 2-3 Credits.

Research work and use of original documents; collecting of material and preparing of special topics and bibliographies; familiarizing the student with government publications and other material available for study of economic problems.

### ECON 596. Applied Economics Research Seminar. 3 Credits.

Seminar course intended to strengthen and further develop essential skills of research and formal presentation (written and oral) for both academic and professional audiences. Students will apply these skills to the development of their individual Independent Study or Thesis Project Proposal. Enrollment is restricted to MSAE degree students who plan to complete their Independent Study or Thesis in the following academic year. SS.

### ECON 597. Economic Research Internship. 1-3 Credits.

An internship is designed to provide the student with an opportunity for participating in a supervised work experience directly related to the field of training. Students will work closely with the program adviser in planning the internship with an approved cooperating institution. Prerequisite: Permission of program director. Repeatable to 3 credits. F,S,SS.

### ECON 996. Continuing Enrollment. 1-12 Credits.

Repeatable. S/U grading.

### ECON 997. Independent Study. 3 Credits.

The independent study is a capstone for MSAE students on the non-thesis track. The course requires the student to investigate a topic or research question in applied economics that is assigned by the instructor. The student will prepare a research paper demonstrating his/her ability to creatively apply the various methods and perspectives taught in the MSAE program in addressing the assigned problem. Students will also be required to develop a presentation for their paper. F,S.

**ECON 998. Thesis. 4 Credits.**

The thesis is an original research project completed under the supervision of a thesis committee.

## Undergraduate Courses for Graduate Credit

**ECON 324. Public Finance. 3 Credits.**

Growth and effects of the public sector of the economy emphasizing effects of taxation and spending or borrowing and debt management on efficiency and use of economic resources. Prerequisites: ECON 201 and ECON 202.

**ECON 338. International Economics. 3 Credits.**

Economic basis for gain in international trade; capital and population movements; international disequilibrium and the process of balance-of-payments adjustments; tariffs, underdeveloped countries. Prerequisites: ECON 201 and ECON 202. F,S.

**ECON 341. Labor Economics and Labor Relations. 3 Credits.**

A survey of the nature and causes of the economic problems of the American wage and salary earner and of the attempts of wage earners and society, through organizations and legislation, to alleviate these problems. The course comparatively surveys the history and systematic theories of labor movements and the market and institutional influences on wages and employment. Particular emphasis will be placed on the law of industrial relations, employment and income access, and the adjustment of labor disputes. Prerequisites: ECON 201 and ECON 202. F.

**ECON 355. Government Regulation of Business. 3 Credits.**

An exploration of the many ways that federal and state governments regulate business activity. Government regulation falls into three broad areas: economic regulation; social regulation; antitrust laws. The historical development of regulation, from both a legal and economic perspective, will be discussed. Particular attention will be paid to the current trend toward deregulation of previously regulated industries such as airlines, telecommunications, and trucking. Prerequisites: ECON 201 and ECON 202. F.

**ECON 400. History of Economic Thought. 3 Credits.**

Broad overview of the major schools of thought including Mercantilist, Physiocrat, Classical, Marxian, Socialist, Historical, Austrian, Neoclassical, Institutional, Keynesian, and Monetarist. The coverage includes value theory, income/expenditure theory, growth/development theory, scientific method, scope and public policy. Prerequisites: ECON 105 or ECON 201, and ECON 202. S.

**ECON 410. Empirical Methods in Economics I. 3 Credits.**

This course is an introduction to econometrics, the joint area of economics and statistics dealing with the application of statistics to economic problems. The course objectives are to acquire a basic understanding of the theory and methods of econometrics and to gain practical experience in utilizing these methods. The students will use the tools developed in the course in homework and written assignments so that they can develop an insight to theory and its application. Prerequisites: ECON 201, ECON 202 and ECON 210. F.

**ECON 411. Economic Forecasting. 3 Credits.**

An introduction to Economics Forecasting and Time Series Analysis. The course will cover specifications and estimation of ARMA models, seasonality, non-stationarity, unit roots and forecast evaluations. Empirical applications are used throughout the course. Prerequisite: ECON 410 or ECON 506. S.

**ECON 416. Mathematics for Economists. 3 Credits.**

Study of mathematical methods in the areas of introductory calculus and linear algebra, and their application to economic analysis. Mathematical analysis of static and dynamic equilibrium models, growth models, distribution, production functions, cycles, activity analysis, mathematical programming, and model building. Prerequisites: ECON 308 and ECON 309; MATH 146 or MATH 165. On demand.

**ECON 438. International Money and Finance. 3 Credits.**

Identification of key international financial concepts and analysis of their relationships in the international money and capital markets; determination of the balance of payments and exchange rates; and examination of alternative organizations of the international monetary system. Prerequisite: ECON 303. F.