Economics

Program Director: Nicholas Jolly, Ph.D.
MS in Applied Economics website (http://business.maruette.edu/academics/msae/)

Degree Offered
Master of Science in Applied Economics, Plan B Professional Project option only.

Program Description
The master of science program in applied economics is designed for individuals seeking careers as economics, financial or marketing analysts in business, industry, government or the financial sector. The program provides students with the solid grounding in economic theory and the working knowledge of advanced quantitative methods needed to succeed as business economists, financial analysts, economic and marketing researchers, government staff economists or economic consultants. The program concentrates on developing and applying practical skills which can be used to solve real problems confronting business and government. The curriculum is designed to produce practitioners who can develop and interpret economic models. Courses emphasize the application of economic theory and the use of quantitative techniques rather than the derivation of their theoretical underpinnings. Communication skills are stressed through frequent written and oral presentations of results from applied research projects.

Prerequisites for Admission
Applicants are expected to have a four-year baccalaureate degree with at least one course in each of the following areas: intermediate microeconomic theory, intermediate macroeconomic theory, statistical methods and calculus. Familiarity with personal computers is also required.

Specializations
Applied Economic Analysis, Business Economics, Business and Managerial Analytics, Financial Economics, Marketing Research
A general plan, requiring no specialization, is also available.

Application Requirements
Students may apply for Regular Degree, Temporary Degree or Non-degree status. It is recommended that students apply for Regular Degree Status when possible. The application is online via the GSM website (http://business.marquette.edu/academics/gsm/). Then click on Apply Now.

1. A completed application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation from former professors.
4. GRE scores (test code 1448) or GMAT scores (test code 1448).
   a. Applicants may request a waiver of the GMAT/GRE requirement if they have earned an overall quality point average of 3.250 or higher with proof of quantitative course coverage from an AACBS accredited school.
5. (For international applicants only) a TOEFL score (test code 1448 and department code 02) or other acceptable proof of English proficiency.

All application materials should be sent to:

Marquette University Graduate School of Management
Zilber Hall, Suite 205
P.O. Box 1881
Milwaukee, WI 53201-1881

or by courier to: Marquette University Graduate School of Management; 1250 W. Wisconsin Ave., Suite 205; Milwaukee, WI 53233

Note: Temporary non-degree applicants (admission valid for one term only) must submit all of the above except the GMAT or GRE scores. Students are encouraged to complete all application materials and apply for degree status. Temporary status is valid for one term only. Temporary non-degree status students are not eligible to continue taking classes beyond one term without degree admission. Temporary non-degree status is not available to international students. International applicants must apply for regular degree admission status. Typically, non-degree admission is not recommended in the economics program.

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


The Master of Science in Applied Economics (M.S.A.E) program requires a minimum of 30 credit hours of course work (at least 15 of which must be in 6000-level graduate courses), a non-credit master's professional project and an oral comprehensive examination.
Each student completes a specialization. Course work includes: 12 credit hours of required core courses in economic theory and quantitative analysis, 12 credit hours of course work relating to a chosen area of specialization and six credit hours of electives. Specializations include: applied economic analysis (with a policy focus or self-directed focus), business economics, business and managerial analytics, financial economics, and marketing research. With the approval of the program director and appropriate extra work of graduate caliber, a student may apply toward the degree up to six credit hours of selected 5000-level upper-division courses. Also, with the approval of the program director, a student may substitute, for the usual elective requirements, up to six credit hours of course work in fields outside of economics and business administration.

The master's professional project consists of a careful application of newly acquired analytical skills to a particular issue or problem. The professional project is completed during the final term of the program and is often an extension of a previously completed course project. The outline for the M.S.A.E. Professional Project form is posted to the Graduate School of Management's website. Refer to the Academic Calendar (https://www.marquette.edu/central/Registrar/calendars-exams-schedules.php) in this bulletin for the professional project outline and the professional project submission deadlines.

An oral comprehensive examination is administered in the student's last term of the program. This examination covers subject matter prescribed by the Department of Economics.

**Program Details**

Each student must choose one of the areas of specialization: applied economic analysis, business economics, business and managerial analytics, financial economics or marketing research. All specializations require a common set of core courses: two courses in quantitative analysis ECON 6560 Applied Econometrics and ECON 6561 Applied Time-Series Econometrics and Forecasting and two courses in microeconomic and macroeconomic theory ECON 6503 Microeconomic Theory and Applications and ECON 6504 Macroeconomic Theory and Applications. ECON 6560 Applied Econometrics is strongly recommended to be taken in the first term of course work.

**APPLIED ECONOMIC ANALYSIS**

Within the Applied Economic Analysis specialization, there are two focus areas available: Policy focus and Self-directed focus.

The policy focus is designed for students who are interested in careers in the public sector requiring policy analysis. The goal is to provide students training in technical and research skills needed by non-academic professional economists for applying basic economic theory to specific policy problems.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 6506</td>
<td>Industrial Organization and Public Policy</td>
<td>12</td>
</tr>
<tr>
<td>ECON 6510</td>
<td>Economics of the Public Sector</td>
<td></td>
</tr>
<tr>
<td>ECON 6512</td>
<td>Studies in Urban and Regional Economics</td>
<td></td>
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<tr>
<td>ECON 6520</td>
<td>Studies in Labor Market Analysis</td>
<td></td>
</tr>
<tr>
<td>ECON 6522</td>
<td>Studies in Health Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 5005</td>
<td>Sports Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 5016</td>
<td>Environmental and Natural Resource Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 5072</td>
<td>Behavioral Economics</td>
<td></td>
</tr>
</tbody>
</table>

6 additional credits from business, economics, computer science, mathematics, statistics or social sciences 6

Total Credit Hours: 18

The self-directed focus provides a more flexible option for students who wish to focus almost exclusively on economics courses. This focus requires the core course work plus: 12 credits in economics and 6 elective hours in economics, business administration, computer science, mathematics, statistics or social sciences.

**Business Economics**

The Business Economics specialization is suitable for individuals seeking careers in the private sector in industries such as utilities, services and manufacturing. It combines economics courses with such business courses as managerial accounting, marketing management and operations management to name a few.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCO 6200</td>
<td>Managerial Accounting for Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>Economics Courses</td>
<td></td>
<td>6-9</td>
</tr>
</tbody>
</table>

6-9 credit hours chosen from the following: 6-9

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BULA 6110</td>
<td>Legal Issues in Business and Technology</td>
<td></td>
</tr>
<tr>
<td>MBA 6100</td>
<td>Business Analytics</td>
<td></td>
</tr>
<tr>
<td>FINA 6200</td>
<td>Advanced Financial Management</td>
<td></td>
</tr>
<tr>
<td>MBA 6140</td>
<td>Leading People and Change (1.5 crs.)</td>
<td></td>
</tr>
</tbody>
</table>
**Business and Managerial Analytics**

The Business and Managerial Analytics specialization is designed to provide the tools, structure and practice to help begin a career that focuses on investigation and analysis of big data to support data-driven business decisions. Students completing the specialization gain a practical set of skills across the entire range of analytics activities that can be applied to a wide variety of business tasks.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytics Requirement - 3 credits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBA 6100</td>
<td>Business Analytics</td>
<td>3</td>
</tr>
<tr>
<td>15 credits chosen from the following, with no more than 6 credits in any one area:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MARK 5931</td>
<td>Topics in Marketing (Topic: Marketing Research)</td>
<td>3</td>
</tr>
<tr>
<td>or MARK 6160</td>
<td>Marketing Research</td>
<td></td>
</tr>
<tr>
<td>MARK 6160</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>MARK 6165</td>
<td>Marketing Analytics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 6931</td>
<td>Topics in Finance (Topic: Financial Econometrics)</td>
<td>3</td>
</tr>
<tr>
<td>COSC 5820</td>
<td>Ethical and Social Implications of Data</td>
<td>3</td>
</tr>
<tr>
<td>COSC 6510</td>
<td>Business Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>COSC 5610</td>
<td>Data Mining</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td>Three credits may be from GSM 1-credit skills classes chosen from the following:</td>
<td></td>
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<tr>
<td>BUAD 6112</td>
<td>Skills: SAS</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 6113</td>
<td>Skills: SPSS</td>
<td>3</td>
</tr>
<tr>
<td>ECON 6114</td>
<td>R Programming</td>
<td>3</td>
</tr>
<tr>
<td>ECON 6118</td>
<td>Python Programming</td>
<td>3</td>
</tr>
<tr>
<td>ECON 6931</td>
<td>Topics in Economics (Topic: SQL)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 18

**Financial Economics**

The Financial Economics specialization is appropriate for those interested in a career in the financial services sector including commercial and investment banks, insurance companies and wealth management. It blends such economics courses as monetary theory and policy with courses in financial policy and advanced seminar in finance. Financial economics requires the core course work plus:

<table>
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<tr>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCO 6200</td>
<td>Managerial Accounting for Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>ECON 6580</td>
<td>Monetary Theory and Policy</td>
<td>3</td>
</tr>
<tr>
<td>FINA 6200</td>
<td>Advanced Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>Graduate level finance class</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Graduate electives in economics</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 18

**Marketing Research**

The Marketing Research specialization is designed for students interested in a career in marketing research and market analysis, working either for marketing research consulting companies or in marketing research departments of companies in the service, manufacturing or financial sector. It combines the applied econometric and forecasting courses taught in the economics core with courses in marketing management, marketing research and other traditional marketing areas. Marketing Research requires the core course work plus:
ECON 5070. Economics and Ethics. 3 cr. hrs.
Interaction of economic principles and understanding with ethical principles and understanding in contemporary society. Analysis of affluence’s impacts on character development, the practice of moderation and justice, and the meaning of spiritual poverty. Applications of this ethic to critical features of modern industrial society. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5045. Comparative Economic Systems. 3 cr. hrs.
An analysis and description of economies as they evolved from ancient societies through today. Analyze the effects of alternative systems on social and political institutions in resource exploitation. Topics covered include air and water pollution, energy, ocean resources, forestry practices, mineral resources, the population problem, and agriculture. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5040. International Economic Issues. 3 cr. hrs.
Survey of international economics. Basis for and welfare effects of international trade, commercial policies, and economic growth. International organizations, trading regions, and trade accords. Balance of payments concepts and exchange rate theories. History and theory of international monetary systems including fixed versus flexible exchange rates. Note: Credit not given, including credit to fulfill any Discovery Tier requirements, if simultaneously enrolled in or have already completed either ECON 4044 or ECON 4046 for credit. Prereq: Admitted to the graduate ECON program; or consent of the M.S.A.E. prog. dir.

ECON 5045. Comparative Economic Systems. 3 cr. hrs.
An analysis and description of economies as they evolved from ancient societies through today. Analyze the effects of alternative systems on social and economic behavior under differing levels of technology and development. Compare the economic behavior and policy between socialistic markets and capitalist markets as the development reaches present-day levels. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5070. Economics and Ethics. 3 cr. hrs.
Interaction of economic principles and understanding with ethical principles and understanding in contemporary society. Analysis of affluence’s impacts on character development, the practice of moderation and justice, and the meaning of spiritual poverty. Applications of this ethic to critical features of modern industrial society. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

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ECON 5072. Behavioral Economics. 3 cr. hrs.
An introduction to behavioral economics. Traditional economic models assume that people have perfect rationality and perfectly process all available information. Behavioral economics relaxes some of the assumptions made about people to reconcile traditional models with real world observations. Coverage of behavioral economic theory is presented by emphasizing empirical results from lab experiments and the real world, and investigating some public policy implications. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5931. Topics in Economics. 1-3 cr. hrs.
Topics vary. Prereq: Admitted to BUAD, ECON, HCTM, HURE, LEDR or NURS program; or cons. of M.B.A. prog. dir. Prerequisites vary depending on topic.

ECON 6114. R Programming. 1 cr. hr.
Introduction to R Programming. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6115. Research Methods in Economics. 1 cr. hr.
Provides skill sets to select research topic for professional project; provides guidance in strategies used in research, writing and presentation components. Prereq: Admitted to graduate ECON; or cons. of M.S.A.E. prog. dir.

ECON 6118. Python Programming. 1 cr. hr.
Teaches the basics of programming with Python: writing and executing Python programs, learning the core data structures in Python, interacting with data, acquiring skill in data manipulation and using Python to access web data and data from databases. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6200. Economics for Management Decision Making. 3 cr. hrs.
Incorporates the tools and logic of microeconomics together with quantitative and statistical methods to assist managers in sound, ethical decision making. The principal focus is on understanding and predicting economic behavior of consumers, pricing strategies of firms, and the impact of industry competition through product-line and industry modeling and model estimation. May also consider the impact of various industries. Requires the use of current statistical software and computer technology. Prereq: Admitted to graduate ACCO, ACAN, BUAD, CCOM, ECON, HCTM or MGMT; MBA 6010, MBA 6050; or cons. of M.B.A. prog. dir.

ECON 6503. Microeconomic Theory and Applications. 3 cr. hrs.
Surveys mathematical techniques applied to economics, including differential calculus and linear algebra. Develops neoclassical theory of firm and consumer behavior using mathematical techniques. Emphasizes the methodology of constructing and using microeconomic models. Explains economic behavior at the individual, firm, market, and general equilibrium levels. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6504. Macroeconomic Theory and Applications. 3 cr. hrs.
Covers both long-run growth and short-run fluctuations. Begins with an analysis of the economy's long-run growth path using neoclassical and endogenous growth models, then surveys theories of the business cycle orthodoxy by orthodoxy in historical order. Static and dynamic models of the economy are developed and used for policy analysis. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6506. Industrial Organization and Public Policy. 3 cr. hrs.
Empirical studies in patterns of market structure, business behavior and performance. Industrial concentration, entry barriers, pricing and promotional behavior, efficiency and profitability. Applications in the field of antitrust and regulation. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6510. Economics of the Public Sector. 3 cr. hrs.
Economic analysis of the public sector, including the topics of taxation and expenditure policy, federalism/centralism, economics of law, Parento criteria, and constitutional economics. Culminates in the presentation of a research paper on a suitable topic in public economics. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6512. Studies in Urban and Regional Economics. 3 cr. hrs.
Uses economic tools to examine decisions of firms and households in a spatial setting. Covers regional economic issues, such as why cities exist and where they tend to develop, inter-urban household migration and firm location decisions, and models of urban growth. The urban economic topics explored include the inter-urban location decisions of economic agents in the context of amenities, public goods and zoning restrictions. Finally, the tools developed in the class are used to investigate urban problems such as poverty, housing, and transportation issues. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6520. Industrial Organization and Public Policy. 3 cr. hrs.
Determinants of the demand and supply of the services of human beings. Compensatory wage differentials, human capital investment, migration and immigration, and labor market discrimination. The role of unions, government in the labor market and current issues. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6522. Studies in Health Economics. 3 cr. hrs.
Focuses on the use of economic models and regression methods in the analysis of healthcare. Covers a variety of topics including the cost-benefit analysis and managed care, demand for health, production of health services, income disparities in health outcomes and distribution of health, insurance and risk-sharing, and the role of government. Students gain the ability to apply economic reasoning and statistical methods to many healthcare issues. Prereq: Admitted to the graduate ECON program or cons. of M.S.A.E. prog. dir.
ECON 6544. International Currency Markets. 3 cr. hrs.
An examination of various foreign currency markets, including spot, forward and derivative instruments, understanding the economic, historical, institutional, and empirical aspects of these markets. Analysis of the relationship between currency markets, money markets and bond markets. Development and study of the fundamental models of balance of payments and exchange rate determination. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6546. International Trade. 3 cr. hrs.
Examines traditional and contemporary issues of international trade using the basic tools of microeconomics. Addresses the basis for trade, the effects of trade, and impediments to trade in particular. Specific topics include various trade theories, arguments for and against protection, the instruments and effects of trade policies, economic integration, and foreign direct investment. Prereq; Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6560. Applied Econometrics. 3 cr. hrs.
Specification, estimation and statistical verification of multiple linear regression models and hypothesis testing. Causes, consequences, detection of such problems as heteroscedasticity, autocorrelation, specification and measurement errors. Other topics include estimation of models with panel data and limited dependent variables. Prereq; Admitted to the graduate ACAN, ECON or BMAN Certificate program; or cons. of M.S.A.E. prog. dir.

ECON 6561. Applied Time-Series Econometrics and Forecasting. 3 cr. hrs.
Continuation of ECON 6560 focusing on more advanced econometric and forecasting techniques using primarily time-series models such as ARIMA and transfer functions, VAR, VEC, and GARCH, as well as the method of combining forecasts. Emphasis on the practical knowledge of above techniques, and on reporting and presenting econometric results. Prereq; Admitted to the graduate ECON or BMAN Certificate program; or cons. of M.S.A.E. prog. dir.

ECON 6580. Monetary Theory and Policy. 3 cr. hrs.
Factors affecting money supply, money demand, and money’s influences on the macroeconomy. Federal Reserve policy and its implication for money supply. International monetary economics and coordination of monetary policy among different countries. Monetary policy under different exchange rate regimes. Examination of contemporary theoretical and econometric monetary issues and policy prescriptions. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6691. Topics in Economics. 1-3 cr. hrs.
Topics will vary. Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir. Prerequisites may vary from course to course.

ECON 6986. Internship in Applied Economics. 1-3 cr. hrs.
Directed work in applied economic analysis under the supervision of a working professional in a business, financial, international or public policy area. Requires a faculty supervisor. Course does not apply toward degree requirements. Prereq: Admitted to the graduate ECON program; student must have completed 9 credits in program; or cons. of M.S.A.E. prog. dir.

ECON 6987. Internship Work Period. 0 cr. hrs.
Full-time directed work in applied economics under the supervision of a working professional in the area of applied economics. Requires faculty supervisor. Must have approved academic component and approved total work hours. Internship does not apply toward degree requirements. (Full-time equivalency for financial aid, zero credits for academics/tuition.) Prereq: Admitted to the graduate ECON program; completed 9 credits in program; cons. of M.S.A.E. prog. dir. SNC/UNC grade assessment.

ECON 6988. Internship Grading Period. 3 cr. hrs.
Grading for preceding internship work assignments is accomplished by review of Employer Evaluation Forms, Work Exit Reports and other materials as required during each term in school following a work period. (3 credits for academics/tuition; not financial aid eligible.) Prereq: ECON 6987.

ECON 6995. Independent Study in Economics. 1-3 cr. hrs.
Faculty-supervised, independent study/research of a specific area or topic in Economics. Prereq: Admitted to the graduate ECON program and cons. of M.S.A.E. prog. dir.

ECON 6998. Professional Project. 0 cr. hrs.
Provides direct supervision of the research that constitutes the core of the professional project. Students submit drafts of various sections of their project as each is completed. These sections are: literature review, development of theoretical model, specification of empirical model of theory, creation of the necessary data set and execution of the empirical model. The final output of the course is a complete draft of the project that meets project director's approval. Prereq: Admitted to the graduate ECON program; approval of project outline by the prog. dir. and cons. of M.S.A.E. prog. dir. by the stated deadline.

ECON 9991. Professional Project Continuation: Less than Half-Time. 0 cr. hrs.
Fee. SNC/UNC grade assessment. Allows a student to be considered the equivalent of less than half-time status. Requires that the student is working less than 12 hours per week on their professional project. Any professional project credits required for the degree should be completed before registering for non-credit Professional Project Continuation. Prereq; Cons. of GSM.

ECON 9992. Professional Project Continuation: Half-Time. 0 cr. hrs.
Fee. SNC/UNC grade assessment. Allows a student to be considered the equivalent of half-time status. Requires that the student is working more than 12 to less than 20 hours per week on their professional project. Any project credits required for the degree should be completed before registering for non-credit Professional Project Continuation. Prereq; Cons. of GSM.
EON 9993. Professional Project Continuation: Full-Time. 0 cr. hrs.
Fee. SNC/UNC grade assessment. Allows a student to be considered the equivalent of full-time status. Requires that the student is working 20 hours or more per week on their professional project. Any professional project credits required for the degree should be completed before registering for non-credit Professional Project Continuation. Prereq: Cons. of GSM.