

Addendum to the Memorandum of Understanding
Between
MS Accounting and Business Advisory Services Graduate Program, Merrick School of Business,
University of Baltimore
And
BS in Financial Economics and Accounting Certificate Programs, Department of Economics,
University Maryland Baltimore County

This Addendum stipulates which courses, as currently listed in UMBC Graduate Course Catalog, can be transferred into MS in Accounting and Business Advisory Services Graduate Program at the University of Baltimore's Merrick School of Business.

ECON 601 [3]

A course in graduate-level microeconomic theory. This course presents the theory and analytical methods needed to bring economic analysis to bear on policy issues. Topics will include theories of consumer and firm behavior, market failure and the role of government in regulating the economy. Analytical techniques will include optimization, game theory, duality and dynamic optimization.

ECON 602 [3]

This course covers both tools and models used in macroeconomics. The course focuses on static and dynamic analysis of the commonly used deterministic and stochastic models in the macroeconomics literature; both long-run models of economic growth and short-run models of economic fluctuations will be covered.

ECON 611

Advanced Econometric Analysis I [3]

This course teaches basic econometric analysis and shows how it can be applied to examine policy issues. The course will provide the student with the skills needed to work with large data sets, to apply econometric techniques such as Ordinary Least Squares (OLS), Two-Stage Least Squares (2SLS), maximum likelihood estimation and the analysis of panel data. Students will be assigned problem sets that use data provided by the instructor and will learn how to use econometric packages such as SAS, STATA and SPSS. Prerequisite: STAT 351 or STAT 355, ECON 421 and ECON 490 or equivalents. (Fall)

ECON 612

Advanced Econometric Analysis II [3]

Students get hands-on experience working on policy questions using real data. Students will analyze a selected policy issue by applying econometric methods to data sets provided by the professor. For example, students may use current population surveys to examine the relationship between education and earnings. Students will learn to construct variables from raw data and apply appropriate econometric techniques to answer policy questions. May be repeated as ECON 613: Advanced Topics in Econometrics with a different instructor. Prerequisite: ECON 611. (Spring)

ECON 613**Advanced Topics in Econometric Methods [3]**

This course is for students who have completed ECON 612 and who would like additional knowledge of econometric methods. This course will be taught simultaneously with ECON 612. Students will only be allowed to sign up for ECON 613 with the consent of the professors teaching the course, and students will not be able to take ECON 612 and ECON 613 from the same professor. Prerequisites: ECON 612 and consent of instructor.

ECON 614**Economics of Government Policy Toward Business [3]**

A study of government regulation of the business sector. Topics include pollution controls, regulation of public utilities, anti-trust laws and regulation and other governmental regulation of business.

ECON 615**Property Rights, Organizations and Management [3]**

This course applies microeconomic theory to managerial behavior in profit-making and not-for-profit organizations. Topics include transaction costs and property rights systems; contracting, information and incentives; coordination, motivation and compensation of managers and labor; financial analysis and incentives; internal structure and dynamics of organizations that include innovation; and application of analysis of corporations to alternative organizational forms, including nonprofit and public-sector organizations and markets and economies as forms of organization.

ECON 618**Economics of Technology and Innovation [3]**

This course will examine the economic determinants and consequences of innovation, creative activity and technological advance. It will consider both theoretical models and empirical studies of the determinants of inventive activity. It will survey estimates of private and social returns to investments in research and development. Policy issues involving patents, intellectual property and public subsidies to research will also be considered. Prerequisite: ECON 311.

ECON 661**Microeconomics of Public Finance [3]**

A study of the microeconomics of the public sector. Topics include the theory and the policy applications of federal, state and local public finance and expenditures.

ECON 671**Money and Capital Markets [3]**

Analysis of portfolio theory and the role of finance in the economy. Survey of sources and uses of funds of the major financial institutions in the contemporary American economy. Analysis of sources of funds, organizational structure, yields and impact on the macroeconomy of major money markets (federal funds, commercial paper, Treasury bills) and capital markets (state and local government securities, mortgages, bonds and stocks). Major international financial markets are discussed briefly. Prerequisite: ECON 374 and ECON 311 or consent of instructor.

ECON 672**Monetary Theory and Policy [3]**

A study of theories of monetary economics. Analysis of contemporary theory and empirical evidence on money supply and demand and the impact of money on the economy. Evaluation of monetary policy in a historical, analytical framework. Prerequisites: ECON 601, ECON 602 and ECON 611.

ECON 674**Financial Management [3]**

Economic analysis of the problems of financing modern corporations. A theoretical and applied treatment of asset pricing, capital budgeting, capital structure and the cost of capital, as well as an analysis of specific debt and equity instruments. Prerequisites: ECON 374 and 311.

ECON 675**Financial Investment Analysis [3]**

An examination of financial assets, financial markets and investment portfolio decisions. Stocks, bonds and derivative securities and their risk and return characteristics are examined. Prerequisites: ECON 374 and ECON 311.

ECON 676**Portfolio Analysis and Management [3]**

Application of economic analysis to the process of portfolio management, including objectives and risk preferences, portfolio constraints and optimization techniques (such as linear programming), scenario forecasting and asset selection. Prerequisites: ECON 374, ECON 601, ECON 602, ECON 611 and ECON 612.

ECON 681**Economics of International Commercial Policy [3]**

A study of the economics of international trade and commerce. Topics include international trade theory and policy, international factor movements and the analysis of economic integration arrangements. Prerequisite: ECON 311.

ECON 685**The Economics of Developing Economies [3]**

This course is a survey of the principles and problems of developing economies. Topics covered include the dimensions of poverty, patterns of development, sources of growth, role of trade and industrial development, planning, the agricultural sector and the new international order. We will include case studies from Asia, Africa and Latin America.

IS 600

Introduction to Object-Oriented Programming Concepts (Credits: 3)

This course introduces the student of information systems to fundamental object-oriented programming concepts. A student of this course will learn the principles of programming, and in particular object-oriented programming principles. Programming principles and constructs, such as data types, common control flow structures, basic data structures, console input/output, and file input/output will be presented. We will also learn several key object-oriented principles, such as inheritance and exception handling. We will use the Java programming language to learn and implement the basic programming and object-oriented principles described above.

IS 601

Foundations of Information Systems (Credits: 3)

This course is an introduction to the role of information and information systems in organizations. Characteristics of organizations, e.g., structure, culture, decision making, are analyzed as to how they affect and are affected by information systems development and use. Strategic planning, information architecture design, competitive value, career paths, ethical issues, legal issues, and trends in information technology development and in information management practice are examined for both public and private organizations. Emerging technologies are also assessed for potential strategic value to an organization.

IS 610

Database Program Development (Credits: 3)

An introduction to computer databases which examines the basic functions and capabilities of database management software (DBMS). Emphasis is placed on the use of this software in solving information processing problems which may include laboratory work as well as database design case studies. Topics include a discussion of data structures, host language programming, indirect and direct file organization, and DBMS models including hierarchical, network, and relational. Also examined are storage devices, data administration, and database administration, as well as database analysis, design, and implementation.

IS 630

Information Resources Management (Credits: 3)

The relationships between organizational policy and institutional information requirements are analyzed in this course. The conditional influence of the structure of the administrative organization, and the design of the information system upon organizational policy affecting access and use of databases are examined in detail. Prerequisite: IS 601.

IS 642

Information System Analysis (Credits: 3)

Applications of the computer in organizational management are the objectives of this course. Principles of systems analysis as related to organizational productivity are developed, and a means for including productivity measures in systems analysis are addressed. Prerequisite: IS 636.

IS 731

Electronic Commerce (Credits: 3)

This course will analyze how organizations are using electronic commerce to streamline operations, reach customers, and increase profitability. The technologies involved in electronic commerce will be examined. The organizational, behavioral, social, legal, security, and international aspects of EC will be discussed. The primary emphasis will be on Web based technologies and issues. This course will reflect the most current research and application.

IS 733

Data Warehousing and Data Mining (Credits: 3)

The purpose of this course is to provide a comprehensive discussion on using organizational databases to enable decision support through warehousing and mining of data. This course will provide an in depth understanding of the technical, business, and research issues in each of these two areas. Issues in data warehousing include designing multi-dimensional data model, cleansing and loading of data, determining refresh cycles and methods, administrative aspects of running a data warehouse including efficient data retrieval using bitmap and join indexes, reporting, ad hoc querying, and multi-dimensional operations

such as slicing, dicing, pivoting, drill-down, and roll-up operations. Areas with data mining will include justifying the need for knowledge recovery in databases, data mining methods such as clustering, classification, Bayesian networks, association rules, and visualization. New areas of research and development in data mining warehousing will also be discussed. Prerequisite: IS 620.

ENMG 650: Project Management Fundamentals

Students learn the fundamentals of managing projects in a systematic way. These fundamentals can be applied within any industry and work environment and will serve as the foundation for more specialized project management study. Principles and techniques are further reinforced through practical case studies and team projects in which students simulate project management processes and techniques.

ENMG 656: Engineering Law and Ethics

This course provides a comprehensive overview of important legal principles affecting engineers, engineering sciences and corporate management, with a focus on the intersection of these legal principles with business ethics. The student learns how to think through and process legal problems consistent with ethical norms, and how to analyze business risks in light of operative legal constructs, taking into consideration ethical issues, to arrive at a range of correct business decisions. Throughout the course, the student will learn substantive legal principles including an overview of constitutional, contract, tort, corporate and regulatory law. Students will work in groups during certain exercises, role play in real and hypothetical case studies, and make a final presentation of a comprehensive legal and ethical engineering problem.

ENMG 658: Financial Management

This course will cover the fundamentals of setting up, reading and analyzing financial statements and reports in a business setting. Course topics will include: project budgeting, profit planning, return on investment and basic corporate finance. Students will analyze case studies from specific industries.

ENMG 663: Advanced Project Management Applications

This advanced course in project management builds on the beginner level project management courses to expand the hands-on applications, with a focus on critical evaluation of project performance and ultimately creating an environment for maximizing one's own project management performance. With a strong emphasis on the importance of learning through application, the course will bridge academia with the professional business environment to provide opportunities for students to interact with industry professionals as the students execute their course work. Students will also confront the real challenges facing project managers associated with the growing global and virtual workforce through the use of on-line learning tools and methods of collaboration. At the successful completion of the course, students will have the requisite skills and experiences necessary to function effectively, and artfully, as skilled project managers.

ENMG 672: Decision and Risk Analysis

This course provides an overview of decision and risk analysis techniques. It focuses on how to make rational decisions in the presence of uncertainty and conflicting objectives. This course covers rational decision-making principles and processes; competing objectives, multi-attribute analysis and utility theory; modeling uncertainty and decision problems using decision trees and influence diagrams; solving decision trees and influence diagrams; uses of Bayes' Theorem; defining and calculating the value of information; regression analysis; incorporating risk attitudes into decision analyses; and conducting sensitivity analyses. A significant portion of the course is devoted to the use of various applications of analytic, empirical, and subjective probability theory to the modeling of uncertain events. As such, students will find it useful to have some experience with basic probability.

This course can be counted as either a management course or an engineering course for the M.S. in Engineering Management.

ENMG 664: Quality Engineering & Management

This course provides an overview of the basic principles and tools of quality and their applications from an engineering perspective. The primary quality schools of thought or methodologies, including Total Quality Management, Six Sigma and Lean Six Sigma, and quality approaches from key figures in the development and application of quality as a business practice, including W. Edwards Deming and Joseph M. Juran will be analyzed. Some of the key mathematical tools used in quality systems will be discussed, including Pareto charts, measurement systems analysis, design of experiments, response surface methodology, and statistical process control. Students will apply these techniques to solve engineering problems using the R software. Reading assignments, homework, exams, and the project will emphasize quality approaches, techniques, and problem solving.

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CYBR 620: Introduction to Cybersecurity

This course introduces students to the interdisciplinary field of cybersecurity by discussing the evolution of information security into cybersecurity, cybersecurity theory, and the relationship of cybersecurity to nations, businesses, society, and people. Students will be exposed to multiple cybersecurity technologies, processes, and procedures, learn how to analyze the threats, vulnerabilities and risks present in these environments, and develop appropriate strategies to mitigate potential cybersecurity problems.

CYBR 621: Cyber Warfare

This course addresses some of the unique and emerging policy, doctrine, strategy, and operational requirements of conducting cyber warfare at the nation-state level. It provides students with a unified battlespace perspective and enhances their ability to manage and develop operational systems and concepts in a manner that results in the integrated, controlled, and effective use of cyber assets in warfare.

CYBR 622: Global Cyber Capabilities and Trends

Students will be exposed to the national and international policy and legal considerations related to cybersecurity and cyberspace such as privacy, intellectual property, cybercrime, homeland security (i.e., critical infrastructure protection) and cyberwarfare, and the organizations involved in the formulation of such laws and policies. Broader technology issues also are discussed to demonstrate the interdisciplinary influences and concerns that must be addressed in developing or implementing effective national cybersecurity laws and policies.

CYBR 623: Cybersecurity Law and Policy

Students will be exposed to the national and international policy and legal considerations related to cybersecurity and cyberspace such as privacy, intellectual property, cybercrime, homeland security (i.e., critical infrastructure protection) and cyberwarfare, and the organizations involved in the formulation of such laws and policies. Broader technology issues also are discussed to demonstrate the interdisciplinary influences and concerns that must be addressed in developing or implementing effective national cybersecurity laws and policies.

CYBR 624: Cybersecurity Project

This is the capstone experience for graduate students in the M.P.S. Cybersecurity program. The Cybersecurity Project provides an opportunity for students to carry out an individual piece of research on a specified topic in the cybersecurity or cyber operations domain. This research should make an original contribution to the body of knowledge in the area of study or otherwise demonstrate the student's comprehensive knowledge of cybersecurity or cyber operations.

Prerequisite: Completion of cybersecurity breadth courses.

CYBR 620: Introduction to Cybersecurity [3]

This course surveys the topic of Cybersecurity, examining aspects of information, people and technology, the evolution of information security to Cybersecurity, and its technical, legal, and impact perspectives. Students will learn how to apply the Cybersecurity concepts of protection and response to government, critical infrastructure, commercial, and individual situations; analyzing the threats and risks of those environments in light of information processing objectives and threats; and applying an appropriate strategy to build and operate appropriate defenses to mitigate potential impacts upon processing systems.

CMSC 626: Principles of Computer Security [3]

This course will provide an introduction to computer security with a specific focus on the computing aspects. Topics covered include: basics of computer security, including an overview of threat, attack and adversary models; social engineering; essentials of cryptography; traditional computing security models; malicious software; secure programming; operating system security in practice; trusted operating system design; public policy issues, including legal, privacy and ethical issues; network and database security overview.