



UNIVERSITY OF MARYLAND

OFFICE OF THE PRESIDENT

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February 4, 2019

James D. Fielder, Jr.
Secretary of Higher Education
Maryland Higher Education Commission
6 N. Liberty Street
Baltimore, MD 21201

Dear Secretary Fielder:

I am writing to request approval for a new Master of Science program in Applied Economics. The proposal for the new program is attached. I am also submitting this proposal to the University System of Maryland for approval.

The proposal was endorsed by the appropriate faculty and administrative committees. I also endorse this proposal and am pleased to submit it for your approval.

Sincerely,

A handwritten signature in black ink, appearing to read "Wallace D. Loh".

Wallace D. Loh
President

MDC

cc: Antoinette Coleman, Associate Vice Chancellor for Academic Affairs
Mary Ann Rankin, Senior Vice President and Provost
Gregory Ball, Dean, College of Behavioral and Social Sciences



Cover Sheet for In-State Institutions
New Program or Substantial Modification to Existing Program

Institution Submitting Proposal: University of Maryland, College Park

Each action below requires a separate proposal and cover sheet.

- Radio button options for program types: New Academic Program, New Area of Concentration, New Degree Level Approval, New Stand-Alone Certificate, Off Campus Program, Substantial Change to a Degree Program, Substantial Change to an Area of Concentration, Substantial Change to a Certificate Program, Cooperative Degree Program, Offer Program at Regional Higher Education Center.

Payment Submitted: No, Type: Check, Payment Amount: 850, Date Submitted:

Department Proposing Program: Economics
Degree Level and Degree Type: Master of Science
Title of Proposed Program: Applied Economics
Total Number of Credits: 30
Suggested Codes: HEGIS: 220401.00, CIP: 45.0603
Program Modality: On-campus
Program Resources: Using Existing Resources
Projected Implementation Date: Fall, Year: 2019
Provide Link to Most Recent Academic Catalog: https://academiccatalog.umd.edu/

Preferred Contact for this Proposal: Name: Michael Colson, Title: Senior Coordinator for Academic Programs, Phone: (301) 405-5626, Email: mcolson@umd.edu

President/Chief Executive: Type Name: Wallace D. Loh, Signature: [Handwritten Signature], Date: 02/04/2019

Date of Approval/Endorsement by Governing Board:

A. Centrality to the University's Mission and Planning Priorities

Description.

Overview and Purpose. Since fall 2012, the University of Maryland, College Park has been offering an iteration of its Master of Professional Studies (MPS) in Applied Economics. The intent of this proposal is to move the existing curriculum out from under the MPS umbrella and create a stand-alone Master of Science (MS) in Applied Economics. This change would allow the Applied Economics program to be properly designated as a Science, Technology, Engineering, and Math (STEM) program in the Federal Classification of Instructional Programs (CIP). Assigning the proper CIP number to the curriculum will help attract more highly skilled domestic and international students. For domestic students, a STEM designation will enhance their scholarship applications and opportunities for career improvement. For international students, the additional 24 months of Optional Practical Training (OPT) that is permitted for STEM-designated programs will benefit their future job searches.

The program's curriculum will be the same as the existing MPS iteration. Housed in the Department of Economics within the University of Maryland College of Behavioral & Social Sciences, the proposed MS in Applied Economics program will continue the curriculum of the nationally ranked MPS program (Ranked #3 in the Financial Engineer's ranking of US economics master's degree programs, and Ranked #10 in the ranking by College Choice). Focusing on the application of modern economic analysis to public policy questions, the 10-course, 30-credit MS in Applied Economics will continue to emphasize the role of applied econometric analysis, with a particular focus on real-world policy-relevant examples. Like the current MPS, the proposed MS in Applied Economics will continue to provide rigorous training in economic reasoning, formulating and estimating economic models, and utilizing quantitative methods to evaluate policy proposals and programs.

Relation to Strategic Goals. In a world that is becoming increasingly complex, where success is driven not only by *what* you know, but by what you *can do* with what you know, it is more important than ever for students to be equipped with the knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. These are the types of skills that students will develop in the proposed MS in Applied Economics program. Specifically, the proposed MS in Applied Economics contributes to the University's mission to "advance knowledge in areas of importance to the State, the nation, and the world." The MS in Applied Economics will continue to extend the university's learning community beyond the campus boundaries and fill demonstrated needs at the State and Federal level.

Funding. As previously noted, the Economics Department already offers a self-supported MPS in Applied Economics and has existing faculty and facilities in College Park and Washington, DC to support the program. The proposed change from an MPS to an MS does not require the development of any additional courses or the hiring of additional faculty. As it has been with the current MPS, tuition revenue for the proposed MS in Applied Economics will provide funding to pay all program expenses (e.g., salaries, benefits, program materials, and physical resources).

Institutional Commitment. The Economics Department has already secured the administrative, instructional, advising, and facilities infrastructure that are required to operate the proposed MS in Applied Economics program. Reporting to the Department Chair and to the Director of Graduate Studies, the Applied Economics Program Director serves as the academic adviser to all students. Two

part-time program coordinators support the Program Director—one for the semester-based program in College Park, and one for the quarter-based program in Washington, DC.

In the unlikely event that the program is no longer financially viable, program faculty and staff would continue to support and teach the necessary courses to allow enrolled students to complete their degree within a reasonable and customary period of time.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

Need. Over the last seven years, the current MPS program has been taught by faculty from the Economics Department and by other PhD economists working at some of the most prominent and influential private, governmental, and non-governmental organizations in the greater Washington DC area. These highly qualified practitioners have developed specific course syllabi that provide the precise training that students need to be successful analysts in the same kinds of organizations that currently employ many of the program’s adjunct faculty. Graduates from the current MPS in Applied Economics program have been recruited and hired by a variety of employers including Federal Government Agencies, International Organizations (e.g., World Bank, International Monetary Fund), and private consulting firms.

In conjunction with the undergraduate program in the Economics Department and the UMD Career Center, the Applied Economics program organizes recruiting events in October and February of each year. The employment rate for Applied Economics graduates has been outstanding since the program’s inception. In calendar 2016, 26 of 27 graduates were employed in the field within three months of graduation. In calendar 2017, 44 of 45 graduates were employed within three months of graduation. For the May 2018 graduates, 26 of the 28 domestic graduates are now working in the economics field as applied economists. The high employment rates for Applied Economics graduates are a testament to the need for skilled economists and the value that employers place on the training students receive in the Applied Economics master’s program.

State Plan. The proposed MS in Applied Economics program aligns with the emphasis on career training highlighted in the *Maryland State Plan for Postsecondary Education*. Specifically, strategy number seven of the *Maryland State Plan* identifies a need to “Enhance career advising and planning services and integrate them explicitly into academic advising and planning.”¹ A substantial focus of the Applied Economics program revolves around employment preparation. Throughout the program, students have access to faculty, staff, and guest lecturers who provide career planning assistance, resume and cover letter editing, and internship opportunities. The vast majority of students begin working at jobs and internships well before they graduate, which results in valuable peer-to-peer networking opportunities as well. The Applied Economics program also advances the need for expanding educational opportunities and choices for minority and educationally disadvantaged students in institutions of higher education. Since inception, approximately 34% of the students served in the Applied Economics program identify as belonging to groups underrepresented in higher education.

¹ Maryland Higher Education Commission. (2017). *Maryland State Plan for Postsecondary Education*. (p. 60). Retrieved October 29, 2018 from: <http://www.mhec.state.md.us/About/Documents/2017.2021%20Maryland%20State%20Plan%20for%20Higher%20Education.pdf>.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State

Since its inception, more than 90% of the program's domestic graduates have found employment in the economics field within three months of graduation. Of the five international graduates in the 2018 graduating class who are still in the US, three are working at OPT internships, one is still seeking an internship, and the other has enrolled in a subsequent graduate program at George Washington University.

The US Bureau of Labor Statistics handbook lists the number of jobs for economists as growing by 6% between 2016 and 2026, with those with a graduate degree having the best prospects.² The state of Maryland Labor, Licensing, and Regulation department shows economist positions increasing by 3.8% by 2026.³ The actual job prospects for graduates of this program extend beyond this narrow category, however, as economic analysis is a skill that is necessary in a variety of industries and professions. In the last 3 years, graduates of the program have been hired many organizations, which are identified in Appendix D.

D. Reasonableness of Program Duplication

The current MPS in Applied Economics at UMD has co-existed with the MS in Applied Economics offered at Johns Hopkins University since the fall of 2012. The demonstrated demand for the economics education, along with UMD's substantially lower tuition rate (\$32,500 compared to \$43,850), justifies the need and anticipated continued success of the Applied Economics program at UMD.

E . Relevance to Historically Black Institutions (HBIs)

Morgan State University offers a Master of Arts in Economics through its College of Liberal Arts. As with the MS in Applied Economics at Johns Hopkins, the programs have successfully co-existed since 2012 because of sufficient market demand, and complementary geographical reach. The only potential impact that is anticipated from converting UMD's Applied Economics degree from MPS to MS is the enhancement of internship opportunities available to international students and graduates of the UMD's program.

F. Relevance to the identity of Historically Black Institutions (HBIs)

The UMD has already been offering the MPS in Applied Economics since 2012. The UMD has also been offering Bachelor's and PhD programs in economics for decades. Converting the UMD's Applied Economics degree from an MPS to an MS degree would not have an impact on the uniqueness of institutional identity of any Maryland HBIs.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes

² US Bureau of Labor Statistics. (April 30, 2018). *Occupational Outlook Handbook: Economists*. Retrieved from: <https://www.bls.gov/ooh/life-physical-and-social-science/economists.htm>.

³ Maryland Department of Labor, Licensing & Regulation. (January 31, 2019). Maryland Occupational Projections – 2016-2026 – Workforce Information and Performance. Retrieved from <http://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml>.

Curricular Development. When the program was established as an MPS, economics faculty were primarily responsible for developing the program's curriculum. Based mostly on their world-class academic research, our economics department is consistently ranked among the top 20-30 departments in the US. Many of our faculty also have strong ties to applied work being done in many policy-relevant areas. Over the last 7 years, we have staffed the program's courses with members of our department's teaching faculty, and with PhD economists working at the DC area's many private, governmental, and non-governmental organizations. These highly qualified practitioners have developed specific course syllabi that provide exactly the kind of training that students need to be successful analysts in the same kinds of organizations where many of our instructors work.

Faculty Oversight. The program will be housed in the Economics Department in the College of Behavior & Social Sciences and taught by department faculty who have extensive academic and industry experience. See appendix B for a complete list of faculty credentials. Dr. John Straub, will continue to serve as the Program Director and have overall responsibility for all academic aspects of the program. The proposed program will continue to be administered through the UMD's Office of Extended Studies.

Educational Objectives and Learning Outcomes. In preparation for career paths in Economics, the proposed MS in Applied Economics program will train students with the objective of developing the following skills:

1. To collect, evaluate, understand and analyze economic data.
2. To understand and interpret statistical results and apply empirical evidence to economic arguments.
3. To articulate and apply standard macroeconomic theories and models to policy discussions.
4. To articulate and apply standard microeconomic theories and models to policy discussions.
5. To interpret and communicate economic models to a wider audience.
6. To measure and evaluate the effectiveness of policy programs using sound econometric techniques.

Institutional assessment and documentation of learning outcomes.

As with the current MPS in Applied Economics, the proposed MS in Applied Economics will utilize the assessments outlined below:

- **Survey of Graduates**
Graduates of the program will be asked to complete a survey to address the relevance of the program's course material to their current professional activities. Respondents will be asked to describe the value of the course material in providing quantitative tools for policy analysis. Surveys will be distributed at the time of graduation and one year after graduation to assess placement and program relevance to current and potential employment opportunities. Surveys are not anonymous, which allows the program to track placement and identify internship opportunities with organizations that employ graduates of the Applied Economics program.
- **Advisory Group**
An advisory group reviews the results of the assessment methods and, based on examination results and graduate responses, provides direction to continually refine and improve the degree

program. The advisory group includes the Department of Economics Chair, Director of Graduate Studies, and the Director of the current MPS.

Since 2011, the program's Learning Outcomes Assessment practice requires instructors to assess students during their final term in the program. The assessments were along dimensions that match the program's six learning outcomes. To assess outcomes five and six, instructors are asked to provide assessments based on student presentations in two courses. One of the courses (ECON 643) is taken in students' first term. The other course (ECON 672) is taken in students' final term. Data from faculty assessments in these two courses provide the foundation for assessing students' abilities to interpret and communicate economic models to a wider audience, and to measure and evaluate the effectiveness of policy programs using econometric techniques.

Course requirements. The curriculum for the proposed MS in Applied Economics is identical to the curriculum in the current MPS. The program consists of 30 credits organized into the following categories:

- Five core courses that provide foundational knowledge required for all fields
- Five field courses that allow students to specialize in areas of interest

Course	Course (Credits)	12-Week Term Calendar	Semester-Calendar
Core Courses			
ECON 641	Microeconomic Analysis (3)	I	Year 1 Fall
ECON 643	Empirical Analysis I: Foundations of Empirical Research (3)	I	Year 1 Fall
ECON 642	Topics in Applied Macroeconomics (3)	II	Year 1 Fall
ECON 644	Empirical Analysis II: Introduction to Economic Models (3)	II	Year 1 Spring
ECON 645	Empirical Analysis III: Econometric Modeling and Forecasting (3)	III	Year 2 Fall
Field Courses			
ECON 670	Financial Economics (3)	III, IV or V	Year 1 or 2 Spring
ECON 671	Economics of Health Care (3)	III, IV or V	Year 2 Fall
ECON 672	Program Analysis and Evaluation (3)	III, IV or V	Year 2 Spring
ECON 673	Information, Game Theory and Market Design (3)	III, IV or V	Year 1 or 2 Spring
ECON 674	Economic Analysis of Law (3)	III, IV or V	Year 1 or 2 Spring
ECON 675	Environmental Economics (3)	III, IV or V	Year 2 Fall
ECON 676	Economic Development (3)	III, IV or V	Year 2 Fall
ECON 683	International Macroeconomics and Finance (3)	III, IV or V	Year 2 Fall
ECON 684	Time Series Analysis and Advanced Forecasting (3)	III, IV or V	Year 2 Spring

See Appendix A for course descriptions.

General Education Requirements:

Not Applicable

Accreditation or Certification Requirements. There are no specialized accreditation or certification requirements for this program.

Other Institutions or Organizations.

Not applicable.

Student Support. The current MPS and proposed MS program will be administered by the Office of Extended Studies, which will assist students with:

- A. Admissions, providing assistance with general questions, confirmation, and deferment.
- B. Registration for approved program courses only, including:
 - 1. Instructions and assistance with the University's standard online registration system,
 - 2. Knowledge of academic policies as related to cancellation, withdraw, and other academic deadlines, and
 - 3. Liaising with Office of the Registrar for troubleshooting student issues.
- C. Billing and Payment, providing billing information, payment instructions, and financial deadlines. Liaison with Financial Aid, Veterans Office, Student Financial Services, Third Party Billing. Cancellation for non-payment and re-instatement.
- D. Graduation, providing information with access to forms and deadlines.
- E. Appeals Process: academic and financial.
- F. Other Campus Services, including grades, transcripts, library services, troubleshoot issues with the Division of Information Technology (faculty and students).

Marketing and Admissions Information. The program will be clearly and accurately described on the Economics Department website and the Office of Extended Studies website. Any marketing materials that are produced will adhere to standards and guidelines in the UMD Brand Toolkit to ensure appropriate, professional, and effective communication.

H. Adequacy of Articulation

As a graduate program, articulation is not applicable.

I. Adequacy of Faculty Resources

Program faculty. A combination of PhD economists affiliated with the University of Maryland as either full-time faculty or part-time faculty who are professionals working in the field will teach the Applied Economics courses. Core courses are generally taught by full-time faculty, whereas the field (elective) courses are generally taught by adjunct faculty whose professional experience ranges from government agencies, private firms, and NGOs. See Appendix B for faculty credentials and courses taught.

Faculty training. Opportunities to improve teaching and learning in the program are identified through program assessment process as described in Section M. UMD's Teaching and Learning Transformation

Center provides instructional training resources, support, and consultations to instructors across the university.

For the learning management system, faculty teaching in this program will have access to teacher development opportunities available across campus, including those offered as part of the Teaching and Learning Transformation Center. For online elements of the coursework, instructors will work with the learning design specialists on campus to incorporate best practices for learning within an online environment.

J. Adequacy of Library Resources

The University of Maryland Libraries has conducted an assessment of library resources required for this program. The assessment concluded that the University Libraries are able to meet the curricular and research needs of the program with its current resources.

K. Adequacy of Physical Facilities, Infrastructure, and Instructional Resources

The facilities, infrastructure, and instructional equipment that are already in existence are adequate to handle the demands of the proposed program and the course offerings within the program. For the quarter-based program in Washington, DC, students attend classes in a suite located at 1400 16th Street, NW that contains two classrooms, two small offices, a reception area, a small kitchen, and a lounge/group study area. The building in DC also has a large conference space that tenants can rent for well below the going rate for conference space in the DuPont Circle neighborhood. The Economics Department uses the conference space for information sessions, recruiting/placement events, and academic seminars. The space has worked well for the program and has been approved as an additional location by the Middle States Higher Education Commission and the DC Higher Education Licensure Commission. The current lease runs through March of 2020.

All classes in College Park meet in the evening from 6:30 p.m. to 9:15 p.m. when there is ample classroom space on campus. The Economics Department has also allocated Morrill Hall, room 1102 for office space related to the master's program. The space includes offices for the Program Director and the College Park Program Coordinator, an office for program instructors to use before class, and an office for the Economics PhD students who serve as Teaching Assistants (TAs) and graders in the master's program. There is also a lounge/group study area for students in the master's program.

All UMD students have access to the institutional electronic mailing system. This program is not a distance education program; however, students will have access to the campus learning management system for the elements of the courses that exist online.

L. Adequacy of Financial Resources

Administration of the program is provided by the University's Office of Extended Studies. The proposed change from an MPS to an MS does not require the development of any additional courses or the hiring of additional faculty to teach courses. As it has with the current MPS, tuition revenue for the proposed MS in Applied Economics will provide funding to pay all program expenses (e.g., salaries, benefits,

program materials, and physical resources). Resources and expenditures in the program, as it has been operating, are included in Appendix C.

M. Adequacy of Program Evaluation

Formal program review is carried out according to the University of Maryland's policy for Periodic Review of Academic Units, which includes a review of the academic programs offered by, and the research and administration of, the academic unit. Program Review is also monitored following the guidelines of the campus-wide cycle of Learning Outcomes Assessment. Faculty within the department are reviewed according to the University's Policy on Periodic Evaluation of Faculty Performance. Since 2005, the University has used an online course evaluation instrument that standardizes course evaluations across campus. The course evaluation has standard, university-wide questions, and also allows for specialized questions to be added by the academic unit offering the course.

N. Consistency with Minority Student Achievement goals

The Economics Department adheres to the UMD's diversity goals as stated in the *Mission and Goals Statement* that highlights a goal of "providing equal educational opportunity, hiring and retaining a diverse faculty and staff of exceptional achievement, and recruiting and graduating talented students from traditionally underrepresented groups are institutional priorities."⁴

Once admitted, specific retention efforts will be employed to ensure the success of all students in the program. The program will:

- Employ a strong, faculty-directed advising model, in which students will be supported to examine their individual career and life goals and to design and succeed in required and field courses that best facilitate those outcomes;
- Ensure that all courses address theory and research which examine central issues related to the (a) influence of diversity on growth and development and (b) practical implications for application of course content in diverse professional work-related and educational settings;
- Assist students in identifying and securing the most personally relevant and meaningful internship and service learning placements;
- Assist students in the design and implementation of an internship experience related to the student's career goals.

Learning outcomes associated with these projects will measure students' understanding of the needs of target populations of varying age, gender, race, and ethnicity.

O. Relationship to Low Productivity Programs Identified by the Commission

Not Applicable

P. Adequacy of Distance Education Programs

Not Applicable

⁴ University of Maryland, College Park. (April 29, 2014). *Mission and Goals Statement*. (p. 1). Retrieved November 15, 2018 from <https://www.provost.umd.edu/Documents/UMCP-Mission-Statement-Final-2015.pdf>.

Appendix A: Course Descriptions

ECON641 Microeconomic Analysis. 3 credits. Prerequisite: Admission to the Master of Science in Applied Economics. This course covers microeconomic analysis applied to public policy problems with an emphasis on practical examples and how they illustrate microeconomic theories. Policy issues such as pollution, welfare and income distribution, market design, industry regulation, price controls, tax policy, and health insurance are used to illustrate the abstract principles of microeconomics.

ECON642 Topics in Applied Macroeconomics. 3 credits. Prerequisite: Admission to the Master of Science in Applied Economics. In this course, focus is on applied macroeconomic models used by federal agencies to explain and predict economic behavior. Course emphasizes macroeconomic data: NIPA accounts, GDP, construction and application of CPI, labor force data, and economic indicators. Students will also study a selected set of current macroeconomic topics including models of economic growth, economic fluctuations, monetary policy, the Great Recession, inflation, and financial markets.

ECON643 Empirical Analysis I: Foundations of Empirical Research. 3 credits. Prerequisite: Admission to the Master of Science in Applied Economics. Fundamental aspects of data management and interpretation emphasizing sampling, descriptive statistics, index numbers and construction of aggregated variables. Students will learn basic probability theory and statistics. The course will include an introduction to simple regression analysis using STATA statistical software.

ECON644 Empirical Analysis II: Introduction to Economic Models. 3 credits. Prerequisite: ECON 643. An introduction to econometric methods with applications to public policy analysis. Primary focus on application and interpretation of multiple regression analysis.

ECON645 Empirical Analysis III: Econometric Modeling and Forecasting. 3 credits. Prerequisite: ECON 644. Study of empirical techniques that are particularly relevant to the analysis of microeconomic models. Emphasis is on advanced panel data methods, time series regressions, instrumental variables, limited dependent variables, and sample selection corrections.

ECON670 Financial Economics. 3 credits. Prerequisite: ECON 641 and ECON 644 (can be taken concurrently with ECON 644). This course applies microeconomic theory and applied econometric techniques to the study of financial institutions and markets for financial assets. Students will learn how economists model and estimate the value of financial assets. The economic and empirical models are of interest to public policy makers and private wealth managers. Specific topics can include financial intermediation, the regulation of financial institutions, risk management, portfolio theory, the capital asset pricing model and the efficient markets hypothesis.

ECON671 Economics of Health Care. 3 credits. Prerequisite: ECON 641 and ECON 645 (can be taken concurrently with ECON 645). This course is an examination of the structure, conduct, and performance of the health care market including physician services, the pharmaceutical industry, the hospital market, and health insurance using quantitative and analytic economic tools. Special emphasis is on regulatory response to market imperfections.

ECON672 Program Analysis and Evaluation. 3 credits. Prerequisite: ECON 641 and ECON 645. Students study the tools used to evaluate the effectiveness of public policies. All evaluations have

weaknesses, and some have more weaknesses than others. You will learn how to distinguish high from low quality evaluations. We will discuss the basic economics and econometrics of program evaluation, focusing on the application of methods used for causal inference and cost-benefit analyses in public policy contexts. We will examine published evaluation research with the intent of showing how the research does or does not lead to clear conclusions regarding program performance.

ECON673 Information, Game Theory and Market Design. 3 credits. Prerequisite: ECON 641 and ECON 644 (can be taken concurrently with ECON 644). A study of the strategic decision-making and the theory and practice of market design. Focus is on the design of organized market and incentives created by market rules. Topics include online auction markets, government auctions procurement auctions and matching markets. The analysis includes documenting the rules of real-world markets, game theoretic analysis, empirical analysis, and experimental work.

ECON674 Economic Analysis of Law. 3 credits. Prerequisite: ECON 641 and ECON 644 (can be taken concurrently with ECON 644). A study of the application of economics to law with a focus on game theory, strategic behavior and public policy.

ECON675 Environmental Economics. 3 credits. Prerequisite: ECON 641 and ECON 645 (can be taken concurrently with ECON 645). A study of the nature of environmental regulation focusing on U.S. environmental policies and policy debates.

ECON676 Economic Development. 3 credits. Prerequisite: ECON 641, ECON642 and ECON 644 (can be taken concurrently with ECON 644). Analysis of economic development. The course will focus on the consequences of poverty and poor institutions for the behavior and welfare of individuals, households, firms and the aggregate economy in developing countries. Theoretical models and empirical evidence will be used to understand the intended and unintended consequences of policies designed to enhance economic development.

ECON683 International Macroeconomics and Finance. 3 credits. Prerequisite: ECON 642 and ECON 644 (can be taken concurrently with ECON 644). Economic analysis of international macroeconomic issues and policy. Topics can include the study of exchange rates, balance of payments, international financial markets, international business cycles, contagion, and the roles played by international economic institutions.

ECON684 Applied Time Series Analysis and Forecasting. 3 credits. Prerequisite: ECON 642 and ECON 645. Students will learn the theory of stationary processes and how it applied to econometric techniques for estimation and forecasting based on time series data. The techniques will be applied in macroeconomic, financial and business applications.

Appendix B. Faculty

Full-Time Faculty

Hossein Abassi
Full-time Lecturer, UMCP
University of Illinois at Urbana-Champaign, 2009
Courses: ECON644

Aaron Finkle
Full-time Lecturer, UMCP
Ph.D., Economics, University of Washington–Seattle, 2004
Courses: ECON641

Richard Stahnke
Full-time Lecturer, UMCP
Ph.D., Economics, Columbia, 1999
Courses: ECON641, ECON670

John Straub
Full-time Lecturer, UMCP
Executive Director, Master's Degree Program in Applied Economics, UMCP
Ph.D., Economics, University of Wisconsin-Madison, 2001
Courses: ECON641, ECON 642, ECON643, ECON645

Part-Time Faculty

Aditya Aladangady
Economist, Federal Reserve Board of Governors
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Michigan, 2014
Courses: ECON642

Mike Barry
Associate Professor of Economics and Law, Mount St. Mary's University
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Wisconsin-Milwaukee, 1998
Courses: ECON642, ECON674, ECON684

Maksim Belenkiy
International Economist, US Department of Commerce, International Trade Administration
Part-Time Adjunct lecturer, UMCP
Ph.D., Economics, University of California, Santa Cruz, 2010
Courses: ECON641, ECON644, ECON677

David Burk
Economist, Congressional Budget Office
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Chicago, 2014
Courses: ECON674, ECON684

Chris Dockins
Senior Economists at the US Environmental Protection Agency
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, Duke, 1996
Courses: ECON675

Cynthia Doniger
Economist, Federal Reserve Board of Governors
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Michigan, 2014
Courses: ECON642

Thiago Ferreira
Economist, Board of Governors of the Federal Reserve
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, Northwestern University, 2014
Courses: ECON684

Mahsa Gholizadeh
Economist, US Bureau of Economic Analysis
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, American University, 2015
Courses: ECON683

Charles Griffiths
Research Economists at the US Environmental Protection Agency
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, UMCP, 1997
Courses: ECON675

Misty Heggeness
Chief, Longitudinal Research, Evaluation, and Outreach Branch, U.S. Census Bureau
Part-Time Adjunct Lecturer, UMCP
Ph.D. Applied Economics, University of Minnesota, 2010
Courses: ECON672

Joanne Hsu
Senior Economist, Board of Governors of the Federal Reserve
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Michigan-Ann Arbor, 2011

Courses: ECON672

Hong Kim

Labor Economist, US Department of Labor

Part-Time Adjunct Lecturer, UMCP

Ph.D., Applied and Resource Economics, University of California-Davis, 1994

Courses: ECON 675

Marquise McGraw

Economist, US Consumer Financial Protection Bureau

Part-Time Adjunct Lecturer, UMCP

Ph.D., Economics, University of California–Berkeley, 2015

Courses: ECON645

Marina Miller

Principal Analyst, Congressional Budget Office

Part-Time Adjunct Lecturer, UMCP

Ph.D., Economics, University of California–San Diego, 2015

Courses: ECON643

Oscar Mitnik

Principal Economist, Inter-American Development Bank

Part-Time Adjunct Lecturer, UMCP

Ph.D., Economics, University of California–Los Angeles, 2004

Courses: ECON676

Ryan Nunn

Fellow, Economic Studies Program, Brookings Institution

Part-Time Adjunct Lecturer, UMCP

Ph.D., Economics, University of Michigan-Ann Arbor, 2012

Courses: ECON672

David Ovadia

Economist, Federal Trade Commission

Part-Time Adjunct Lecturer, UMCP

Ph.D., Economics, Northwestern University, 2015

Courses: ECON673

Nathan Petek

Economist, Federal Trade Commission

Part-Time Adjunct Lecturer, UMCP

Ph.D., Business, University of Chicago, Booth School of Business, 2016

Courses: ECON671

Lubomir Petrasek

Principal Economist, Federal Reserve Board of Governors

Part-Time Adjunct lecturer, UMCP
Ph.D., Finance, Penn State University, 2011
Courses: ECON670

Shanthi Ramnath
Financial Economist, US Department of the Treasury
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Michigan-Ann Arbor, 2010
Courses: ECON643, ECON645, ECON672

Patrick Richard
Assistant Professor of Health Economics
Uniformed Services University of the Health Sciences
Part-Time Adjunct Lecturer, UMCP
Ph.D., Health Economics, Johns Hopkins University, 2007
Courses: ECON671

Jonathan Rose
Lead Economics Specialist, Inter-American Development Bank
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, University of Iowa, 2001
Courses: ECON676

Cristina Tello-Trillo
Economist, US Bureau of the Census
Part-Time Adjunct Lecturer, UMCP
Ph.D., Economics, Yale, 2015
Courses: ECON645

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Part-Time Adjunct lecturer, UMCP
Ph.D., Economics, Northwestern University, 2006
Courses: ECON644

APPENDIX C: RESOURCES AND EXPENDITURES

Resources Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	\$0	\$0	\$0	\$0	\$0
2. Semester-Based Revenue (by year)	\$487,500	\$497,250	\$507,195	\$517,339	\$527,686
a. Semester-based Annual Students	15	15	15	15	15
b. Semester-based Annual Courses	10	10	10	10	10
3. Term-Based Revenue (by year)	\$487,500	\$497,250	\$507,195	\$517,339	\$527,686
c. Term-based Annual Students	15	15	15	15	15
d. Term-based Annual Courses	10	10	10	10	10
4. Tuition Per Course Rate (assumes 2% increase)	\$3,250	\$3,315	\$3,381	\$3,449	\$3,518
5. Grants, Contracts, & Other External Sources	\$0	\$0	\$0	\$0	\$0
6. Other Sources	\$0	\$0	\$0	\$0	\$0
Total Tuition Revenue	\$975,000	\$994,500	\$1,014,390	\$1,034,678	\$1,055,371

Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b+c below)	\$136,825	\$164,418	\$169,351	\$174,431	\$179,664
a. #FTE	6.0	7.0	7.0	7.0	7.0
b. Total Salary	\$102,876	\$123,623	\$127,331	\$131,151	\$135,086
c. Total Benefits	\$33,949	\$40,795	\$42,019	\$43,280	\$44,578
2. Admin. Staff (b+c below)	\$171,579	\$176,727	\$182,028	\$187,489	\$193,114
a. #FTE	1.0	1.0	1.0	1.0	1.0
b. Total Salary	\$129,007	\$132,877	\$136,864	\$140,969	\$145,199
c. Total Benefits	\$42,572	\$43,849	\$45,165	\$46,520	\$47,916
3. Total Support Staff (b+c below)	\$69,160	\$71,235	\$73,372	\$75,573	\$77,840
a. #FTE	2.0	2.0	2.0	2.0	2.0
b. Total Salary	\$52,000	\$53,560	\$55,167	\$56,822	\$58,526
c. Total Benefits	\$17,160	\$17,675	\$18,205	\$18,751	\$19,314
4. Graduate Assistants (b+c)	\$68,316	\$70,365	\$72,476	\$74,651	\$76,890
a. #FTE	2.0	2.0	2.0	2.0	2.0
b. Stipend	\$42,000	\$43,260	\$44,558	\$45,895	\$47,271
c. Tuition Remission	\$26,316	\$27,105.48	\$27,919	\$28,756.20	\$29,619
5. Equipment	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
6. Library	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
7. Off-site Space Rental	\$180,000	\$185,400	\$190,962	\$196,691	\$202,592
8. Other Expenses: Operational Expenses	\$145,750	\$148,665	\$151,638	\$154,671	\$157,764
TOTAL (Add 1 - 8)	\$802,435	\$824,810	\$847,828	\$871,506	\$895,865

Other expenses include marketing, materials & supplies, travel, IT, and administrative overhead to deliver the program.

Appendix D: Placements of program graduates over the previous three years

3E Company
Allegheny Science & Tech
Berkeley Research Group
Board of Governors of the Federal Reserve
Booz Allen Hamilton
Bulgarian National Bank, Economic Research and Forecasting Directorate
Calibre Systems
Capital One
Cognizant
Constellation, Inc.
Corporation for Enterprise Development
Deloitte
Ernst & Young
Fannie Mae
Federal Energy Regulatory Commission
Freddie Mac
Gartner, Inc.
Geico
Grant Thornton
HDR Engineering
Hetrick & Associates
Insight Policy Research
Institute of International Finance (IIF)
International Monetary Fund
ISS Governance
Keshif
KPMG
Mathematica Policy Research
MCM Capital Partners/ BSI Financial
Members First Credit Union
National Association of Home Builders
National Science Foundation
Northern Virginia Regional Intelligence Center
Office of US Senator Joe Donnelly (D-IN)
Optimal Solutions Group
Plan International
Pricewaterhouse Cooper
Rand Corporation
Regional Economic Studies Institute, Towson University
Resources for the Future
Results for Development
RiskSpan
Roosevelt Institute

SBA Group
Service Employees International Union (SEIU)
Share Our Strength
Summit Consulting
Universal Service Administrative Company (USAC)
US African Development Foundation
US Air Force
US Army
US Bureau of Economic Analysis
US Bureau of Labor Statistics
US Bureau of the Census
US Coast Guard
US Congress
US Department of Agriculture
US Department of Commerce
US Department of Defense
US Department of Energy
US Department of Homeland Security
US Department of State
US Department of the Treasury
US Department of Transportation
US Federal Energy Regulatory Commission
US Federal Housing Finance Agency
US House of Representatives
US International Trade Commission
US Office of the Comptroller of the Currency
Viget
Vital Voices Global Partnership
Washington Business Dynamics
Wells Fargo
Westat
Western Union Business Solutions
Williams Adley & Co.
WSP Parsons Brinckeroff
Zanak'i Gasikara Mifanasoa (NGO)