October 19, 2011

MEMORANDUM

TO: John Townshend  
   Dean, College of Behavioral and Social Sciences  

   Charles Caramello  
   Associate Provost and Dean, Graduate School

FROM: Elizabeth Beise  
   Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Establish a Graduate Certificate in Professional Studies for Economic Analysis (PCC log no. 11007)

On October 11, 2011, Chancellor Kirwan gave final approval to your proposal to offer a new iteration of the Graduate Certificate in Professional Studies in Economic Analysis.

This Graduate Certificate in Professional Studies program is effective Spring 2012. The College should ensure that this Graduate Certificate in Professional Studies program is fully described in the Graduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

MDC/  
Enclosure

cc: David Salness, Chair, Senate PCC Committee  
    Sarah Bauder, Office of Student Financial Aid  
    Reka Montfort, University Senate  
    Erin Howard, Office of Information Technology  
    Donna Williams, Institutional Research & Planning  
    Anne Turkos, University Archives  
    Linda Yokoi, Office of the Registrar  
    Arthur Popper, Graduate School  
    Wayne McIntosh, Behavioral and Social Sciences  
    Peter Murrell, Economics
Dr. Wallace D. Loh  
President  
Main Administration Building  
University of Maryland College Park  
CAMPUS  

Dear Wallace:  

Thank you for forwarding the request from University of Maryland, College Park for new iterations of the existing Graduate Program in Professional Studies. I am delighted to approve the request to add:  

1. Graduate Certificate in Professional Studies with focus on Economic Analysis.  
2. Graduate Certificate in Professional Studies with focus on Working with Survivors of Violence, Torture, and Trauma: Theoretical Foundations and Mental health.  

Please express my appreciation to departmental faculty and administrative committees for their careful work.  

Sincerely yours,  

William E. Kirwan  
Chancellor  

cc: Irwin Goldstein, Sr. Vice Chancellor for Academic Affairs  
Theresa Hollander, Associate Vice Chancellor for Academic Affairs  
Ann Wylie, Sr. Vice President and Provost  
Charles Caramello, Assoc. and Dean, Graduate School  
John Townshend, Dean, College of Behavioral and Social Sciences
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM PROPOSAL

Please submit the signed form to: Office of the Associate Provost for Academic Planning & Programs, 1119 Main Administration Building. Please email the rest of the proposal as an MSWord attachment to pccsubmission@umd.edu.

DATE SUBMITTED: April 8, 2011

COLLEGE/SCHOOL: College/School Unit Code—First 8 digits: 01202800

DEPARTMENT/PROGRAM: Department/Program Unit code—Last 7 digits: 1281301

TYPE OF ACTION (choose one):
- Curriculum change (including information specializations)
- Renaming of program or formal Area of Concentration
- Addition/deletion of formal Area of Concentration
- Suspend/delete program

Italics indicate that the proposed program action must be presented to the full University Senate for consideration.

SUMMARY OF PROPOSED ACTION:
The Department of Economics proposes the Graduate Certificate in Professional Studies in Economic Analysis to provide working professionals with the opportunity to enhance their quantitative and analytical skills and deepen their understanding of economic theory. The 15-credit, 5 course, graduate certificate focuses on the role of econometric analysis in policy with particular focus on empirical skills, particularly data collection, manipulation and management, as they apply to economic analysis.

APPROVAL SIGNATURES: Please print name, sign, and date

1. Department Committee Chair: Dr. Robert Schwab 4/11/11
2. Department Chair: Dr. Peter Murrell 4/11/11
3. College/School PCC Chair: Martha E. Geores 4/11/11
4. Dean: Katherine Pedro Beardsley 9/22/11
5. Dean of the Graduate School (if required): 9/16/11
6. Chair, Senate PCC:
7. Chair of University Senate (if required):
8. Vice President of Academic Affairs & Provost: 10/1/2011
PROPOSAL FOR

NEW INSTRUCTIONAL PROGRAM

UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND

Graduate Certificate in Professional Studies in
Economic Analysis

PROPOSED INITIATION DATE: Fall 2012
I. OVERVIEW and RATIONALE

A. Briefly describe the nature of the proposed program and explain why the institution should offer it.

The Graduate Certificate in Professional Studies in Economic Analysis provides working professionals with the opportunity to enhance their quantitative and analytical skills and deepen their understanding of economic analysis. The 15-credit graduate certificate focuses on the role of econometric analysis in policy with particular focus on empirical skills, particularly data collection, manipulation and management, as they apply to economic analysis.

The Department of Economics, College of Behavioral and Social Sciences, is ranked among the top 20 economics programs in the country in the most recent National Academy of Sciences study. The department’s highly successful Ph.D. program attracts hundreds of highly qualified applicants each year. The department, however, has no graduate certificate to meet the demands of working professionals. The graduate certificate draws on the department’s commitment to excellence and accumulated expertise to provide working professionals with advanced training in quantitative techniques and econometric modeling.

The program offers courses using a twelve-week term format. Students complete course work in 11 weeks with the 12th week reserved for finals. Here is the University’s term schedule:

<table>
<thead>
<tr>
<th>Term</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>September – November</td>
</tr>
<tr>
<td>II</td>
<td>December – February</td>
</tr>
<tr>
<td>III</td>
<td>March – May</td>
</tr>
<tr>
<td>IV</td>
<td>June–August</td>
</tr>
</tbody>
</table>

Students may complete the 15-credit, 5-course Graduate Certificate in 9 months without taking leave time from work. Students would complete this program by taking two, 3-credit, courses per term. Seminar-style, face-to-face instruction is offered evenings and weekends at a downtown location such as the Ronald Reagan Building, in Washington, DC. Online interaction, exercises, and feedback are designed to maintain student engagement between class meetings.

B. How big is the program expected to be? From what other programs serving current students, or from what new populations of potential students, onsite or offsite, are you expecting to draw?

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Enrollment</th>
<th>Description of Potential Audience and Market Research for Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>10-12</td>
<td>Preliminary market research suggests increased demand for graduate-level economics professionals with solid quantitative skills and training in economic modeling. Recent issues of Job Openings for Economists contain job postings from the United States Census Bureau, RTI International, AARP, the Congressional Budget Office, Analysis Group, the Department of Justice and the Unites States Department of Agriculture. The Centers for Disease Control refers to “an ongoing demand . . . for rigorous quantitative policy analysis” in its job posting for an economist.</td>
</tr>
<tr>
<td>Year 2</td>
<td>12-15</td>
<td>The target audience for this program include federal employees in agencies such as the Department of Agriculture (Economic Research Service), U.S. Agency for International Development, U.S. Census Bureau, Department of Health and Human Services and Department of Justice as well as analysts in nongovernmental organizations and think tanks seeking to work in private consulting firms such as Analysis Group, ABT Associates, Charles River and Associates, Optimal Solutions Group, RTI International, NERA and KMG Consulting.</td>
</tr>
<tr>
<td>Year 3</td>
<td>15-18</td>
<td></td>
</tr>
</tbody>
</table>
II. Curriculum

A. Provide a full catalog description of the proposed program, including educational objectives and any areas of concentration.

The Graduate Certificate in Professional Studies in Economic Analysis provides students with the opportunity to enhance their quantitative and analytical skills and deepen their understanding of economic analysis. The 15-credit program focuses on the role of econometric analysis and economic policy analysis utilizing real-world examples, data manipulation and management and modeling.

B. List the courses (number, title, semester credit hours) that would constitute the requirements and other components of the proposed program. Provide a catalog description for any courses that will be newly developed or substantially modified for the program. (See attachment for catalog description)

- ECON506: Microeconomic Analysis (3 credits)
- ECON507: Topics in Applied Macroeconomics (3 credits)
- ECON521: Empirical Analysis I: Foundations of Empirical Research (3 credits)
- ECON522: Empirical Analysis II: Introduction to Economic Models (3 credits)
- ECON523: Empirical Analysis III: Econometric Modeling and Forecasting (3 credits)

C. Describe any selective admissions policy of special criteria for students selecting this field of study.

The admissions policy reflects current standards established by the Graduate School, including the requisite bachelor’s degree from a regionally accredited college or university the United States (or the equivalent of a baccalaureate degree in another country) with a minimum cumulative 3.0 GPA. Official undergraduate transcripts from all institutions attended must be provided.

III. STUDENT LEARNING OUTCOMES AND ASSESSMENT

The purpose of this assessment plan is to set clear guidelines, identify articulated outcomes, and ensure avenues for continuous improvement for each graduate certificate program managed by the Program Oversight Committee and housed in the Graduate School. It is our mission to provide programs that meet UMD’s institutional goals and objectives for educational activities.

Student Learning Outcomes
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 discussion.
4. To articulate and apply standard microeconomic theories and models to policy discussion.
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.

Assessment Measures
1. Survey of Graduates
   Students who complete the graduate certificate 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 no later than one year after graduation to assess program relevance to current and potential employment opportunities.
2. Exit Interview
   Graduates will be asked to participate in an exit interview designed to assess the value of the graduate certificate program, the relevance of the course material and the effectiveness of instructors.
Response
An advisory group will be established to review the results of the assessment methods and, based on examination results and graduate responses, offer changes to continually refine and improve the certificate program.

IV. FACULTY AND ORGANIZATION
A. Who will provide academic direction and oversight for the program?

Graduate Director
Robert Schwab, Professor
Department of Economics, College of Behavioral and Social Sciences

Administrative Oversight
Terrie Hruzd, Director of Programs
Office of Extended Studies

Graduate School Representative
Charles Caramello, Dean
Graduate School

B. If the program is not to be housed and administered within a single academic unit, provide details of its administrative structure.

The Graduate Certificate in Professional Studies is housed in the Graduate School and administered by the Program Oversight Committee (described above). A faculty member from the college will service as the Graduate Director and will provide the academic leadership for the team. Faculty selection and appointments are made by the Department of Economics. All faculty will be members of the Graduate Faculty and approved by the Dean of the Graduate School to teach.

V. OFF-CAMPUS PROGRAMS (if necessary)
A. If at Shady Grove—indicate how students will access student services.
   Not applicable

B. If on-line—describe the concerns in “Principles and Guidelines for Online Programs” are to be addressed.

   1. Program Initiation and Choice: The proposal should initiate with an academic unit, and must have the approval of the appropriate Dean (or Deans). It must develop naturally from the institution's strengths and be consistent with its strategic goals. The proposal should have a clear and well-thought-out financial plan, providing net revenue to the institution over time, and should include a thorough analysis of the potential market.

The program’s classes will be taught in a seminar format during the evenings or weekends with required online instruction to maintain student engagement between face-to-face class meetings. The proposed program will benefit from the department’s demonstrated commitment to excellence and accumulated expertise to provide working professionals with advanced training in quantitative techniques and econometric modeling. The Department of Economics’ outstanding reputation will attract student interest and the department’s commitment to teaching excellence will ensure continued interest as the program gets established. The Office of Extended Studies and the Department of Economics conducted a marketing research plan in fall 2010 to identify a target audience for its proposed program as well as possible competitors. Johns Hopkins University, based in Baltimore, offers a master’s
degree in applied economics at its campus near DuPont Circle. This highly successful program offers core courses
that focus on statistics, econometrics and applied microeconomics as well as numerous electives. Demand for this
program is strong; it has continuous enrollment (fall, spring and summer) and offers numerous sections of its core
courses each term. The economics department at Georgetown University is in the process of establishing a similar
advanced degree program geared toward working professionals in the Washington, DC area. Since the economics
department at UMD is ranked above both Johns Hopkins and Georgetown, it is well-suited to serve the vast demand
for advanced training in econometric analysis applied to public policy issues. The presence of these two institutions
illustrates the opportunity for UMD to offer an increasingly relevant program that addresses the need for advanced
analytical skills in applied economics and policy analysis.

2. Program Development, Control, and Implementation by Faculty: Although professional help may be used in
adapting it to the online medium, the academic content of the curriculum must be developed by institutional
faculty. The instructional strategy proposed must be appropriate for this content. UMCP faculty must have
overall control of the program, and should provide the bulk of the instruction. Appropriate resources,
including technical support personnel, must be made available for course development and also for faculty
support during the offering of these courses. The business plan for the proposal must spell out the
arrangements whereby this will be accomplished.

The Department of Economics will oversee the instructional design and quality assurance for all course development
and the corresponding online elements.

3. Access to Academic Resources and Student Services: The proposal must indicate how students will have
access to needed resources, such as library materials, other information sources, laboratory facilities, and
others as appropriate. The arrangements in place for interaction with instructors, for advising, and for help
with technical problems must be described. It must be shown how student services such as admissions,
enrollment, financial aid, bursar services, career advisement, bookstore, and similar services available to on-
campus students will be provided.

As officially admitted students to the University of Maryland, students in this program will have access to all
University resources that are accessible in the online environment as well as campus-based resources when in face-
to-face sessions. In addition, online technical support for administrative matters is provided through the Office of
Information Technology (OIT). For self-support programs, OIT has identified a vendor, AliveTek, which provides
academic technical support services to both students and faculty for a fee. Students in online programs are assessed
an online technology fee that covers this charge. Extended Studies provides the management of all student services.

4. Intellectual Property Rights: The proposal must clearly delineate ownership and usage rights for materials
that may be developed for courses in the program.

The Department of Economics in the College of Behavioral and Social Sciences, University of Maryland maintains all
intellectual property and copyrights for all courses and course content.

5. Full Disclosure, Standards, and Evaluation: All published materials describing the program must carefully lay
out the instructional methods to be used, the skills and background required for success, and the
arrangements in place for access to instructors, to technical help, to academic resources, and to student
services. There should be a means available whereby potential students can evaluate their readiness for the
special demands of the program. Academic admission standards must be clearly described, and must be
consistent with those for the on-campus program. Outcome expectations must also be consistent. The
proposal must set out a continuing process of evaluation that will determine if these requirements are being met.
The Oversight Committee, particularly the academic and administrative units, will ensure that all printed and digital materials provide exhaustive information about the program. The Web site, administered through the Office of Extended Studies, will provide complete and transparent policies and procedures regarding admission requirements (in full compliance of the Graduate School), including registration, financials, technical assistance, digital access to university resources, academic and university policies, and all issues relating to the successful completion of the program. Potential students will be given the opportunity to complete a self-assessment ensuring that they possess the skill sets and mental models for online learning as well as the technical resources for program accessibility. The Department of Economics in the College of Behavioral and Social Sciences provides both incoming and admitted students with all advising assistance.

**VI. OTHER ISSUES**

A. Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

None

B. Will the program require or seek accreditation? Is it intended to provide certification or licensure for its graduates? Are there academic or administrative constraints as a consequence?

Not applicable

**VII. COMMITMENT TO DIVERSITY**

The University of Maryland is an equal opportunity institution with respect to both education and employment. The University does not discriminate on the basis of race, color, national origin, sex, age, or handicap in admission or access to, or treatment or employment in, its programs and activities as required by federal (Title VI, Title IX, Section 504) and state laws and regulations.

Through its actions and statements of policy the University of Maryland has demonstrated a commitment to diversity by creating programs of study which explore the experiences, perspectives, and contributions of a wide variety of cultures, groups, and individuals; and as sought to create a campus environment which encourages tolerance and respect for individuals regardless of differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, and national origin. The Graduate Certificate in Professional Studies in Economic Analysis will use the model established by the University of Maryland’s commitment to diversity by marketing and recruiting applicants from various professional organizations with demonstrated respect for individuals regardless of differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, and national origin. Course content will also demonstrate opportunities for instruction on tolerance and inclusion.

**VIII. REQUIRED PHYSICAL RESOURCES**

A. Additional library and other information resources required to support the proposed program. You must include a formal evaluation by Library staff.

None

B. Additional facilities, facility modifications, and equipment that will be required. This is to include faculty and staff office space, laboratories, special classrooms, computers, etc.

None
C. Impact, if any, on the use of existing facilities and equipment. Examples are laboratories, computer labs, specially equipped classrooms, and access to computer servers. 
This program does not require additional resources.

IX. RESOURCES NEEDS AND SOURCES
A. List new courses to be taught and needed additional sections of existing courses. Describe the anticipated advising and administrative loads. Indicate the personnel resources (faculty, staff, and teaching assistants) that will be needed to cover all these responsibilities.

The following courses require VPAC approval:
- ECON506: Microeconomic Analysis (3 credits)
- ECON507: Topics in Applied Macroeconomics (3 credits)
- ECON521: Empirical Analysis I: Foundations of Empirical Research (3 credits)
- ECON522: Empirical Analysis II: Introduction to Economic Models (3 credits)
- ECON523: Empirical Analysis III: Econometric Modeling and Forecasting (3 credits)

The program will require coordination and oversight of education quality. In addition, outreach to the professional communities will be required to assure that the program is meeting the needs of major employers for up-to-date training. There will be no impact on existing resources. This program is self-supporting. Courses may be cancelled due to low enrollment.

B. List new faculty, staff, and teaching assistants needed for the responsibilities in A, and indicate the source of the resources for hiring them.

University of Maryland faculty who in teach in the program will be compensated using overloads. The faculty may include research faculty, retired faculty, and professionals in the field.

C. Some of these teaching, advising, and administrative duties may be covered by existing faculty and staff. Describe your expectations for this, and indicate how the current duties of these individuals will be covered, and the source of any needed resources.

Approval of all faculty overloads for teaching and advising will be in accordance with University of Maryland policy and procedures. The Oversight Committee is responsible for the overall administrative management of the program.

D. Identify the source to pay for the required physical resources identified in Section VIII. above.

Tuition revenue will be used to cover the program expenses (see separate budget page).

E. List any other required resources and the anticipated source for them.

None

F. Complete the additional proposal and financial tables as required by MHEC.

See attached.
New Courses requiring VPAC Approval

ECON 506: Microeconomic Analysis (3 credits)- This course contains a detailed treatment of the behavior of the consumer and the firm. Topics include externalities, game theory, imperfect competition, asymmetric information, and monopolistic and oligopolistic markets.

ECON 507: Topics in Applied Macroeconomics (3 credits)- This course presents a selected set of macroeconomic topics including models of economic growth, economic fluctuations, monetary policy, inflation and financial markets. The course also presents a study of aggregate economic activity and macroeconomic forecasting techniques.

ECON 521: Empirical Analysis I (3 credits) - Foundations of Empirical Research - This course covers fundamental aspects of data collection, management and interpretation emphasizing sampling, descriptive statistics, index numbers, and construction of aggregated variables.

ECON 522: Empirical Analysis II (3 credits) - Introduction to Economic Models – This course explains basic statistical topics such as probability and sampling, distribution theory, survey methodology, and hypothesis testing. Emphasis is on estimating economic models using single variable and multiple variable regression techniques.

ECON 523: Empirical Analysis III (3 credits) - Econometric Modeling and Forecasting – This course examines empirical techniques that are particularly valuable in the analysis of economic data. Topics include panel data, optimization, limited dependent variables, time series and two stage least squares. This course will emphasize hands-on practical experience using the STATA statistical software.
The library assessment was performed for the Master of Professional Studies in Economic Analysis degree is appropriate for the Graduate Certificate in Professional Studies in Economic Analysis because the curriculum is aligned for both professional programs.

**Library Assessment**

**DATE:**
February 11, 2011

**TO:**
Stephanie C. McKissic, Program Manager
Office of Extended Studies

**FROM:**
Zaida Díaz and Lily Griner
Business, Economics and Agricultural Economics Librarians

Geraldine Foudy
Manager of Collections and Scholarly Communication

Dr. Desider Vikor
Director for Collection Management and Special Collections

**RE:**
Library Collection Assessment

We are providing this assessment in response to the Master of Professional Studies in Applied Economics degree proposal by the Office of Extended Studies, working with the Department of Economics. This library assessment has been requested to evaluate the ability of the UM Libraries to support this new Master program. The University of Maryland Library already has an established background in providing bibliographic support for researchers and professionals in the related academic disciplines, i.e., Business, Economics as well as Agricultural & Resource Economics. We feel that the University of Maryland Libraries’ collections provide a strong base and continued growth to support adequately the curricular and research needs of this newly-proposed Master program.

**The Collection: Books**

Relevant books in the Libraries’ collections appear to be substantial in number, as reflected in the catalog search title results below:

- Economic models – 1218; Economic theory – 918; Economic statistics – 1616; Econometrics – 543;
- Economic data – 116; Economics-decision making – 122; Economics-statistical methods – 92; Economics policy – 1743; Economic forecasting – 1196

**The Collection: Serials**

A search was performed in *Journal Citations Reports 2009*, a database that uses citation data to rank and determine the impact factor of journals in an academic field. To support the proposed degree access is available at the present time to the following ranked journals:

- Quarterly Journal of Economics
- Journal of Economic Literature
- Journal of Economic Perspectives.
The Collection: Electronic Resources
The UM Libraries subscribe and/or have access to the following significant databases that will support the master’s program:


Interlibrary Loan
When resources are not part of our holdings within the sixteen University System of Maryland and Affiliated Institutions (USMAI) libraries, the Interlibrary Loan Office can obtain monographs, journal articles, dissertations, government documents and technical reports at no charge to the student or faculty.

Conclusion
Our assessment is, therefore, that the University of Maryland Libraries are able to support the courses that constitute the proposed Master of Professional Studies in Applied Economics degree.
## Graduate Certificate in Professional Studies in Economic Analysis: Budget

[This program is self-support. Instructors may not teach on-load.]

### Resources Categories

<table>
<thead>
<tr>
<th>Resources Categories</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reallocated Funds</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Tuition/Fee Revenue ((d + f))</td>
<td>$111,110</td>
<td>$137,332</td>
<td>$176,815</td>
<td>$218,543</td>
<td>$250,111</td>
</tr>
<tr>
<td>a. # of Professional Students</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>b. Per Course Rate; Assumes @ a 3% annual increase</td>
<td>2,000</td>
<td>2,060</td>
<td>2,122</td>
<td>2,185</td>
<td>2,251</td>
</tr>
<tr>
<td>c. Annual No. of Courses ?</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>d. Total Tuition Revenue ((a \times b \times c))</td>
<td>100,000</td>
<td>123,600</td>
<td>159,135</td>
<td>196,691</td>
<td>225,102</td>
</tr>
<tr>
<td>e. On-campus UM Mandatory Fee (^2)</td>
<td>1,111</td>
<td>1,144</td>
<td>1,179</td>
<td>1,214</td>
<td>1,250</td>
</tr>
<tr>
<td>f. Total UM Mandatory Fee Revenue ((e \times a))</td>
<td>11,110</td>
<td>13,732</td>
<td>17,680</td>
<td>21,852</td>
<td>25,009</td>
</tr>
<tr>
<td>3. Grants, Contracts, &amp; Other Externl Sources</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Other Sources</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>TOTAL RESOURCES (Add 1 - 4)</strong></td>
<td>$111,110</td>
<td>$137,332</td>
<td>$176,815</td>
<td>$218,543</td>
<td>$250,111</td>
</tr>
</tbody>
</table>

### Expenditure Categories

<table>
<thead>
<tr>
<th>Expenditure Categories</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Faculty ((c+d) below)</td>
<td>$43,200</td>
<td>$44,064</td>
<td>$44,945</td>
<td>$45,844</td>
<td>$46,761</td>
</tr>
<tr>
<td>a. # of Instructors</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>b. Instructor salary; assumes a 3% annual increase</td>
<td>8,000</td>
<td>8,160</td>
<td>8,323</td>
<td>8,490</td>
<td>8,659</td>
</tr>
<tr>
<td>c. Total Salary</td>
<td>40,000</td>
<td>40,800</td>
<td>41,616</td>
<td>42,448</td>
<td>43,297</td>
</tr>
<tr>
<td>d. Total FICA (8%)</td>
<td>3,200</td>
<td>3,264</td>
<td>3,329</td>
<td>3,396</td>
<td>3,464</td>
</tr>
<tr>
<td>2. Total Administrative ((b+c) below)</td>
<td>$5,400</td>
<td>$5,508</td>
<td>$5,618</td>
<td>$5,731</td>
<td>$5,845</td>
</tr>
<tr>
<td>a. Academic Director; assumes a 3% annual increase</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>b. Total Salary</td>
<td>5,000</td>
<td>5,100</td>
<td>5,202</td>
<td>5,306</td>
<td>5,412</td>
</tr>
<tr>
<td>c. Total FICA (8%)</td>
<td>400</td>
<td>408</td>
<td>416</td>
<td>424</td>
<td>433</td>
</tr>
<tr>
<td>3. Total Support Staff ((b+c) below)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>a. FTE</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>b. Total Salary</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>c. Total Benefits</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Equipment</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Library</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Space Rental (Reagan Blgd; $6000 per offered course)</td>
<td>$30,000</td>
<td>$30,000</td>
<td>$30,000</td>
<td>$30,000</td>
<td>$30,000</td>
</tr>
<tr>
<td>7. Instructional Materials @ $25 per student</td>
<td>$1,250</td>
<td>$1,500</td>
<td>$1,875</td>
<td>$2,250</td>
<td>$2,500</td>
</tr>
<tr>
<td>8. Marketing (Economics Department—estimated)</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>9. Other Expenses: UM Overhead (4.1% of program expenses)</td>
<td>$3,216</td>
<td>$3,262</td>
<td>$3,314</td>
<td>$3,366</td>
<td>$3,414</td>
</tr>
<tr>
<td>10. OES 10% Administrative Fee (tuition revenue)</td>
<td>$10,000</td>
<td>$12,360</td>
<td>$15,914</td>
<td>$19,669</td>
<td>$22,510</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES (Add 1 - 10)</strong></td>
<td>$97,066</td>
<td>$100,694</td>
<td>$105,666</td>
<td>$110,860</td>
<td>$115,030</td>
</tr>
</tbody>
</table>

**Notes:**

1. Certificate program = Five 3-credit courses. Program offered in four 10-week terms: Term 1 (Sept-Nov); Term 2 (Dec-Feb); Term 3 (Mar-May); Term 4 (Jun-Aug). Certificate program can be completed in one year.

2. University on-campus mandatory fees assumes a 3% annual increase. Covers 4 terms.