

**EASTERN MICHIGAN UNIVERSITY  
DIVISION OF ACADEMIC AFFAIRS**

**OUTLINE FOR SUBMITTING PROPOSALS FOR NEW GRADUATE CERTIFICATES**

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Proposals for graduate certificates should be submitted in narrative form, using the following outline. Directions for preparing graduate certificate proposals are on the following page.

**PROPOSED CERTIFICATE NAME:** MEDICAL ECONOMICS

**DEPARTMENT(S):** ECONOMICS **COLLEGE(S):** ARTS AND SCIENCES

**DEPARTMENT CONTACT** RAOUF HANNA **CONTACT PHONE:** 487-3395

**CONTACT EMAIL:** RHANNA@EMICH.EDU

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**I. Rationale**

The high and rising cost of medical care and the attendant transition from indemnity fee-for-service medicine to managed care have precipitated the integration of economics and medical care. The Graduate Certificate Program in Medical Economics is designed to provide a unique opportunity to individuals in Southeastern Michigan to acquire knowledge and skills in the relatively new and expanding area of medical economics, and to gain a better understanding of the rapid changes taking place in the national and regional medical care systems. The program includes a basic core of required courses as well as a large number of elective courses. The core courses provide an understanding of economic principles and their application to medical care issues, the historical and economic forces underlying the transformation of the medical care system, the behavior of patients, providers, and insurers in medical care markets, managed care models and contractual arrangements, and techniques used to assess the quality, effectiveness, and cost of medical care, including cost-effectiveness and provider profiling analyses. A wide range of elective courses allow students to choose additional courses which best fit their personal and professional needs. For example, students can take courses that provide them with a more detailed understanding of health plans and methods of reimbursement, productivity and cost analysis, Medicare and Medicaid, uninsured populations, the medical/legal environment, economic theory, and statistical concepts and techniques applied to medical issues and problems. The courses for the program were selected based on discussions Dr. Rice and Dr. Thornton had with members of the medical community. These discussions provided insight into which areas of medical care and economics that are of most interest and benefit to members of the medical community. Those who should find the program most appealing include individuals affiliated with managed care organizations, hospitals, insurance companies, pharmaceutical companies, consulting firms involved in health care analysis, community health centers, and the community health department, solo and group practice, hospital based physicians, and employee benefit managers and specialists. The knowledge acquired in the program can be used for personal or career advancement.

## II. Description

### A. Goals and Objectives

1. Develop an understanding of the application of economic principles to medical care issues.
2. Understand the role of economic forces underlying the transformation of the medical care System.
3. Explain the economic aspects and implications of contractual relationships between patients, providers, and insurers.
4. Learn techniques to evaluate the quality, effectiveness and cost of medical care.
5. Understand the economic structure of the healthcare industry and how it affects the financing and delivery of medical care.

### B. Program

The certificate program requires the completion of 15 credit hours.

#### 1. Program Requirements:

**Required Courses .....9 hours**

Econ 500	Economics: Principles and Institutions *
Econ 436	Health Economics
Econ 535	Issues and Techniques in Medical Economics**

**Elective Courses (Choose any two) .....6 hours**

Econ 501	Macroeconomic Theory and Policy
Econ 502	Microeconomic Theory and Policy
Econ 536	Advanced Health Economics
Econ 537	Statistical Methods for Medical Economics**
Econ 592	Topics in Medical Economics
Hlad 510	Medical Care Organization
Hlad 511	Health Law
Hlad 512	Reimbursement for Health Care

\* This requirement is waived for students who have taken Econ 201 (Principles of Macroeconomics) and Econ 202 (Principles of Microeconomics) or equivalent Courses. If Econ 500 is waived, then student selects one elective 3 hours course.

\*\* New courses that will be developed for the program.

#### Description of Required Courses:

*Economics 500 Economics: Principles and Institutions*

This course examines major economic institutions, develops the basic kit of analytical tools of economic theory, and demonstrates how these analytical tools can be used to investigate economic phenomena and human behavior.

*Economics 436 Health Economics*

The purpose of this course is to demonstrate how economic principles can be used to analyze health care issues and explain the behavior of patients, medical care providers, and insurers in health care markets. Recent changes in medical care markets, such as the increasing importance of managed care organizations, and current health care policy issues, such as regulation of the medical care industry, financing of medical care services, efficiency in the delivery of medical care services, and national health insurance are examined. The relationship between medical care services and health status is also addressed.

*Economics 535 Issues and Techniques in Medical Economics*

This course covers three important and closely related topics in contemporary medical economics. 1) Managed care and financial risk-sharing in the delivery of medical care. 2) Risk assessment, risk adjustment, and medical care provider profiling. 3) Cost-Benefit, cost-effectiveness, and outcomes analysis. The course begins by providing a brief overview of the medical care system and the transition from indemnity fee-for-service medicine to managed care. The objective is to provide the student with an understanding of the forces underlying the movement toward increased integration of economics and medical care. Managed care health plans and organizations are then examined. The primary goal is to provide the student with an understanding of economic aspects of contractual relationships that exist between managed care organizations and medical care providers. Particular emphasis is placed on arrangements that are used to transfer financial risk from managed care organizations to physicians and physician organizations, and the economic implications of these arrangements. The focus of the course then turns to an examination of methods that are currently used to evaluate the performance of medical care providers in an effort to make them more accountable for the cost and quality of care. The objective is to provide the student with an understanding of profiling systems, and the important role that risk assessment and risk adjustment play in the evaluation of provider performance. The strengths and weaknesses of alternative profiling systems is also discussed. The last topic area covered in the course involves cost-benefit, cost-effectiveness, and outcomes analysis. These closely related analytical tools are increasingly being used by public and private medical decision-makers to guide medical resource allocation decisions. The goal is to provide the student with an understanding of methods and measures employed in these types of analyses.

**Description of Elective Courses:**

*Economics 536 Advanced Health Economics*

The purpose of this course is to demonstrate how economic and statistical concepts and techniques can be used to analyze health care issues and problems. The goal is to gain a better understanding of the financing and delivery of medical care, and to provide the student with a set of tools to conduct health care research and analysis. Specific topics covered include managed care health plans, production and cost of health care, economic models of physicians and hospitals, medical malpractice, demand for medical care and patient behavior, and biomedical research and medical technology.

*Economics 537 Statistical Methods for Medical Economics*

This course is designed to examine the basic and most frequent statistical methods that are used by researchers to analyze health care data. The focus of this course will be on the application and interpretation of healthcare statistics, not on complex derivations and mathematical formulae. Students will learn how to use statistical software to analyze healthcare data, such as SAS and/or STATA. The course will discuss the management of data, including data generation and sample size selection, as well as review the most common types of data used in healthcare analyses. The objective is to familiarize the student with, and provide a basic understanding of healthcare data. Part of the focus of the course will be on evaluating healthcare data using basic univariate, bivariate, and multivariate statistics, with particular emphasis on how these statistics are used to summarize and describe data. Particular emphasis will be placed on the study of basic techniques of regression analysis, such as ANOVA and multivariable regression analysis and hypothesis testing. The course will examine the most commonly used multivariable methods used in medical literature, clinical practice, and healthcare research, such as linear regression, logistic regression (binary outcome models), random effects, fixed effects, and survival analysis (proportional hazard models). The focus of the course then turns to hypothesis testing and the statistical tools of assessing the quality and validation of a model. The primary objective of this course is to prepare the student to set-up, perform, interpret, and validate multivariable analysis, using healthcare data and examples from the medical literature and clinical practice.

*Economic 592 Topics in Medical Economics*

This is a course on a specific topic in medical economics. The topic chosen will typically focus on a current medical event, issue, or analytical technique of significant importance.

*Health Administration 510 Medical Care Organizations*

This course presents a theoretical approach to the medical care system that allows the consideration of key problems and issues such as DRG-based prospective payment, alternative delivery systems, and cost quality tradeoffs.

*Health Administration 511 Health Law*

In this course, the legal aspects of health law for the design, administration, and regulation of health care services are explored from the alternative perspectives of providers, reimbursement sources, government, and professional accreditation. Contract, tort, advocacy, enforcement of regulations and other topics are covered, as well as the controversial issues of the definition of life and death, informed consent, medical malpractice, liability, and legal entitlement of health care services.

*Health Administration 512 Reimbursement for Health Care*

This course is a survey of the full range of public and private sector methods of reimbursing health care services. The course covers all aspects of private health insurance, Blue Cross and Blue Shield, Medicare, Medicaid, welfare health care reimbursement, government regulation of health insurance, national health insurance proposals, and the problem of uninsured populations in the United States.

## 2. Primary Setting

Courses will be offered on campus and possibly off-campus as well. All courses will be offered in the evening or on Saturdays to accommodate students who work full-time.

## 3. Anticipated Schedule of Course Offerings

Consistent with past and present course scheduling, Econ 436 and Econ 500 will be offered Fall and Winter semester each year, and on occasion Spring semester. It is expected that Econ 535, Econ 536, Econ 537, Hlad 510, Hlad 511, and Hlad 512 will be offered once every year, and Econ 592 will be offered once every two years.

## 4. Typical Program of Study

The program is designed for a student to complete in one academic year, including fall, winter, and spring semesters, if enrolled in two classes per semester, but more likely two academic years, including fall, winter, and spring semesters, if enrolled in one class per semester.

### C. Admission Requirements

To be eligible for the Graduate Certificate Program in Medical Economics, the student must have a bachelor's degree from an accredited university with a minimum grade point average of 2.5 on a 4.0 scale.

### D. Anticipated Student Market and Projections

The projected implementation date for this certificate program is Fall semester 2007.

The target student population for the Graduate Certificate Program in Medical Economics is primarily represented by three groups: 1) medical care professionals, 2) individuals affiliated with medical research and consulting firms, 3) employee benefits managers and specialists. Medical care professionals include administrators, managers, and employees of managed care organizations, health insurance companies, hospitals, community health centers, and the community health department, physicians in solo and medical group practices, and hospital based physicians. Medical research and consulting firms include individuals affiliated with entities that collect, organize, analyze, and interpret medical information, and provide advice to medical organizations, and pharmaceutical and related companies. Employee benefits managers and specialists include benefits and human resource managers and employees, actuaries, and other consulting firms that provide advice and analysis of health plans and medical benefits.

Information about the potential demand for a graduate certificate program in medical economics has been acquired from several sources.

1. During the academic year 1997-98, Dr. Thornton, the principal architect of the certificate program, spent a sabbatical leave year as a visiting professor in the School of Health Administration and Policy at Arizona State University. While there he taught the health economics class in the Arizona Graduate Program in Public Health. The vast majority of students in this class were practicing physicians and health care professionals. Students found the course material of great value, both personally and professionally. At the end of the course, most students asked where they could acquire more knowledge and skills in the area of medical economics, given their educational background. They also indicated that professional colleagues not enrolled in the public health program would find more information in this area to be extremely useful. Students were disappointed to hear that

the sort of program in which they were interested does not currently exist. This is true both in Arizona and Southeastern Michigan. Existing programs in public health offer little in the area of medical economics, and M.A. and Ph.D programs that offer areas of specialization in health economics require significant mathematical skills and a substantial investment of time to complete the degree program, and therefore do not cater to the needs of health care professionals.

2. Dr. Thornton has done medical care consulting for insurance companies, and economic and medical consulting firms. Dr. Hanna, Dr. Thornton, and Dr. Rice have had informal discussions with members of the medical community, medical research firms, and medical consulting firms. Information from these sources validates the potential demand for a program with a medical economics curriculum.
3. Dr. Thornton and Dr. Hanna have discussed the proposed certificate program in medical economics with Robert DeRoche, Associate Director of University Services at the International Foundation of Employee Benefit Plans. Discussions with Dr. DeRoche lead us to believe that our program may be well received by employee benefits managers and specialists.

### **III. Assessment**

To assess the certificate program, we will administer exit questionnaires to all students, both those who complete the program and those who drop out. In addition, we will conduct exit interviews with a sample of those students.

### **IV. Resource Requirements and Budget**

The resource requirements for the certificate program will be somewhat minimal. The certificate program will be administered by the two Health Economists in the department, Dr. Thornton and Dr. Rice, who both currently teach a full schedule. To accommodate the new program, the department will request a ½ FTE to help with the additional teaching requirements.

The Department of Economics offers Econ 436, Econ 500, and Econ 536 to service existing programs. Two new courses will be created to service the certificate program Econ 535, Issues and Techniques in Medical Economics and Econ 537, Statistical Methods for Medical Economics. Dr. Thornton developed the foundation for Econ 535 as part of his research agenda while on sabbatical in 1997-98, and Dr. Rice developed the framework for Econ 537. Both Econ 535 and Econ 537 can be taught by either Dr. Thornton or Dr. Rice, the two health economists in the department. In addition, these courses can be taken as electives by students in the M.A. degree programs in economics, and therefore will also be used to service existing programs. We expect Econ 592, Topics in Medical Economics, to be taught once every two years. This course can be taught by either Dr. Thornton or Dr. Rice, and can also be taken as an elective by students in the M.A. degree programs in economics. Both Dr. Thornton and Dr. Rice are prolific researchers in the field of health economics and will largely draw on their own research in preparing this course. This should result in economies of scope and help to minimize the burden of offering a topics course for which the topics change from time to time. Health Administration also offers Hlad 510, Hlad 511, and Hlad 512 on a regular basis and expects no difficulty in accommodating larger enrollments in these classes.

The EMU library holdings are sufficient to meet the needs of the certificate programs. In addition, no additional money will be required for equipment or support staff.

While the resource requirements for the certificate program will be somewhat minimal and involve the additional explicit money outlay of a ½ FTE by the University, we believe the potential popularity of the program will result in significant additional revenue for the University. Thus, we believe that the budgetary impact will be quite favorable.

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## V. Action of the Department/College

### 1. Department (Include the faculty votes/department head signatures from all submitting departments.)

Vote of department faculty: For 11 Against 0 Abstentions 0  
(Enter the number of votes cast in each category.)

I support this proposal. The certificate program can X cannot \_\_\_\_\_ be implemented within the affected Department without additional College or University resources.

\_\_\_\_\_  
Signed by Dr. Raouf S. Hanna  
Department Head Signature

11-13-06  
Date

### 2. College/Graduate School

#### A. College. (Include signatures from the deans of all submitting colleges.)

I support this proposal. This certificate program can \_\_\_\_\_ cannot \_\_\_\_\_ be implemented within the affected College without additional University resources.

\_\_\_\_\_  
College Dean Signature

\_\_\_\_\_  
Date

#### B. Graduate School

\_\_\_\_\_  
Associate Dean Signature

\_\_\_\_\_  
Date

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## VI. Approval

\_\_\_\_\_  
Associate Vice-President for Undergraduate Studies and Curriculum Signature

\_\_\_\_\_  
Date

## VII. Appendices:

- A. Market Analysis/Needs Assessment
- B. Request for New Graduate or Undergraduate Course Forms
- C. Cost Analysis. (Complete only if the certificate cannot be implemented without additional University resources. Fill in Estimated Resources for the sponsoring department(s). Attach separate estimates for other affected departments.)

Estimated Resources:	Year One	Year Two	Year Three
Faculty / Staff	\$ _____	\$ _____	\$ _____
SS&M	\$ _____	\$ _____	\$ _____
Equipment	\$ _____	\$ _____	\$ _____
<b>Total</b>	\$ _____	\$ _____	\$ _____

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**DIRECTIONS FOR PREPARING PROPOSALS FOR NEW GRADUATE CERTIFICATES**

Departments intending to submit proposals for new graduate certificates are encouraged to consult with the Course and Program Development Office and the Graduate School prior to submitting such proposals. Proposals for new graduate certificate programs should be submitted in narrative form, according to the following guidelines:

**I. Rationale:** Explain completely the rationale for the proposed certificate. If it is the result of a market analysis or needs assessment, include documentation as Appendix A.

**II. Description**

**A. Goals and Objectives.** List the goals and objectives as specifically as possible. Goals and objectives should be developed and stated so as to permit ready evaluation of whether or not they are being met.

**B. Program**

1. List all current courses that will be included in the certificate program, and indicate whether they will be required, restricted electives or electives. Care should be exercised to see that all courses implement program goals and objectives.
2. List all new courses that will be needed for the program. Care should be exercised to see that all courses implement program goals and objectives. A completed Request for a New Course form for each new course should be included as Appendix B.
3. Indicate the primary setting and format in which the program will be offered, i.e. on campus, off campus, on-line, etc. If the program will require a significant contribution from Continuing Education, provide evidence of Continuing Education support.
4. Provide an anticipated schedule of course offerings.
5. Outline a typical program of study a student would follow in completing the certificate.
6. **(Interdisciplinary programs only)** Through which department or college will the program be administered?

**C. Admission** (Complete only if admission requirements are different from regular Graduate School admission requirements.)

1. What admission requirements will be established for the program (GPA, national examinations, interviews, letters of recommendation, etc.)?
2. If conditional admission is to be granted, how will this be determined and what requirements will be established that are different from those of regular admission?

**D. Projections**

1. Indicate the projected implementation date for the certificate program.
2. Project the number of students at initial enrollment and after the certificate program is established.

**III. Assessment:** Provide a plan for evaluating the quality of the program, and a schedule for this evaluation. The evaluation plan should assure the inclusion of objective data to determine the degree of success in reaching stated goals and objectives.

**IV. Budget.** Provide budgetary information about the proposed certificate. If there are increased costs, can they be covered by current department and/or college budgets? If not, indicate likely funding sources. If additional University resources will be needed, complete Cost Analysis and include as Appendix C. (**Note:** If a significant portion of the cost of the certificate program will be borne by Continuing Education, include evidence of Continuing Education's willingness to bear those costs.)