Program Change Request

New Program Proposal

Date Submitted: 11/16/21 9:20 am

Viewing: **EMSEGM : Systems Engineering and Engineering Management Graduate MicroCertificate**

Last edit: 11/16/21 9:20 am

Changes proposed by: richardh

Submitter:	User ID:	richardh	Phone:
4795755521			

Program Status	Active
Academic Level	Graduate
Type of proposal	MicroCertificate
Select a reason for this new program	Adding a New Graduate MicroCertificate
Effective Catalog Year	Summer 2022
College/School Code	College of Engineering (ENGR)
Department Code	Department of Industrial Engineering (INEG)
Program Code	EMSEGM
Degree	Graduate MicroCertificate
CIP Code	

3. 11/03/21 3:55 pm Alice Griffin (agriffin): Approved for Director of Curriculum Review and Program Assessment
4. 11/09/21 1:07 pm Gina Daugherty (gdaugher): Approved for Registrar Initial
5. 11/10/21 10:38 am Doug Miles (dmiles): Approved for Institutional Research
6. 11/10/21 10:41 am Ed Pohl (epohl): Rollback to Initiator
7. 11/15/21 3:36 pm Kevin Hall (kdhall): Rollback to Initiator
8. 12/01/21 10:18 am Kevin Hall (kdhall): Approved for ENGR Dean Initial
9. 12/02/21 5:48 am Pat Koski (pkoski): Approved for GRAD Dean Initial
10. 12/02/21 9:19 am Alice Griffin (agriffin): Approved for Director of Curriculum Review and Program Assessment
11. 12/06/21 9:31 am Gina Daugherty

15.1501 - Engineering/Industrial Management.

Program Title

Systems Engineering and Engineering Management Graduate MicroCertificate

Program Delivery
Method
    Online/Web-based

                    Is this program interdisciplinary?

    No

                    Does this proposal impact any courses from another College/School?

    No

What are the total   6
hours needed to
complete the
program?

On-line/Web-based Information

Reason for offering
Web-based Program
    Students are working professionals who need flexible course offerings.

Maximum Class Size   35
for Web-based
Courses

Course delivery
mode

Method(s)
Blended Delivery Methods

Describe Blended
Delivery Methods
    Hybrid, lecture, video synchronous, asynchronous delivery methods.

Class interaction
mode

Method(s):
Other

Specify Other
Interaction Methods
    All synchronous and asynchronous tools are available in current classes. Includes, but is not limited to
    video, discussion boards, email, synchronous video, and self-paced materials.

Percent Online

100% with No Required Campus Component

50-99%

Provide a List of
Services Supplied by
Consortia Partners or
Outsourced
Organization

    Normal university-supported services; Linkedin Learning, Blackboard.

Estimate Costs of the   1000
Program over the
First 3 Years

List Courses Taught
by Adjunct Faculty

Upload
Memorandum of
Understanding Forms
(if required)

Program Requirements and Description

Requirements

Admission Requirements: The Systems Engineering and Engineering Management Graduate MicroCertificate credential is open to students with a STEM undergraduate degree. Course pre-requisites or departmental consent for some courses may be required.

Students must apply for the Systems Engineering and Engineering Management Graduate MicroCertificate credential and be admitted to the Graduate School; the GRE requirement is waived for the Systems Engineering and Engineering Management Graduate MicroCertificate credential.

Students with an ABET-accredited engineering undergraduate degree after completion of the Graduate MicroCertificate may apply to the Master of Science in Engineering Management. Students who have a STEM degree may apply to Graduate Certificates in Engineering Management, Project Management, Operations Management, Lean Six Sigma, Homeland Security, and the Master of Science in Operations Management.

Requirements for the Systems Engineering and Engineering Management Graduate MicroCertificate (6 hours):

EMGT 5033	Introduction to Engineering Management	3
EMGT 5603	Systems Thinking and Systems Engineering	3
Total Hours		6

Program Costs

Cost less than $1000 for miscellaneous costs such as instructor materials, ASEM professional membership provided for students. No new course development is required. The MicroCertificate uses existing courses.

Library Resources

No additional library resources required.

Instructional Facilities

No additional instructional facilities are required.

Faculty Resources

Additional faculty not required.

List Existing Certificate or Degree Programs that Support the Proposed Program

Program(s)
EMGTMS - Engineering Management, Master of Science in Engineering Management

Are Similar Programs available in the area?

No

Estimated Student Demand for Program   25

Scheduled Program Review Date   na

Program Goals and Objectives

Program Goals and Objectives
Program Objectives:
1. Apply and evaluate systems thinking and systems engineering to inform the engineered system development process. 2. Apply engineering management concepts to support the development of products and services for customers and stakeholders.
Program Goals:

Program Goals and Objectives
1. Apply systems thinking and systems engineering concepts to the acquisition and/or development of systems with a focus on life cycle models, development of system architectures and architecture frameworks, system configurations, system requirements, requirements allocation, interface analysis, testing, verification, and validation, and post-development activities. 2. Apply engineering management topics including leadership, innovation, finance, project management, legal and ethical issues, systems thinking, systems engineering, research & development, production, and quality management.

Learning Outcomes

Learning Outcomes
Expected Student Learning Outcomes: 1. Create the life cycle phases of an engineered system, perform system engineering assessments, and make systems engineering decisions. 2. Analyze and evaluate the organizational and user context for engineered systems to support engineering decisions. 3. Apply leadership, legal, ethical, data governance, quality, financial, planning concepts in engineering management to support the development of products and services.

Description and Justification for this request

Description of request	Justification for request
Adding new Graduate MicroCertificate to meet demand; based on industry/student feedback and market research.	Market research and student feedback point toward a growing need for flexibility in program offerings based on working professionals, travel schedules, and family requirements.

Upload attachments

Reviewer Comments

Alice Griffin (agriffin) (11/03/21 3:52 pm): Changed effective date from spring to summer 2022. This request is too late to complete approval before the start of the spring semester.

Alice Griffin (agriffin) (11/03/21 3:54 pm): Inserted Graduate before MicroCertificate in introductory paragraph.

Gina Daugherty (gdaugher) (11/09/21 1:07 pm): There is a repeat of Program Objective #1. Is there an additional objective that should be added?

Ed Pohl (epohl) (11/10/21 10:41 am): Rollback: Rich Objective 1 is listed twice, are we missing a second objective?

Kevin Hall (kdhall) (11/15/21 3:35 pm): One of your program Objectives exactly matches one of your program Goals. Please revise.

Kevin Hall (kdhall) (11/15/21 3:36 pm): Rollback: program goals and objectives must be revised, to eliminate duplication.