



ARIZONA STATE UNIVERSITY
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE

This template is to be used only by programs that have received specific written approval from the Provost's office to proceed with internal proposal development and review. A separate proposal must be submitted for each individual new degree program.

DEGREE PROGRAM

College/School(s) offering this degree: Ira A. Fulton Schools of Engineering

Unit(s) within college/school responsible for program: School of Sustainable Engineering and the Built Environment

If this is for an official joint degree program, list all units and colleges/schools that will be involved in offering the degree program and providing the necessary resources: N/A

Proposed Degree Name: Construction Engineering

Master's Degree Type: MSE-Master of Science in Engineering

and proposed abbreviation: MSE

Proposed title of major: Construction Engineering

Is a program fee required? Yes No

Requested effective term: Fall and year: 2011
(The first semester and year for which students may begin applying to the program)

PROPOSAL CONTACT INFORMATION

(Person to contact regarding this proposal)

Name: Dr. G. Edward Gibson Jr.
Title: Del. E. Webb School of Construction Program Chair
Phone: (480) 965-7972
Email: GEdwardGibsonJr@asu.edu

DEAN APPROVAL

This proposal has been approved by all necessary unit and College/School levels of review, and the College/School(s) has the resources to offer this degree program. I recommend implementation of the proposed degree program. *(Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.)*

College Dean Name: Paul Johnson, Executive Dean
(See attached approval)

College Dean Signature _____ **Date:** _____

College Dean name:
(If more than one college involved)

College Dean Signature _____ **Date:** _____

**ARIZONA STATE UNIVERSITY
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE**

This proposal template should be completed in full and submitted to the University Provost's Academic Council [<mailto:curriculum@asu.edu>]. It must undergo all internal university review and approval steps including those at the unit, college, and university levels. A program **may not** be implemented until the Provost's Office notifies the academic unit that the program may be offered.

DEGREE PROGRAM INFORMATION

Master's: MSE-Master of Science in Engineering

and proposed abbreviation: MSE

Proposed title of major: Construction Engineering

1. PURPOSE AND NATURE OF PROGRAM

- A. Brief program description** (This is a catalog type description of no more than 250 words. Include the distinctive features of the program that make it unique. Do not include program or admission requirements.)

The Master of Science in Engineering (MSE) in Construction Engineering graduate program at ASU is a multi-disciplinary program encompassing the areas of geotechnical engineering, structural engineering, transportation engineering and construction management-related area. The primary goal is to impart scientific and technical knowledge that is used to construct infrastructure projects commonly used in Architecture/Engineering/Construction (A/E/C) industry.

The MSE in Construction Engineering degree will be desirable to those students who are interested in continuing their education in engineering with a focus on construction. The American Society of Civil Engineers (ASCE), the professional society for all civil engineers, is strongly pushing for a master's degree as the minimum degree required for all practicing civil engineers. The society has passed ASCE Policy 465 ("Academic prerequisites for Licensure and Professional Practice") details of which can be found at several web sites¹. The MSE Construction Engineering degree will help meet that objective.

- B. Total credit hours required for the program:** 30

- C. Are any concentrations to be established under this degree program?** Yes No

2. PROGRAM NEED. Explain why the university needs to offer this program (include data and discussion of the target audience and market).

This program will be complementary to the new BSE in Construction Engineering program and will also attract students from the Phoenix Metropolitan area who have engineering degrees and work in the construction industry.

3. IMPACT ON OTHER PROGRAMS. List other academic units that might be impacted by the proposed program and describe the potential impact (e.g., how the implementation of this program might affect student headcount/enrollment, student recruitment, faculty participation, course content, etc. in other programs). Attach letters of collaboration/support from impacted programs.

¹ <http://www.asce.org/ProgramProductLine.aspx?id=7058> and <http://dev.asce.org/PPLContent.aspx?id=2147484044> and

The MSE in Construction Engineering could have a positive impact on other programs. Many of the classes making up the degree are integral to the civil engineering body of knowledge and as stated earlier, will help our graduates meet the new licensure and professional practice requirements.

- 4. PROJECTED ENROLLMENT** How many new students do you anticipate enrolling in this program each year for the next five years? Please utilize the following tabular format.

5-YEAR PROJECTED ANNUAL ENROLLMENT					
	1st Year	2nd Year (Yr 1 continuing + new entering)	3rd Year (Yr 1 & 2 continuing + new entering)	4th Year (Yrs 1, 2, 3 continuing + new entering)	5th Year (Yrs 1, 2, 3, 4 continuing + new entering)
Number of Students Majoring (Headcount)	5	10	20	25	30

5. STUDENT LEARNING OUTCOMES AND ASSESMENT

- A. List the knowledge, competencies, and skills** students should have when they graduate from the proposed degree program. (You can find examples of program Learning Outcomes at <http://www.asu.edu/oue/assessment.html>).

Learning Outcomes

Outcome T1: Graduates of the MSE in Construction Engineering program will have the technical and communication skills to meet the needs of the Architecture, Engineering and Construction industry. The term “technical” is intended to include (a) the ability to understand and implement the relevant engineering and scientific theories and methods and (b) use these in engineering analysis and design.

Outcome T2: Graduates of the MSE in Construction Engineering program will develop lifelong learning skills.

- B. Describe the plan and methods to assess** whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. (You can find examples of assessment methods at <http://www.asu.edu/oue/assessment.html>).

Outcome T1: (a) The Comprehensive Exam will be broad-based to test the technical skills. (b) Coursework, assignments, exams, projects.

Outcome T2: At least half the courses that appear in a typical POS will require the students to work on open-ended projects. These are projects requiring students to read, analyze and synthesize knowledge generally not available in textbooks or classroom lectures (e.g. research papers, technical reports, master’s thesis etc.).

- 6. ACCREDITATION OR LICENSING REQUIREMENTS (if applicable).** Provide the names of the external agencies for accreditation, professional licensing, etc. that guide your curriculum for this program, if any. Describe any requirements for accreditation or licensing.

Although there are no licensing requirements, the degree will be desirable to assist students in preparing for the construction professional engineering licensing exam. Unlike undergraduate degrees, graduate engineering degrees are typically not ABET-accredited.

7. FACULTY, STAFF AND RESOURCE REQUIREMENTS

A. Faculty

- i. **Current Faculty.** List the name, rank, highest degree, area of specialization/expertise and estimate of the level of involvement of all current faculty who will teach in the program.

The Graduate Supervisory Committee (GSC) shall consist of tenured or tenure-track Construction Engineering faculty. The advisor shall serve as the chair of the GSC.

From the Civil, Environmental and Sustainable Engineering Program

Apostolos Fafitis; Associate Professor, PhD; Expertise: Dynamics of structures. Concrete structures. Structural Materials. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Sandra Houston; Professor, PhD; Expertise: Geotechnical and geoenvironmental engineering. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Kamil Kaloush; Associate Professor, PhD; Expertise: Pavement materials design, characterization and thermal properties, advanced laboratory testing, field performance evaluation and maintenance. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Edward Kavazanjian; Associate Professor, PhD; Expertise: Geotechnical earthquake engineering, waste containment, mechanical properties of municipal solid waste. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Christopher Lawrence; Lecturer, PhD; Expertise: Geotechnical engineering. Level of involvement: Teaching courses in the undergraduate and graduate curriculum.

Michael Mamlouk; Professor, PhD; Expertise: Pavement analysis and design, material characterization, highway materials, pavement maintenance and rehabilitation. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Barzin Mobasher; Professor, PhD; Expertise: Mechanics of composite materials, development of new construction materials, durability of building materials. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Subramaniam Rajan; Professor, PhD; Expertise: Finite element based design optimization, parallel computations, material modeling. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects. Managing the administrative side of the program as the Graduate Program Chair.

Matthew Witczak; Professor, PhD; Expertise: Highway and airfield pavement analysis and design. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Claudia Zapata; Assistant Professor, PhD; Expertise: geotechnical engineering, environmental effects in pavement design. Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

From the Construction Management Program

Samuel Ariaratnam; Professor; Ph.D.; Expertise in Infrastructure management & rehabilitation trenchless construction methods; Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

William Badger; Professor; PhD; Expertise in Leadership and Management, Construction Management, Partnering Construction Contracting, Construction Equipment Engineering; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Howard Bashford; Associate Professor; PhD; Expertise: Design of Production, Systems for Construction, Residential Construction and issues; Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

James Ernzen; Associate Professor, PhD; Expertise: Alternate Project Delivery, Methods Project Management and Safety Reinforced Concrete Design and Construction Operations; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

G. Edward Gibson; PhD; Professor; Expertise: Front end planning, risk management, construction productivity, organizational change, dispute resolution, lessons learned; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects. Managing the administrative side of the program as the Graduate Program Chair.

Dean Kashiwagi; PhD; Professor; Expertise: Information Measurement, Theory Best Value, Procurement Risk Minimization; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Jason Lueke; PhD; Assistant Professor; Expertise: Trenchless Construction Methods and Techniques, Rehabilitation of Underground Infrastructure, Sensors and Field Measurements; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Pangiotis Mitropoulos; PhD; Assistant Professor; Expertise: Construction accident prevention, Development of high reliability work systems for productivity, and safety Lean Construction: working structures; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Kenneth Sullivan; PhD; Assistant Professor; Expertise: Best Value Process; Facilities Management; Cost Analysis; Level of Involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

Avi Wiesel; PhD; Associate Professor; Expertise: Buildability modeling information technology in construction, construction education; Level of involvement: Teaching courses in the undergraduate and graduate curriculum, mentoring graduate students, participating in unsponsored and sponsored research projects.

- ii. **New Faculty.** Describe the new faculty hiring needed during the next three years to sustain the program. List the anticipated hiring schedule and financial sources for supporting the addition of these faculty.
None

- iii. **Administration of the program.** Explain how the program will be administered for the purposes of admissions, advising, course offerings, etc. Discuss the available staff support.

The administration of this program will be provided by current staff members in SSEBE. The current graduate advisor will respond to inquiries on the program and provide the day to day support for the program chair and faculty members through admissions and advising. Faculty members will provide the primary course advising for the program, although the graduate advisor will provide the administrative support for the program.

- B . **Resource requirements to launch and sustain the program.** Describe any new resources required for this program's success such as new staff, new facilities, new library resources, new technology resources, etc

None

8. CURRICULAR STRUCTURE OF THE PROPOSED PROGRAM

- A. **Admission Requirements** The requirements listed below are Graduate College requirements. Please modify and/or expand if the proposed degree has additional admissions requirements.

- i. **Degree.** Minimum of a bachelor's degree (*or equivalent*) or a graduate degree from a regionally accredited College or University of recognized standing in a related field such as

civil engineering or construction engineering

Modify or expand, if applicable:

Students with an engineering degree other than Civil Engineering or Construction may be admitted with deficiencies.

If the applicant does not have an undergraduate degree in civil engineering, the following deficiencies constitute the minimum requirement. Additional requirements may be placed based upon the applicant's background.

- Sufficient courses in Mathematics including but not limited to Calculus, Differential Equations, and Linear Algebra.
- CEE 211 Engineering Mechanics: Statics and Dynamics.
- CEE 213 Introduction to Deformable Solids or equivalent.
- CEE 321 Structural Analysis or equivalent.
- CEE 353 Civil Engineering Materials or equivalent.
- CEE 351 Geotechnical Engineering or equivalent.
- CEE 372 Transportation Engineering or equivalent.
- CEE 420 Steel Structures or equivalent, and/or CEE421 Concrete Structures or equivalent.

- ii. **GPA.** Minimum of a 3.00 cumulative GPA (scale is 4.0=A) in the last 60 hours of a student's first bachelor's degree program Modify or expand, if applicable:

- iii. **English Proficiency Requirement for International Applicants.** If applicable list any English proficiency requirements that are higher than and/or in addition to the Graduate College requirement. (See Graduate College policy and procedures <http://graduate.asu.edu/admissions/international.html#proficiency>):

The English Proficiency Requirement for International Applicants will remain consistent with the Graduate College standards.

- iv. **Required Admission Examinations.**

GRE GMAT Millers Analogies None Required

- v. **Application Review Terms.** Indicate all terms for which applications for admissions are accepted and the corresponding application deadline dates, if any:

- Fall Deadline (month/year): January 1
- Spring Deadline (month/year): July 1
- Summer Deadline (month/year):

B. Degree Requirements. Below provide the curricular requirements for the proposed degree program.

- i. **Total credit hours (cr hrs) required for the degree program:** 30
- ii. **Core courses.** List all required core courses and total credit hours for the core (required courses other than internships, thesis, dissertation, capstone course, etc). Omnibus number courses can not be used as core courses. Permanent numbers must be requested by submitting course proposal to ACRES for approval.

The Plan of Study (POS) must be in accordance with Graduate College and Civil Engineering Department requirements. The candidate must complete at least 30 semester hours of approved course work distributed as follows (see List of Courses):

At least one core course designate from each of the three areas - structures, geotechnical and transportation must be selected.

Total cr hrs for required core courses: 9 credit hours minimum

Course prefix & number	Course title	Credit hours	New course?
Structures Courses			
CEE 521	Stress Analysis (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 526	Finite Elements for Engineers (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Geotechnical Courses			
CEE 550	Soil Behavior (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 551	Advanced Geotechnical Testing (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Transportation Courses			
CEE 511	Pavement Analysis and Design (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 583	Field Work-Topic: Highway Materials, Construction, and Quality (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

iii. Elective Courses

At least one but not more than two courses from engineering mathematics and data analysis courses

At least two but not more than three construction management courses

Total cr hrs for program electives: 21 credits minimum

Provide a sample list of elective courses:

Course prefix & number	Course title	Credit hours	New course?
Structures Elective Courses			
CEE 521	Stress Analysis (Core Course Designate, can be taken as an elective if not already taken as a core course.)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 522	Experimental Stress Analysis	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>

CEE 524	Advanced Steel Structures	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 526	Finite Elements for Engineers (Core Course Designate, can be taken as an elective if not already taken as a core course)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 527	Advanced Concrete Structures	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 530	Prestressed Concrete	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 532	Developing Software for Engineering Applications	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 536	Structural Dynamics	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Geotechnical Elective Courses			
CEE 550	Soil Behavior (Core Course Designate)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 551	Advanced Geotechnical Testing (Core Course Designate, can be taken as an elective if not already taken as a core course)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 553	Advanced Soil Mechanics	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 554	Shear Strength and Slope Stability	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 555	Advanced Foundations	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 556	Seepage and Earth Dams	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 557	Geoenvironmental Engineering	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 559	Geotechnical Earthquake Engineering	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Transportation Elective Courses			
CEE 511	Pavement Analysis and Design (Core Course Designate, can be taken as an elective if not already taken as a core course)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 512	Pavement Performance and Management	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 515	Properties of Concrete	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CEE 583	Field Work-Topic: Highway Materials, Construction, and Quality (Core Course Designate, can be taken as an elective if not already taken as a core course)	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Construction Management Elective Courses			
CON 540	Construction Productivity	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CON 543	Construction Equipment Engineering	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CON 551	Alternative Project Delivery Methods	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CON 554	Trenchless Construction Methods	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CON 565	Information Measurement Theory I	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
CON 567	Advanced Procurement Systems	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Engineering Mathematics and Data Analysis Elective Courses			
MAE 501	Linear Algebra in Engineering	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
MAE 502	Partial Differential Equations in Engineering	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
IEE 572	Design of Engineering Experiments	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
IEE 578	Regression Analysis	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
IEE 582	Response Surfaces and Process Optimization	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
IEE 598	Topic: Six Sigma Methodology	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
IEE 570	Advanced Quality Control	3	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

iv. **400-Level Courses.** No more than 3 credit hours of 400-level coursework can be included on graduate student program of study.

1. Are 400-level ASU courses allowed on student program of study for this degree? Yes No

2. If yes, how many credit hours?

3 credit hours. A 400 level course is acceptable only if taken outside of the CEE and CON list of courses.

- v. **Additional Requirements (if applicable).** Provide a brief description of any additional requirements (e.g. internships, clinicals, field study, etc.)

Total cr hrs for other required courses: 0

List course info for any additional requirements (e.g. internships, clinicals, field study, etc.)

Course prefix & number	Course title	Credit hours	New course?
			Y <input type="checkbox"/> N <input type="checkbox"/>
			Y <input type="checkbox"/> N <input type="checkbox"/>
			Y <input type="checkbox"/> N <input type="checkbox"/>

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

- vi. **Culminating experience** for the proposed program (please check all that apply and provide requested information):

Required?	Brief description of the applied project or the capstone course, as applicable.	Course prefix and number	Credit hours
Written Comprehensive Exam is required as the culminating experience. (please see below)			

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

- vii. **Master's program comprehensive exams, please check all that apply** (Please note: for doctoral programs, a written and an oral comprehensive exam are required.)

- Written comprehensive exam required
- Oral comprehensive exam required
- No comprehensive exam required

A final written comprehensive exam will be administered as the culminating experience for the proposed master's degree program by the Construction Engineering Group at the end of Fall and Spring semesters. This is a six-hour open book and notes written exam covering the three core subject areas that appear in a student's Plan of Study (POS). The GSC decision on whether to pass or fail the student will be based on the results from the comprehensive exam. A student who fails the comprehensive exam the first time may petition to retake the exam once more no earlier than the next semester when the exam is scheduled.

- viii. **Foreign Language Exam.**

Foreign Language Examination(s) required? Yes No

- ix. **Course Prefix(es)** Provide the following information for the proposed graduate program.

a. Will a new course prefix(es) be required for this degree program?

Yes No

b. If yes:

- Complete the New Prefix Request Form for each new prefix and submit with this proposal. This form can be located on the Office of the Executive Vice President and Provost of the University Curriculum Development website at <http://provost.asu.edu/curriculum>.

- x. **New Courses Required for Proposed Degree Program.** Provide course prefix, number, title, and credit hours and description for any new courses required for this degree program.
N/A – All courses are already existing

MSE in Construction Engineering - Approvals

Unit Approval

From: Ann Zell [mailto:ann.zell@asu.edu]
Sent: Friday, April 16, 2010 3:28 PM
To: curriculumplanning@asu.edu
Cc: Paul Johnson; Deirdre Meldrum; James Collofello
Subject: Proposal MSE Construction Engineering

The attached proposal for a MSE in Construction Engineering has received Ira A. Fulton Schools of Engineering Curriculum Committee support and Dean's approval. We request that the appropriate university-level committee(s) consider this proposal.

Ann Zell
Assistant Dean, Academic Administration
Ira A. Fulton Schools of Engineering at Arizona State University
Tempe, AZ 85287-8109
(480) 965-8931 voice
(480) 965-8095 fax

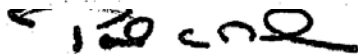
DEAN APPROVAL

This proposal has been approved by all necessary unit and College/School levels of review, and the College/School(s) has the resources to offer this degree program. I recommend implementation of the proposed degree program. (Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.)

College Dean Name: Deirdre R. Meldrum, Dean

CIP Code: _____
(To be determined by the Office of the Executive Vice President
and the Provost of the University)
3C2132009

COVER SHEET



College Dean Signature _____ Date: 4-16-10

College Dean name: Paul C. Johnson, Executive Dean

(If more than one college involved)

College Dean Signature _____ Date: _____