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## Proposal to the Senate Educational Policy Committee

**PROPOSAL TITLE:** Establish a Major in Engineering in the degree of Master of Engineering in the College of Engineering.

**SPONSOR:** Professor Victoria L. Coverstone, 265-4561, [vcc@illinois.edu](mailto:vcc@illinois.edu).

**COLLEGE CONTACT:** Victoria L. Coverstone, Associate Dean, Office of Graduate and Professional Engineering Programs, College of Engineering, 265-4561, [vcc@illinois.edu](mailto:vcc@illinois.edu)

### BRIEF DESCRIPTION:

This proposal is meant to accompany the proposal for the Master of Engineering and seeks establishment of a Major in Engineering for the degree of Master of Engineering (M.Eng.). The purpose of the Major in Engineering is to provide an academic home unit for interdisciplinary curricula under the M.Eng. degree. The curriculum for the Major in Engineering is organized as follows:

- The Major in Engineering will reside in the College of Engineering and will total a minimum of 32 hours. At least 12 hours of the 32 hours must be at 500 level.
- The Major in Engineering must have a concentration, and the concentration must be interdisciplinary.
- A concentration for the Major in Engineering must be a minimum of 24 hours; at least 8 hours must be at the 500 level and 4 hours must be designated professional development. Professional development may take the following forms: internship experience with a company, laboratory, or agency; design project; or course(s) in business, leadership, or the Technology Entrepreneurship Center (TEC). An internship experience or design project used to fulfill the professional development requirement must be incorporated in a credit-bearing course for a minimum of 4 hours credit.
- Concentrations must designate a home unit. Admissions, advising, and course requirements must be defined by each concentration based on the home unit or a designated committee.

### JUSTIFICATION:

A key justification of the M.Eng. degree is its ability to provide more in-depth technical knowledge to professional engineers that cannot be covered in traditional engineering B.S degrees. COE alumni and advisors have expressed that there is a definite need in their respective workforce for advanced course work that addresses emerging technology areas that might span disciplines, e.g. information assurance, cyber security, and complex systems engineering. The Major in Engineering in the M.Eng. degree is proposed to facilitate multi- department collaboration in forming interdisciplinary concentrations. It will

also alleviate the need for individual departments to develop their own program proposals for the same topical area.

#### **BUDGETARY AND STAFF IMPLICATIONS:**

a. *Additional staff and dollars needed:*

The majority of students in M.Eng. programs will pay their own tuition. The College of Engineering (CoE) will use graduate tuition dollars returned to the CoE from the Office of the Provost Budget and Resource Planning to fund additional instructional resources needed (if any) to support the curriculum in Master of Engineering programs. The CoE has developed a tuition distribution model for departments offering majors and/or concentrations within M.Eng (See Appendix A Tuition Distribution Model). Tuition funds returned to the departments will be used to cover the costs of developing new courses or provide additional resources to support faculty in teaching courses with increased enrollment due to M.Eng. students. Faculty hires could be made subject to the usual college and campus approval process once a clear need is demonstrated. Tuition funds returned to the departments can also be used to fund courses taught by other campus units, such as the College of Business, which would normally be guided by MOU's developed with those units.

Note: The standard return to any college at the University of Illinois at Urbana-Champaign is the total graduate tuition paid minus the 10% retained by campus. This was implemented by the campus several years ago to encourage units to recruit and enroll students who pay their own graduate tuition. Graduate tuition funds returned to the colleges are considered state, recurring dollars that may be used to fund faculty hires or support instruction in other ways. When faculty hiring lines are authorized by the campus, funds are not supplied with them from campus except in some specific cases such as TOP and Faculty Excellence authorized searches and hires. Instead, Colleges are expected to provide the recurring funds from the tuition and GRF dollars allocated to them by campus in the normal annual funding cycle. Thus, by returning self-paying graduate student tuition to colleges and departments, campus is providing funding that can potentially be used to hire faculty if needed to support these programs.

The M.Eng. degree is primarily designed to group currently taught courses at UIUC into marketable degrees with foci in topics of national industrial interest. The major and/or concentration designate the majority of the hours required for the M.Eng. degree. Therefore the selection of courses within the major and/or concentration would most influence the need for additional staff and dollars to support the program. The Major in Engineering in the M.Eng. requires an interdisciplinary concentration (see accompanying proposal for the Concentration in Energy Systems) for curriculum details. It is expected that each concentration will have about 20 students and that each major will have an enrollment that represents a small fraction of the home unit's total graduate enrollment; students will be able to select electives from a sizable list of courses and therefore there will be no additional staff or dollars needed in a majority of cases.

b. *Internal reallocations (e.g., change in class size, teaching loads, student-faculty ratio, etc.):*

Graduate admission is managed at the department-level. Departments offering concentrations in the Major in Engineering in M.Eng. will consider impact to teaching loads and student-faculty ratios when setting admission targets. It is anticipated that initially departments (with the exception of Civil and Environmental Engineering, if it should participate, since it has a more

developed capability and market) will enroll about 20 students per M.Eng. program; these will represent only a small fraction of the department's total graduate enrollment and thus have minimal impact on existing course enrollments. Any departments offering new concentrations in the Major in Engineering will be required to include a review of the program in the annual department review with the Dean for first three years; with a review occurring in every third year after the first three years. If major changes in a Concentration are needed those will be reviewed by the College of Engineering Executive Committee (the faculty governance committee for the college).

- c. *Effect on course enrollment in other units and explanations of discussions with representatives of those departments:* An interdisciplinary concentration is required for the Major in Engineering. Each proposal for a new concentration will be required to provide an analysis of the projected impact of students on course enrollments outside of CoE.
- d. *Impact on the University Library:* Letter Attached
- e. *Impact on computer use, laboratory use, equipment, etc.:* M.Eng. students may take advantage of the college-wide computer laboratories, but the impact on research labs would be nonexistent since a thesis is not an option. CoE will use tuition funds generated by the M.Eng. students to address any additional support needed for these students in the computer laboratories.

**DESIRED EFFECTIVE DATE:** Fall 2013

**STATEMENT FOR PROGRAMS OF STUDY CATALOG:** See Appendix B

**CLEARANCES:** (Clearances should include signatures and dates of approval) - - These signatures must appear on a separate sheet. If multiple departments or colleges, add lines.)

Signatures:

*Victoria A. Corstone*

Unit Representative:

Date: 9/30/11

*Yasmin Abdou*

College Representative:

10/11/11  
Date:

*[Signature]*

Graduate College Representative:

10/23/12  
Date:

\_\_\_\_\_  
Provost Representative:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Educational Policy Committee Representative:

\_\_\_\_\_  
Date:

## Appendix A: (Budgetary and Staff Implications)

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### **New Degree Programs – Required Budgetary Implication Questions**

This applies to all current M. Eng proposals.

1) *How does the unit intend to financially support this program?*

The majority of students in M.Eng. degree programs will pay tuition or be supported by corporate funding. The COE has developed a tuition distribution model for units offering majors or concentration for the M.Eng. (see Tuition Distribution Model in this Appendix)

2) *Will the unit need to seek campus or other external resources?*

No

3) *If no new resources are required, how will the unit create capacity or surplus to appropriately resource this program? (What functions or programs will the unit no longer support?)*

Tuition paid by M.Eng. students will be used by the CoE and participating departments to provide additional resources, if needed, to support course development and enrollment of M.Eng. students in existing courses. Admissions, advising, and course enrollment will be managed by the home unit of the major or concentration or by a designated program committee of the M.Eng. concentration. The CoE Office of Graduate and Professional Engineering Programs has recently hired a new Marketing Specialist. This position would be responsible for developing and executing marketing strategies and programs for M.Eng. degree programs among other duties. The position will be funded by the 20% tuition distribution that the CoE will receive from student-paid tuition in M.Eng. degree programs.

4) *Please provide a market analysis: What market indicators are driving this proposal? What type of employment outlook should these graduates expect? What resources will be required to assist students with job placement?*

The market assessment will depend greatly on the M.Eng. major or concentration. Each proposed major or concentration will address the potential market and employment outlook. Students in the M.Eng. program will have the resources of the CoE Engineering Career Services office to assist with job placement.

5) *If this is a proposed graduate program, please discuss the programs intended use of waivers. If the program is dependent on waivers, how will the unit compensate for lost tuition revenue?*

M.Eng. students will not be eligible for waiver-generating appointments in most cases. However, participating units may reserve the option to offer teaching assistantships that may generate waivers where M.Eng. students are the best candidates to meet teaching needs or as cost sharing for external funding requiring matching contributions.

#### Tuition Distribution Model

Tuition returned to the CoE (net of campus overhead; currently 10% of total graduate tuition received) will be distributed as follows:

Single Department Major and/or Concentration: Tuition will be split 20% CoE and 80% Department.

Multi-Department Major and/or Concentration: Tuition split will be 20% CoE; the remaining 80% will be split among the participating departments as specified in a Memorandum of Understanding (MOU) based on the resources each department is providing to support the major and/or concentration. As indicated under Additional staff and dollars needed, if the college or departmental reviews indicate the need for

additional resources (faculty, staff, equipment, etc.) are needed for a given program, the department will be expected to contribute from their share of the tuition distribution.

## APPENDIX B

### STATEMENT FOR PROGRAMS OF STUDY CATALOG

*This statement assumes the approval of proposals “Establish a Master of Engineering Degree in the College of Engineering” and “Establish a Graduate Concentration in Energy Systems within the Master of Engineering Degree in the College of Engineering”.*

#### **College of Engineering**

[engineering.illinois.edu](http://engineering.illinois.edu)

Victoria Coverstone  
Associate Dean for Graduate and Professional Programs  
402 Engineering Hall  
1308 West Green Street  
Urbana, Illinois 61801  
(217) 333-0678  
Fax: (217) 333-0015  
E-mail: [gpp@illinois.edu](mailto:gpp@illinois.edu)

**Major:** Engineering

**Degrees Offered:** M.Eng.

**Graduate Concentrations:** Energy Systems

#### **Graduate Degree Programs**

The College of Engineering offers a master’s degree program for students whose primary intent is a professional career in industry or government. This degree differs from the Master of Science degree in that it is a terminal degree and not a pathway to a doctoral program. The major in Engineering for the M.Eng. degree requires the selection of an interdisciplinary concentration.

#### **Admission**

Students with bachelor's or master's degrees in engineering or related sciences will be considered for admission if they have a grade point average of at least 3.00 (A = 4.00) for the last two years of undergraduate study. Admission is possible for the spring semester, but most admissions are for the fall semester. Full details of admission requirements are on the Web page of the department offering the concentration. Currently a Concentration in Energy Systems is offered by the department of Nuclear, Plasma and Radiological Engineering.

All applicants whose native language is not English must submit a minimum [TOEFL](#) score of 103 (iBT), 257 (CBT), or 613 (PBT); or minimum [International English Language Testing System \(IELTS\)](#) academic exam scores of 7.0 overall and 6.0 in all subsections. Applicants may be exempt from the TOEFL if [certain criteria](#) are met. [Full admission status](#) is granted for those meeting the minimum requirements and having taken the TOEFL or IELTS since the scores required for admission to M.Eng. are above the minimum scores demonstrating an acceptable level of English language proficiency.

#### **Degree Requirements**

\* For additional details and requirements, please refer to the Web page of the concentration’s home unit and the Graduate College Handbook.

**Master of Engineering, Major in Engineering with Concentration in Energy Systems**

<b>Requirements</b>	
<b>Credit Hours</b>	<b>Hours</b>
<b><i>Total Credit for the Degree</i></b>	<b>32</b>
Course Work	32
ENG 471 and ENG 571	4
Professional Development (One of three options): <ul style="list-style-type: none"> <li>• Practicum: ENG 572 as approved by an advisor</li> <li>• Project: ENG 573 as approved by an advisor</li> <li>• 4 credit hours of course work approved by an advisor from the Topical Breadth list or other advisor approved course meeting the requirements for Professional Development</li> </ul>	4
Primary Field courses from an approved list	12
Secondary Field courses from an approved list	6
Topical Breadth course from approved list	3
Electives courses – chosen in consultation with an advisor	3
<b>Other Requirements and Conditions (may overlap):*</b>	
ENG 572 or ENG 573 may be taken for variable credit up to a maximum of 8 credit hours subject to advisor approval. Additional credit hours exceeding the 4 credit hour requirement may be applied toward the Primary Field course work requirement or the Elective course work requirement.	
A minimum of 16 500-level credit hours applied toward the concentration, 8 of which must be in ENG or courses in the primary field	
A maximum of one 1-credit-hour course may be applied toward the minimum 16 500-level credit-hour requirement.	
The minimum program GPA is 3.0.	



UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN

University Library  
Office of Dean of Libraries  
and University Librarian  
236 Main Library, MC-522  
1408 West Campus Drive  
Urbana, IL 61801



November 5, 2012

Victoria L. Coverstone  
Associate Dean, Office of Graduate and Professional Programs  
College of Engineering  
401 Engineering Hall  
MC-266

Dear Professor Coverstone:

Thank you for providing the University Library with the opportunity to review the College of Engineering's proposal to the Senate Committee on Educational Policy to establish a Master of Engineering (M.Eng.), the major in engineering, and the concentration in Energy Systems. Based upon the proposal that we reviewed, we do not believe that there will be any substantive impact on existing library offerings—either in terms of library materials or personnel.

The librarians in the Grainger Engineering Library have an excellent relationship with the College and if additional services or materials are required as the program develops, I have every confidence that we will be able to work together to meet the needs of the students.

Sincerely,

A handwritten signature in cursive script that reads "Paula T. Kaufman".

Paula T. Kaufman  
Juanita J. and Robert E. Simpson  
Dean of Libraries and University Librarian

c: Thomas Teper  
William Mischo  
Elizabeth Stovall, Graduate Programs Director, CoE



**Senate Educational Policy Committee  
Proposal Check Sheet**

**PROPOSAL TITLE** (Same as on proposal): Establish a Major in Engineering in the degree of Master of Engineering in the College of Engineering

**PROPOSAL TYPE** (select all that apply below):

A.  Proposal for a **NEW** or **REVISED** degree program. Please consult the Programs of Study Catalog for official titles of existing degree programs.

1. Degree program level:

Graduate                       Professional                       Undergraduate

2.  Proposal for a new **degree** (e.g. B.S., M.A. or Ph.D.):

Degree name, "e.g., *Bachelor of Arts or Master of Science*": \_\_\_\_\_

3.  Proposal for a new or revised **major, concentration, or minor**:

New or  Revised **Major** in (name of existing or proposed major): Engineering

New or  Revised **Concentration** in (name of existing or proposed concentration): \_\_\_\_\_

New or  Revised **Minor** in (name of existing or proposed minor): \_\_\_\_\_

4.  Proposal to rename an existing major, concentration, or minor:

Major                       Concentration                       Minor

Current name: \_\_\_\_\_

Proposed new name: \_\_\_\_\_

5.  Proposal to terminate an existing degree, major, concentration, or minor:

Degree                       Major                       Concentration                       Minor

Name of existing degree, major, or concentration: \_\_\_\_\_

6.  Proposal involving a multi-institutional degree:

New                       Revision                       Termination

Name of existing Illinois (UIUC) degree: \_\_\_\_\_

Name of non-Illinois partnering institution: \_\_\_\_\_

Location of non-Illinois partnering institution:

State of Illinois       US State: \_\_\_\_\_       Foreign country: \_\_\_\_\_

- B.  Proposal to create a new academic unit (college, school, department, program or other academic unit):

Name of proposed new unit: \_\_\_\_\_

- C.  Proposal to rename an existing academic unit (college, school, department, or other academic unit):

Current name of unit: \_\_\_\_\_

Proposed new name of unit: \_\_\_\_\_

- D.  Proposal to reorganize existing units (colleges, schools, departments, or program):

1.  Proposal to change the status of an existing and approved unit (e.g. change from a program to department)

Name of current unit including status: \_\_\_\_\_

2.  Proposal to transfer an existing unit:

Current unit's name and home: \_\_\_\_\_

Proposed new home for the unit: \_\_\_\_\_

3.  Proposal to merge two or more existing units (e.g., merge department A with department B):

Name and college of unit one to be merged: \_\_\_\_\_

Name and college of unit two to be merged: \_\_\_\_\_

Proposed name and college of new (merged) unit: \_\_\_\_\_

4.  Proposal to terminate an existing unit:

Current unit's name and status: \_\_\_\_\_

- E.  **Other educational policy proposals** (e.g., academic calendar, grading policies, etc.)

Nature of the proposal: \_\_\_\_\_

Revised 10/2012

UNIVERSITY OF ILLINOIS  
AT URBANA - CHAMPAIGN

EP.13.11

Office of the Provost and Vice Chancellor  
for Academic Affairs

Swanlund Administration Building  
601 East John Street  
Champaign, IL 61820



October 25, 2012

Gay Miller, Chair  
Senate Committee on Educational Policy  
Office of the Senate  
228 English Building, MC-461

Dear Professor Miller:

Enclosed is a copy of a proposal from the Graduate College and the College of Engineering to establish a major in Engineering in the Master of Engineering degree (M. Eng).

This proposal has been approved by the Graduate College Executive Committee and the College of Engineering Executive Committee. It now requires Senate review.

Sincerely,

A handwritten signature in black ink that reads 'Kristi A. Kuntz'.

Kristi A. Kuntz  
Assistant Provost

KAK/njh

Enclosures

c: M. Bragg  
W. Buttlar  
V. Coverstone  
C. Singer  
E. Stovall  
J. Stubbins

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN

Graduate College

204 Coble Hall  
801 South Wright Street  
Champaign, IL 61820-6210



Executive Committee

October 23, 2012

2012-2013 Members

Debasish Dutta, *Chair*

Kristi Kuntz  
Office of the Provost  
207 Swanlund MC-304

Members

Barry Ackerson

David Ceperley

Lin-feng Chen

Kent Choquette

Jennifer Cole

Brooke Elliott

Susan Garnsey

David Hays

Christine Jenkins

Ashleigh Jones

Tina Mattila

Ramona Oswald

Yoon Pak

Joseph Rosenblatt

Alex Winter-Nelson

Assata Zerai

Dear Kristi,

Enclosed are the two proposals entitled "Establish a Major in Engineering in the College of Engineering for the degree of Master of Engineering" and "Establish a Graduate Concentration in Energy Systems within the Master of Engineering Degree in the College of Engineering." The Graduate College Executive Committee has approved both of these proposals. I send them to you now for further review.

Sincerely,

William G. Buttlar  
Associate Dean, Graduate College

c: M. Bragg  
V. Coverstone  
M. Lowry  
C. Singer  
E. Stovall  
J. Stubbins

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN

College of Engineering  
Executive Committee  
306 Engineering Hall, MC-266  
1308 West Green Street  
Urbana, IL 61801



October 11, 2011

RECEIVED  
OCT 19 2011  
GRADUATE COLLEGE

Andrea Golato  
Associate Dean  
Graduate College  
204 Coble Hall  
MC-322

Via: Ilesanmi Adesida, Engineering College

Dear Dean Golato:

The College of Engineering Executive Committee has reviewed and approved the following proposals:

**New Program with Revisions:** "Establish a Master of Engineering Degree in the College of Engineering"


**New Program:** "Establish a Major in Engineering in the College of Engineering for the degree of Master of Engineering"

Attached is a copy of the requests.

Sincerely yours,

Jonathan Freund, Secretary  
Executive Committee

Approval Recommended:

 10/11/11  
Ilesanmi Adesida, Dean  
College of Engineering

Date

JBF/jmh

Enclosure

c: Victoria Coverstone  
Brent Heuser  
Elizabeth Stovall  
Jean Hanks