

APPROVED BY SENATE

12/05/2016



Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE:

Establish a Combined Bachelor of Science in Engineering and a Master of Engineering in Engineering with a Concentration in Energy Systems administered by the Department of Nuclear, Plasma, and Radiological Engineering, College of Engineering

SPONSOR:

Dr. James Stubbins
 Department Head, Nuclear, Plasma, and Radiological Engineering
 (217) 333-6474
jstubbin@illinois.edu

COLLEGE CONTACT:

William Buttlar
 Associate Dean, Graduate, Professional and Online Programs, College of Engineering
 (217) 333-5966
buttlar@illinois.edu

BRIEF DESCRIPTION:

The Department of Nuclear, Plasma, and Radiological Engineering (NPRE) requests a new combined Bachelor of Science in Engineering in any College of Engineering undergraduate major and Master of Science in Engineering with a Concentration in Energy Systems (B.S.-M.Eng.) degree. Students enrolled in the combined degree program will take a total of 124 hours to complete the B.S. degree and 32 hours to complete the M.Eng. degree. Further details of the requirements for the degree are given in Appendix A. The following engineering departments have agreed to participate: Aerospace Engineering, Agricultural & Biological Engineering, Industrial & Enterprise Systems Engineering, Material Science & Engineering, Nuclear, Plasma & Radiological Engineering (department proposing this joint program), and Physics. Please see letters attached to this proposal for department's approval.

JUSTIFICATION:

The NPRE Department proposes the establishment of a combined B.S. in Engineering in any College of Engineering undergraduate major and the Master of Engineering in Engineering with a Concentration in Energy Systems that may be completed in five years for the following reasons:

- Students enrolled in a College of Engineering undergraduate major curriculum who maintain adequate academic performance will be eligible to apply for this program. The existence of a

combined program will encourage good students to plan early for graduate school and stay one more year to complete their master's.

- This combined degree program will give students an opportunity to complete the overall requirements of the master's program, with an option of a one semester practicum or project or professional development course. Admitting students to the combined program in the junior year will facilitate their planning of a course schedule that includes the prerequisites needed for subsequent coursework in the primary and secondary fields in the M.Eng. program.
- The combined program will provide a smooth integration of the bachelor and master's studies and will continue to provide the same breadth and depth of coverage for all the required courses of the existing B.S. and M.Eng. programs.
- The combined program will enable the Engineering College to identify its qualified students early in their academic careers and will constitute a mechanism for early introduction to the master's program, with the goal of increasing the number of our students leaving with a master's degree. See Appendix A.

BUDGETARY AND STAFF IMPLICATIONS:

1) Resources

- a. How does the unit intend to financially support this proposal?

Undergraduate enrollment will not be increased as a result of establishing this program, and no additional staff or dollars are anticipated beyond that already planned for expansion of the separate Master of Engineering in Engineering degree with a Concentration in Energy Systems.

- b. How will the unit create capacity or surplus to appropriately resource this program? If applicable, what functions or programs will the unit no longer support to create capacity?

The proposed curriculum for this program groups together existing courses currently available for student enrollment. No new courses are being proposed to support this joint curriculum.

- c. Will the unit need to seek campus or other external resources? If so, please provide a summary of the sources and an indication of the approved support.

No.

- d. Please provide a letter of acknowledgment from the college that outlines the financial arrangements for the proposed program.

Please see attached MOU agreement setup with the Energy Systems Concentration in Appendix B.

2) Resource Implications

- a. Please address the impact on faculty resources including the changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The number of B.S. students who will pursue the B.S.-M.Eng. is projected to be 10- 15 per year. We do not see there to be any additional impact as these projections were already built into the Master of Engineering in Engineering with a concentration in Energy Systems degree.

- b. Please address the impact on course enrollment in other units and provide an explanation of discussions with representatives of those units. (*A letter of acknowledgement from units impacted should be included.*)

Minimal. The courses taken by M.Eng. students in the Energy Systems Concentration are broadly distributed around the college of engineering, so we do not anticipate the need to increase the number of sections of any particular course.

- c. Please address the impact on the University Library (*A letter of estimated impact from the University Librarian must be included for all new program proposals. If the impact is above and beyond normal library business practices, describe provisions for how this will be resourced.*)

None anticipated. Letter provided.

- d. Please address the impact on technology and space (e.g. computer use, laboratory use, equipment, etc.)

Graduate students use of computer laboratories in the M.Eng program is modest, as most work in required courses is done on personal computers. In the event that students elect to complete an Energy Systems Project (via ENG 572) on campus, the tuition funds transferred to the administering department are sufficient to pay for an increase in use of laboratory materials for the project.

For new degree programs only:

- 3) Briefly describe how this program will support the University's mission, focus, and/or current priorities. Include specific objectives and measurable outcomes that demonstrate the program's consistency with and centrality to that mission.

The B.S-M.Eng. in Engineering with a Concentration in Energy Systems is a combined 5-year degree program offering current engineering students the opportunity to obtain a master's degree in addition to the bachelor's degree in an accelerated time frame compared to pursuing the degrees individually. The Master of Engineering in Engineering degree program is consistent with the University's mission to serve the state, the nation, and the world, preparing students for lives of impact through the transfer and application of knowledge. Global competition in industry has led to an increased need for educational emphasis on innovation,

interdisciplinary approaches to problem solving, communication skills, and teamwork. Core topics currently required in the undergraduate curriculum are necessary but not sufficient in most cases to meet industry's needs.

- 4) Please provide an analysis of the market demand for this degree program. What market indicators are driving this proposal? What type of employment outlook should these graduates expect? What resources will be provided to assist students with job placement?

Today, with the increasing breadth and depth of the engineering profession, additional preparation and professional skills development are required. According to the U.S. Bureau of Labor Statistics, there are 50,000 plus jobs available in this area where companies are looking for employees with an advanced skillset. For several years, our accrediting bodies have been considering expansion of engineering education beyond the bachelor's degree. The Master of Engineering in Engineering degree with a Concentration in Energy Systems was proposed and approved after contacts with over a dozen representatives from energy industry companies and U.S. national laboratories indicated a strong interest in graduates with a combination of a traditional undergraduate degree and a graduate degree developing the breadth of knowledge needed by large organizations that now rarely focus their efforts on a single technology dealing with energy systems and their environmental impacts. Although the Master of Engineering in Engineering degree with a Concentration in Energy Systems degree was just approved in 2014, current and admitted students have employment or internships with Caterpillar, the Smart Energy Design Assistance Center, the Construction Engineering Laboratory, and a small company installing solar panels on a small ship. This experience and that an opportunity for a Practicum course is built into the degree requirements are indications that the expectations raised by the above-mentioned early contacts will be realized. An agreement on tuition support by a company involved in utility consulting is being finalized, and a large utility has requested guidance on how their prospective hires and current employees can complete the degree. As knowledge of the degree program has spread, interest from our current undergraduates has increased. Based on applications submitted so far, it is expected that at least one third of the students accepted to the degree program will be recent graduates from our campus. It is thus expected that annually one to several undergraduates with a variety of undergraduate majors will opt to continue on to the Concentration in Energy Systems and successfully find related subsequent employment. Students 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?

The MEng Engineering major with concentration in Energy System is a "Seek Reimbursement" status. The College of Engineering will bill departments that offer students in this program a tuition waiver appointment.

DESIRED EFFECTIVE DATE: Fall 2015

STATEMENT FOR THE PROGRAMS OF STUDY CATALOG: See Appendix A.

CLEARANCES:

James G. Stoltman

27 April 2015

Unit Representative

Date

~~*[Signature]*~~

8-30-16

College Representative

Date

[Signature]

9/29/16

Graduate College Representative

Date

Provost Representative

Date

Educational Policy Committee Representative

Date

APPENDIX A STATEMENT FOR PROGRAMS OF STUDY CATALOG

The material included in this appendix would be added to the current combined B.S.- M.Eng. description section in the College of Engineering Program Information section of the Programs of Study Web Site: http://provost.illinois.edu/ProgramsOfStudy/2014/fall/programs/undergrad/engin/about_engin.html and would be replicated at the NPRE Web site. It is not available through the directory of the University POS Web Site.

Combined Degree of Bachelor of Science and Master of Engineering in Engineering with a Concentration in Energy Systems.

The joint B.S.-M.Eng. in Engineering with a Concentration in Energy Systems program combines two degrees: a B.S. in any engineering undergraduate major with the M.Eng. in Engineering with a Concentration in Energy Systems. Current Illinois students enrolled in the College of Engineering with junior standing (normally at least 90 credit hours, including those in process, and at least one year of undergraduate coursework remaining) who maintain superior academic performance are eligible to apply for this program. The program is designed to broaden a student's knowledge beyond that possible in a standard 4-year curriculum. Students admitted to the program will receive both degrees once all requirements for both the B.S.-M.Eng. degree have been successfully completed but will be permitted to participate in the B.S. degree graduation ceremonies with their class if they have completed the equivalent number of credit hours. This program is not intended for students intending to pursue a Ph.D. degree.

Course Requirements

B.S. Component (124 hours):

- Same required courses as the traditional B.S. degree with the minimum hours required reduced from 128 to 124 hours.
 - The reduction of 4 credit hours is based on the utilization of 4 hours in free electives in the student's undergraduate curriculum.
- Illinois undergraduate student minimum residence requirement satisfied.
- Overall grade point average (GPA) of 3.0 maintained through completion of B.S. component of the program.

M.Eng. Component (32 additional hours of coursework)

- Identical to the current M.Eng. in Engineering with a concentration in Energy Systems. A total of 32 hours (including the shared coursework) are required.
- Satisfy Illinois' graduate student minimum residence requirement.
- Overall GPA of 3.00 must be maintained through completion of M.Eng. component of the program.

Admissions

For deadlines and procedures, consult the [department Web site](#). Current Illinois Engineering students who are in their junior year (normally at least 90 credit hours, including those in progress, and at least one year of undergraduate coursework remaining) with an overall GPA of

at least 3.0 and a technical GPA 3.0 may apply for provisional admission to the program. Admission decisions are based on overall academic performance, letters of reference, and statement of purpose.

Admissions to this program will occur both in the fall and spring term. The application deadline for spring term will be October 2 and for fall term will be June 1. The Energy and Sustainability Engineering M.Eng. admissions committee will review applications for this program and students accepted into the program will be given “provisional admission.”

Students provisionally admitted to the program:

- are assigned a graduate academic advisor when admitted.
- must maintain an overall GPA of 3.0 through completion of the B.S. component of the degree to remain in the program.
- may register for graduate courses and earn graduate hours credit, with approval from their graduate academic advisor, if they have less than 12 credit hours remaining in their B.S. component.
- must earn at least 124 hours of undergraduate credit and satisfy all B.S. requirements of this program to be officially admitted to the Graduate College.

Upon successful completion of the B.S. component, students:

- must apply and be officially admitted into the Graduate College.
- will be issued letters of admission from the Graduate College and the NPRE Department, at which time they will be considered graduate students and assessed graduate tuition the following semester.
- must satisfy the graduate student minimum residence requirement, which is 24 graduate credit hours.
- must continue to maintain a graduate GPA of 3.00 or better in order to remain in the combined program.

Withdrawal

Students may withdraw from the program at any time by notifying the Office of the Associate Dean for Undergraduate Programs. Students who do not complete both the B.S.-M.Eng. degree program requirements may request by petition to have graduate hours earned converted to undergraduate hours and applied toward the student’s traditional engineering undergraduate major. Students reverting to the traditional B.S. degree program must complete 128 hours and must satisfy all degree requirements. Graduate credit not used to fulfill the B.S. degree requirements will remain on the transcript and may, at some future point, be considered for transfer to another degree program.

*The 124-hour B.S. degree from the B.S.-M.Eng. Program is not ABET accredited, but would be if the student withdrew from the M.Eng. component and completed the requirements of the traditional 128-hour B.S. program. It is noted students desiring to have their B.S. degree ABET accredited should remain in their BS (128 hours) program and apply for the M.Eng. degree in their senior year.

Appendix B MOU Agreement

Energy Systems Concentration Memorandum of Understanding

Clifford Singer <csinger@illinois.edu>

This Memorandum of Understanding between the College of Engineering and its Department of Nuclear, Plasma, and Radiological Engineering (NPPE) establishes the basis for administration of a Master of Engineering Concentration in Energy Systems, and the relationship thereof to the Energy and Sustainability Engineering (EaSE) Graduate Certificate.

NPPE agrees to administer the Concentration for at least five years. The College agrees to the financing procedures outlined herein for at least five years. (This is provided that the campus provides at least 80% of the tuition income to the College; otherwise the viability of continuing the Concentration will be reviewed and this agreement may be revised by the NPPE and the College.)

Of the portion of the tuition not retained by the campus, 20% will be retained by the College, with the rest going to NPPE. Of the remainder, one sixth will be used by NPPE for administrative purposes. Of the remainder after that, at least 25% will be used to guarantee the availability of ENG 471, 571, 572, and 573 to Concentration students. The distribution of that 25% amongst ENG 471, 571, 572, and 573 will be at the discretion of NPPE, except that NPPE shall retain no more thereof than its proportionate share of instructional activity provided. The use of additional tuition not otherwise allocated will be at the discretion of NPPE.

The College will provide funds to NPPE to support one 50% time teaching assistant for ENG 471 and ENG 571 in the spring semester (beginning spring 2012) for a period of two years. ENG 471 and ENG 571 are also required for the EaSE Certificate. If the teaching assignment for ENG 471 and ENG 571 place faculty in a teaching overload situation, the department heads for the teaching faculty and NPPE shall negotiate resolution as appropriate. Resolution may take the form of monetary compensation, teaching reassignment, or other mechanism as mutually agreed upon by the two departments. NPPE may opt to cross list ENG 471 and ENG 571 with NPPE as the controlling department. Student enrollment in these courses could then be managed by NPPE to best facilitate the needs of students in the Concentration versus students in the EaSE Certificate program.

NPPE shall appoint a director for the Concentration, and the College shall appoint an EaSE director, which may or may not be the same person. The College shall appoint one committee for oversight of the Concentration and EaSE Certificate, which shall include members willing to serve as a committee of the whole or subcommittee to make recommendations on admissions to the Concentration. Said committee shall also regularly review and may make changes to the lists of elective courses that satisfy requirements for the Concentration and the EaSE Certificate. Except as otherwise directed by NPPE or the College respectively, said committee shall review the Concentration and EaSE Certificate quinquennially, starting in 2018, and make recommendations respectively to NPPE and the College concerning the Concentration and EaSE Certificate and their directorship. The results of the Concentration review shall also be provided to the College. Any three members of said committee may, once in an academic year, anonymously direct a request for an earlier such review of the Concentration and/or EaSE Certificate respectively to the NPPE Department Head or a College dean.

James Z. Skelton
20 April 2012

Clifford Singer
4/23/12

[Signature]
4/24/2012

Table 1. Example of Tuition Allocation with 10% to the Campus

Allocation=		Remainder	
x Fraction	Assignment	Remainder	Fraction
10%	Campus	100%	1/10
18%	College	90%	1/5
12%	NPRE Administrative	72%	1/6
15%	ENG 471, 571, 572, and 573	60%	8/32=1/4*
45%	NPRE Discretionary	45%	

* 8 of 32 total hours are in these required courses.

Subject: FW: Your department head's approval for 156 hr BS/MEng degree
Date: Monday, November 9, 2015 at 1:48:23 PM Central Standard Time
From: Willoughby, Robin A
To: McElroy, Rhonda Kay, Buttlar, William G

FYI

From: Geubelle, Philippe H
Sent: Monday, November 09, 2015 1:26 PM
To: Singer, Clifford E <csinger@illinois.edu>
Cc: Geubelle, Philippe H <geubelle@illinois.edu>; Selig, Michael S <m-selig@illinois.edu>; Willoughby, Robin A <robinw@illinois.edu>
Subject: FW: Your department head's approval for 156 hr BS/MEng degree

Dear Cliff:

At the recent faculty meeting held on November 4, Michael Selig gave an overview of the EaSE MEng program. The AE faculty members then unanimously approved the 156 h AE BS/EaSE MEng, allowing 4 hours of free electives to be 'waived' for AE students who, after graduating from our program, go on to join the EaSE MEng program.

Robin Willoughby is cc'ed on this message. Is this email sufficient, or do you need an official letter from me?

Best,

Philippe

Philippe H. Geubelle
Bliss Professor and Head
Dept. of Aerospace Engineering
University of Illinois @ Urbana-Champaign
306 Talbot Lab.
104 South Wright Street
Urbana, IL 61801; USA

E-mail : geubelle@illinois.edu
Phone : (217) 244 7648
Fax : (217) 244 0720
<http://www.ae.illinois.edu/~geubelle/>

Director of Illinois Space Grant Consortium
<http://www.ae.illinois.edu/ISGC/>

From: Michael Selig <m-selig@illinois.edu>
Date: Friday, November 6, 2015 at 4:55 PM
To: Philippe Geubelle <geubelle@illinois.edu>
Subject: Fwd: Re: Your department head's approval for 156 hr BS/MEng degree

Philippe,

This is a reminder about sending an email w/ your approval for the AE BS/MEng in EaSE. Here's the relevant snippet (taken from bottom of this email):

For students in any College of Engineering department to have access to the first of the two above-mentioned advantages **requires an approval of that policy by the department head via email to Robin Willoughby (robinw@illinois.edu)**. Robin will then forward approvals to the College Executive Committee, along with a review subcommittee report that has recommended submission of a request for approval of the combined degree program to the Senate Educational Policy Committee. A communication on this matter from each department head is needed in November if possible, or **by Dec. 8** at the latest to allow consideration by the College Executive Committee by the end of this fall semester.

Thanks,
Michael

Subject: FW: Your department head's approval for 156 hr BS/MEng degree
Date: Tuesday, November 3, 2015 at 4:57:36 PM Central Standard Time
From: Waranyuwat, Adva Steiner
To: McElroy, Rhonda Kay

Hi Rhonda,

This was the email that I was telling you about. Thanks for your help!
Adva

From: Willoughby, Robin A
Sent: Monday, November 02, 2015 11:39 AM
To: Pitts, Kevin T <kpitts@illinois.edu>; Waranyuwat, Adva Steiner <steiner1@illinois.edu>
Subject: FW: Your department head's approval for 156 hr BS/MEng degree

FYI

From: Ting, Kuan Chong
Sent: Monday, November 02, 2015 11:38 AM
To: Willoughby, Robin A <robinw@illinois.edu>
Cc: Wang, Xinlei <xwang2@illinois.edu>; Hansen, Alan Christopher <achansen@illinois.edu>; Zhang, Yuanhui <yzhang1@illinois.edu>
Subject: FW: Your department head's approval for 156 hr BS/MEng degree

Dear Robin,

I approve the two policies concerning the Agricultural and Biological Engineering majors' eligibility for a combined Bachelors degree and Mater of Engineering degree with a Concentration in Energy Systems.

Regards,
K.C. Ting

K.C. Ting, Ph.D., P.E.
Professor and Head
Department of Agricultural and Biological Engineering
University of Illinois at Urbana-Champaign
338 Agricultural Engineering Sciences Building, MC-644
1304 West Pennsylvania Avenue
Urbana, Illinois 61801
Phone: 217-333-3570
Fax: 217-244-0323
email: kcting@illinois.edu
Website: abe.illinois.edu
"Empower capacity with knowledge and wisdom for life"

From: Wang, Xinlei
Sent: Friday, October 30, 2015 9:50 AM
To: Ting, Kuan Chong <kcting@illinois.edu>

Cc: Hansen, Alan Christopher <achansen@illinois.edu>
Subject: RE: Your department head's approval for 156 hr BS/MEng degree

Dr. Ting,

Attached is a note to seek your approval for ABE to be eligible for a combined Bachelor's degree and Master of Engineering Degree with a Concentration in Energy Systems. I have discussed it with Dr. Al Hansen. Both of us believe that it is a great program for our ABE students. If you approve it, please send an email to Robin Willoughby (robinw@illinois.edu).

Thanks,

Xinlei

From: Hansen, Alan Christopher
Sent: Friday, October 30, 2015 9:33 AM
To: Wang, Xinlei <xwang2@illinois.edu>
Cc: Ting, Kuan Chong <kcting@illinois.edu>
Subject: RE: Your department head's approval for 156 hr BS/MEng degree

Hi Xinlei:

You have my full support for this BS/MENG degree proposal. I totally agree that it is a great program for our ABE students.

Thank you for your efforts in moving it forward.

Regards,
Al

From: Wang, Xinlei
Sent: Friday, October 30, 2015 8:56 AM
To: Hansen, Alan Christopher <achansen@illinois.edu>
Subject: FW: Your department head's approval for 156 hr BS/MEng degree

Hi Al,

This is a combined Bachelor's degree and Master of Engineering Degree with a Concentration in Energy Systems. I think it is a great program for our students in ABE. They can earned two degrees in 5 years for a total of 156 credit hours. Before I send it to Dr. Ting for approval, I would like to have your opinion on this.

Thanks,

Xinlei

From: Singer, Clifford E
Sent: Tuesday, October 13, 2015 10:53 AM
Subject: Your department head's approval for 156 hr BS/MEng degree

To: EaSE Executive Committee Members from CoE Departments
From: Cliff Singer

In an attached .docx file, and identically below, is a notice of a need for action by your department head in order to allow your department's majors to obtain a BS and MEng Energy Systems degree with 4 free elective hours from the BS requirements used to satisfy requirements for the MEng degree.

I can meet with you and, as needed, one or more other persons from your department to answer questions about this. **I would appreciate it if you would reply at your earliest convenience upon receiving any query from Margaret Krause <mkrause@illinois.edu> or Kathy Anderson-Connor <andconnr@illinois.edu> about scheduling.**

Regards,
Cliff Singer

Approval Needed for Combined BS/MEng Energy Systems Degrees

This note concerns the need for approval from each College of Engineering department head for that department's majors to be eligible for a combined Bachelors degree and Master of Engineering Degree with a Concentration in Energy Systems. (The requirements for the existing MEng Energy Systems degree are fully described at <http://ease.illinois.edu/master-engineering-energy-systems> in a link there to a pdf file.) The combined degree program provides two advantages to a student.

First, the student may apply up to 4 free elective credit hours from their BS degree to the MEng degree. Since the MEng Energy Systems degree requires completion of course requirements in two different energy systems areas (c.f. url listed above), the use of BS free elective hours to complete prerequisites for courses in one of these areas can be quite helpful for students.

Second, the student is eligible for provisional admission to the MEng degree program as a junior. Provisional admission provides a student assurance as early as their junior year that they will be officially admitted to the MEng degree program if they maintain the minimum GPA required for admission to the Graduate College and complete all of the requirements for their BS degree. Also, with provisional admission a student only needs graduate advisor approval to take graduate courses, as long as the student has less than 12 credit hours left to complete the BS component of the combined degree.

For students in any College of Engineering department to have access to the first of the two above-mentioned advantages requires an approval of that policy by the department head via email to Robin Willoughby (robinw@illinois.edu). Robin will then forward approvals to the College Executive Committee, along with a review subcommittee report that has recommended submission of a request for approval of the combined degree program to the Senate Educational Policy Committee. A communication on this matter from each department head is needed in November if possible, or **by Dec. 8** at the latest to allow consideration by the College Executive Committee by the end of this fall semester.

Subject: FW: Approval for 156 hr BS/MEng degree
Date: Wednesday, December 2, 2015 at 9:31:22 AM Central Standard Time
From: Willoughby, Robin A
To: McElroy, Rhonda Kay

FYI

From: Bashir, Rashid -- BIOE Department Head
Sent: Wednesday, December 02, 2015 9:29 AM
To: Willoughby, Robin A <robinw@illinois.edu>
Subject: Approval for 156 hr BS/MEng degree

Dear Robin,

I am writing to approve of the policy (both sections) as listed below.

Best regards,
Rashid

+++++

Rashid Bashir, Ph.D.
Abel Bliss Professor of Engineering and Head Department of Bioengineering,
University of Illinois at Urbana-Champaign
1270 Digital Computer Lab, M/C 278
1304 W. Springfield Ave. Urbana, IL 61801
Dept.: 217-333-1867; Fax: 217-265-0246;
Department Web Page: <http://bioengineering.illinois.edu/>
Research Group Page: <http://libna.mntl.illinois.edu/>

Administrative Assistant: Lisa Leininger
Department of Bioengineering, 1270H Digital Computer Lab, M/C 278
1304 W. Springfield Ave. Urbana, IL 61801
Email: leininge@illinois.edu; Phone: 217-300-1044

+++++

Visit <http://engineering.illinois.edu/granger/granger-engineering-breakthroughs-initiative>
Also Visit <http://grangerinitiative.engineering.illinois.edu/frontiersinbioengineering/>

From: Singer, Clifford E
Sent: Tuesday, October 13, 2015 10:53 AM
To: Abelson, John R <abelson@illinois.edu>; Selig, Michael S <m-selig@illinois.edu>; Wang, Xinlei <xwang2@illinois.edu>; Bhargava, Rohit <rxb@illinois.edu>; Kumar, Praveen <kumar1@illinois.edu>; Yang, Hong <hy66@illinois.edu>; Abdelzاهر, Tarek <zاهر@illinois.edu>; Overbye, Thomas J <overbye@illinois.edu>; Willenbrock, Scott S <willen@illinois.edu>; Kim, Harrison Hyung Min <hmkim@illinois.edu>; Jacobi, Anthony M <a-jacobi@illinois.edu>; Krause, Margaret L <mlkrause@illinois.edu>; Anderson-Conner, Kathleen Margaret <andconnr@illinois.edu>
Subject: Your department head's approval for 156 hr BS/MEng degree

To: EaSE Executive Committee Members from CoE Departments
From: Cliff Singer

In an attached .docx file, and identically below, is a notice of a need for action by your department head in order to allow your department's majors to obtain a BS and MEng Energy Systems degree with 4 free elective hours from the BS requirements used to satisfy requirements for the MEng degree. I can meet with you and, as needed, one or more other persons from your department to answer questions about this. **I would appreciate it if you would reply at your earliest convenience upon receiving any query from Margaret Krause <mkrause@illinois.edu> or Kathy Anderson-Connor <sandconnr@illinois.edu> about scheduling.**

Regards,
Cliff Singer

Approval Needed for Combined BS/MEng Energy Systems Degrees

This note concerns the need for approval from each College of Engineering department head for that department's majors to be eligible for a combined Bachelors degree and Master of Engineering Degree with a Concentration in Energy Systems. (The requirements for the existing MEng Energy Systems degree are fully described at <http://ease.illinois.edu/master-engineering-energy-systems> in a link there to a pdf file.) The combined degree program provides two advantages to a student.

First, the student may apply up to 4 free elective credit hours from their BS degree to the MEng degree. Since the MEng Energy Systems degree requires completion of course requirements in two different energy systems areas (c.f. url listed above), the use of BS free elective hours to complete prerequisites for courses in one of these areas can be quite helpful for students.

Second, the student is eligible for provisional admission to the MEng degree program as a junior. Provisional admission provides a student assurance as early as their junior year that they will be officially admitted to the MEng degree program if they maintain the minimum GPA required for admission to the Graduate College and complete all of the requirements for their BS degree. Also, with provisional admission a student only needs graduate advisor approval to take graduate courses, as long as the student has less than 12 credit hours left to complete the BS component of the combined degree.

For students in any College of Engineering department to have access to the first of the two above-mentioned advantages requires an approval of that policy by the department head via email to Robin Willoughby (robinw@illinois.edu). Robin will then forward approvals to the College Executive Committee, along with a review subcommittee report that has recommended submission of a request for approval of the combined degree program to the Senate Educational Policy Committee. A communication on this matter from each department head is needed in November if possible, or **by Dec. 8** at the latest to allow consideration by the College Executive Committee by the end of this fall semester.

<MEngBS Degree Approvals 13Oct2015.docx>

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Department of Industrial
and Enterprise Systems Engineering

College of Engineering
117 Transportation Building
104 South Mathews Avenue
Urbana, IL 61801-2996



Rakesh Nagi, *Donald Biggar Willett Professor*
Department Head

April 4, 2016

Professor Clifford E. Singer
Department of Nuclear, Plasma, and Radiological Engineering
111D Talbot Laboratory
University of Illinois at Urbana-Champaign

Dear Professor Singer:

The Department of Industrial and Enterprise Systems Engineering (ISE) supports the creating of a combined BS/MEng degree with a concentration in Energy Systems. ISE will support our General Engineering or Industrial Engineering BS students who would like to pursue the combined degree.

Please do not hesitate to contact me (nagi@illinois.edu) if you need additional information or have further questions.

Sincerely,

Rakesh Nagi
Head and Willett Professor

Subject: FW: MatSE review of 5 yr BS/MEng-Energy-Systems Degree
Date: Monday, April 4, 2016 at 9:39:26 AM Central Daylight Time
From: Willoughby, Robin A
To: McElroy, Rhonda Kay

-----Original Message-----

From: matse-head
Sent: Monday, April 04, 2016 2:23 AM
To: Singer, Clifford E <csinger@illinois.edu>; Abelson, John R <abelson@illinois.edu>
Cc: Willoughby, Robin A <robinw@illinois.edu>; Krause, Margaret L <mlkrause@illinois.edu>
Subject: RE: MatSE review of 5 yr BS/MEng-Energy-Systems Degree

The chair of the MatSE curriculum committee and I approve the proposal that MatSE students will be eligible for a combined 5 yr BS/MEng-Energy-Systems degree.

Let me know if you need something more than this email. (I'm in Germany so might be out-of-phase in the timing of my response.)

David C.

-----Original Message-----

From: Singer, Clifford E
Sent: Saturday, April 2, 2016 9:47 AM
To: matse-head <matse-head@illinois.edu>; Abelson, John R <abelson@illinois.edu>
Subject: MatSE review of 5 yr BS/MEng-Energy-Systems Degree

Prof. Cahill,

On Feb. 4, I received the email below from you concerning your curriculum committee review of approval for MatSE students to be eligible for a proposed combined 5 yr BS/MEng-Energy-Systems degree. The Engineering College Executive Committee already has a subcommittee recommendation to approve the proposal pending approval by College Departments. Without the relevant information being received by April 14, there will be an increasing chance that a delay until next fall in forwarding the proposal to the campus will result in a year's delay in startup of the BS/MEng-Energy-Systems degree. So all of us involved in this program would much appreciate expeditious MatSE consideration of this matter, with a response sent to me by email, with a copy to Robin Willoughby <robinw@illinois.edu>.

Regards,

Cliff Singer

Co-Director, College of Engineering Initiative on Energy and Sustainability Engineering

On 2/4/16 8:58 AM, "matse-head" <matse-head@illinois.edu> wrote:

I'll forward your request to my curriculum committee that advises me on these types of decisions.

David C.

-----Original Message-----

From: Singer, Clifford E

Sent: Wednesday, February 3, 2016 11:48 PM

To: Cahill, David G <d-cahill@illinois.edu>; Abelson, John R <abelson@illinois.edu>

Subject: Fwd: BS/MEng degree approval for your majors

Prof. Cahill,

Concerning allowing your department's students to be eligible for the proposed BS and Master of Engineering (MEng) degree with a Concentration in Energy Systems, we would appreciate it if recommendation for approval would be sent to Robin Willoughby <robinw@illinois.edu> with a copy to me <csinger@illinois.edu> and Margaret Krause <mlkrause@illinois.edu>.

A description of the request for approval the file MEngBSDegreeApprovals 1Feb2016.docx, which is attached.

If there is a need to discuss this with me, please let Kathy Anderson-Conner know, so she can arrange the scheduling <andconnr@illinois.edu>.

The College of Engineering Executive Committee has already received a favorable subcommittee report on this proposal, and the College Executive Committee is just awaiting responses your and one other department on the question of whether up to four hours of free electives used for the BS degree can be counted towards the MEng degree. This is both fewer than the 8 credit hours that can be so counted in six other College of Engineering combined bachelors/masters degrees (c.f. attached file MEngBSAppendixB7Oct2015.docx), but it could be quite useful for some students who want to be able to complete the BS/MEng combination with one semester off campus.

Regards,
Cliff Singer

Subject: FW: Your department head's approval for 156 hr BS/MEng degree

Date: Friday, January 29, 2016 at 1:25:26 PM Central Standard Time

From: Willoughby, Robin A

To: McElroy, Rhonda Kay

Rhonda,

Is this something you are working on?

Robin

From: Van Harlingen, Dale J

Sent: Friday, January 29, 2016 1:22 PM

To: Willoughby, Robin A <robinw@illinois.edu>

Cc: Singer, Clifford E <csinger@illinois.edu>; Krause, Margaret L <mlkrause@illinois.edu>; Selen, Mats A <mats@illinois.edu>; Jones, Merissa A <majones2@illinois.edu>

Subject: FW: Your department head's approval for 156 hr BS/MEng degree

Dear Robin,

On behalf of the Department of Physics, I approve this plan for the combined Bachelor degree and Master of Engineering Degree with a Concentration in Energy Systems.

Dale Van Harlingen

Dale J. Van Harlingen
Professor and Head
Department of Physics
University of Illinois at Urbana-Champaign

From: Selen, Mats A

Sent: Thursday, January 28, 2016 12:14 PM

To: Van Harlingen, Dale J <dvh@illinois.edu>

Cc: Selen, Mats A <mats@illinois.edu>; Jones, Merissa A <majones2@illinois.edu>

Subject: Fwd: Your department head's approval for 156 hr BS/MEng degree

Hi Dale,

Merissa and I have talked to Cliff Singer about this and there seems to be no down-side of our students, and there seems to be a considerable up-side. I recommend that you approve this by sending an e-mail as requested below.

Mats

Begin forwarded message:

From: Cliff Singer <csinger@illinois.edu>

Subject: Fwd: Your department head's approval for 156 hr BS/MEng degree

Date: January 25, 2016 at 9:40:08 PM CST

To: "Selen, Mats A" <mats@illinois.edu>, "Krause, Margaret L" <mlkrause@illinois.edu>

To: Mats Selen
From: Cliff Singer

In an attached .docx file, and also below, is a notice of a need for action by your department head in order to allow your department's majors to obtain a BS and MEng Energy Systems degree with 4 free elective hours from the BS requirements used to satisfy requirements for the MEng degree.

Approval Needed for Combined BS/MEng Energy Systems Degrees

This note concerns the need for approval from each College of Engineering department head for that department's majors to be eligible for a combined Bachelors degree and Master of Engineering Degree with a Concentration in Energy Systems. (The requirements for the existing MEng Energy Systems degree are fully described at <http://ease.illinois.edu/master-engineering-energy-systems> in a link there to a pdf file.) The combined degree program provides two advantages to a student.

First, the student may apply up to 4 free elective credit hours from their BS degree to the MEng degree. Since the MEng Energy Systems degree requires completion of course requirements in two different energy systems areas (c.f. url listed above), the use of BS free elective hours to complete prerequisites for courses in one of these areas can be quite helpful for students.

Second, the student is eligible for provisional admission to the MEng degree program as a junior. Provisional admission provides a student assurance as early as their junior year that they will be officially admitted to the MEng degree program if they maintain the minimum GPA required for admission to the Graduate College and complete all of the requirements for their BS degree. Also, with provisional admission a student only needs graduate advisor approval to take graduate courses, as long as the student has less than 12 credit hours left to complete the BS component of the combined degree.

For students in any College of Engineering department to have access to the first of the two above-mentioned advantages requires an approval of that policy by the department head via email to Robin Willoughby (robinw@illinois.edu). Robin will then forward approvals to the College Executive Committee, along with a review subcommittee report that has recommended submission of a request for approval of the combined degree program to the Senate Educational Policy Committee. Please copy me csinger@illinois.edu and Margaret

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.17.22

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



October 4, 2016

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

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Engineering to establish a 5-Year BS-MENG in Energy Systems.

Sincerely,

A handwritten signature in cursive script that reads "Kathryn A. Martensen".

Kathryn A. Martensen
Assistant Provost

Enclosures

c: R. McElroy
J. Stubbins
J. Hart
A. McKinney

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

College of Engineering
Graduate, Professional & Online Programs
401 Engineering Hall, MC-266
1308 West Green Street
Urbana, IL 61801



August 1, 2016

David Padua, Vice Chair
Executive Committee
College of Engineering

Dear Professor Padua:

Our office has reviewed the subcommittee report for both the curriculum proposal listed below. We are now submitting it for consideration to the Executive Committee:

Establish a 5-Year BS-MENG in Energy Systems Degree

The subcommittee required a letter of support for the departments that plan to participate in this joint program, which is now attached to the curriculum proposal. The subcommittee approved the rest of the proposal. We are now submitting it for a final vote by the Executive Committee.

Sincerely,

Rhonda McElroy
Director of Engineering Graduate & Professional Programs
Office of Graduate, Professional, and Online Programs

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

College of Engineering
Graduate, Professional & Online Programs
401 Engineering Hall, MC-266
1308 West Green Street
Urbana, IL 61801



April 27, 2015

David Ruzic, Vice Chair
Executive Committee
College of Engineering

Dear Professor Ruzic:

My office has reviewed the following curriculum proposal and now submits it for consideration by the Executive Committee:

Establish a 5-Year BS-M.Eng. in Energy Systems Degree

Sincerely,

A handwritten signature in black ink, appearing to read 'William G. Buttlar'.

William G. Buttlar
Associate Dean
Office of Graduate and Professional Programs



Senate Educational Policy Committee
Proposal Check Sheet

PROPOSAL TITLE (Same as on proposal): Establish a Combined Bachelor of Science in Engineering and a Master of Engineering in Engineering with a Concentration in Energy Systems administered by the Department of Nuclear, Plasma, and Radiological Engineering, 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*": 5-Year BS-M.Eng.

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

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

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

CLEARANCES:

Signatures:

Douglas G. Simpson

4-5-16

Unit Representative:

Date:

Karen M Carney

5-19-16

College Representative:

Date:

[Signature]

9-29-16

Graduate College Representative:

Date: