



Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Establish a New Combined Bachelor of Science in Materials Science and Engineering-Master of Engineering with a Major in Materials Engineering in the Department of Materials Science and Engineering (MatSE) , College of Engineering

SPONSOR: *Professor Emeritus Phillip H. Geil, 333-0149, geil@illinois.edu*

COLLEGE CONTACT: *Victoria L. Coverstone, Associate Dean, Office of Graduate and Professional Programs, College of Engineering, 333-0678, vcc@illinois.edu and Charles L. Tucker, III, Associate Dean for Undergraduate Programs, 333-2280, ctucker@illinois.edu,*

BRIEF DESCRIPTION: This proposal is meant to accompany the proposal for the Master of Engineering and the Master of Engineering with a major in Materials Engineering and seeks establishment of a combined Bachelor of Science in Materials Science and Engineering (MatSE)-Master of Engineering degree with a major in Materials Engineering (B.S.-M.Eng). Students would need to take a total of 120 hours for the B.S. degree and 36 hours for the M.Eng. degree, including at least two semesters of industrial materials engineering co-op or internships (or equivalent, a minimum of 30 weeks) during their B.S.-M.Eng. combined program, at least one semester of which is during their M.Eng. program. Further details of the requirements for the degree and the current requirements for our current combined B.S.-M.S. MatSE degrees are given in Appendices I and II, respectively.

JUSTIFICATION: For students in Engineering, in general, and materials science and engineering, in particular, a Masters degree is becoming the desired professional entry degree. Furthermore, the engineer of tomorrow is expected to have strong oral and written communication skills, knowledge of business, management, and entrepreneurial practices, and an awareness of societal, economic, and political issues on a global scale. Based on recent experience, students seeking employment at the end of their MatSE B.S. degree that have had an industrial internship, or at least some research experience, have a distinct employment advantage over non-internship students. The major in Materials Engineering in the M. Eng component of the combined degree program proposed here will provide students with the opportunity to broaden their materials knowledge base, improve communication skills, obtain a foundation in business, technology management, and/or entrepreneurship, and gain practical engineering experience. In particular, two semester long internships (or equivalent, one may be during the student's B.S. program) are required. The goal of the internships is to have the student apply the knowledge they have learned in classes and gain practical experience in various aspects of Materials Engineering

such as processing, design, modeling, sales-service, product development and/or engineering research. In addition the students are expected to complete, during the combined program, at least 10 hours of courses in the areas of business, technology management and/or entrepreneurship from an approved list (available from the department). With the proper selection of courses there is the possibility of obtaining a certificate from the Technology Entrepreneur Center as a graduate and/or undergraduate student or a minor in Business or Technology and Management as an undergraduate student. This combined degree also supports several strategic initiatives in the *Strategic Plan for Illinois*, similar to the *Illinois PSM Initiative*. Program Assessment: The major in Materials Engineering in the Master of Engineering degree (and this combined degree) will be reviewed by the Curriculum Committee of the MatSE Department, following an initial annual review for the first 3 years, on a three to five year basis as deemed appropriate by said committee. The committee evaluation will include student enrollment, course availability, and internship placement. It will also be reviewed by the College of Engineering Executive Committee according to their assessment schedule.

BUDGETARY AND STAFF IMPLICATIONS:

- a. *Additional staff and dollars needed:* The proposed combined degree is designed for a MatSE B.S, students already enrolled at UIUC, with 5-10 such students expected per year. Being a Professional degree, tuition funds returned to the Departments should cover nearly all, if not all of the cost of adding such students to current classes.
- b. *Internal reallocations (e.g., change in class size, teaching loads, student-faculty ratio, etc.):* With a total graduate student enrollment of nearly 165 in MatSE, the anticipated small number of additional students expected for the M.Eng. and combined B.S.-M.Eng. degrees will not increase class sizes to an extent that additional sections will be needed. Most MatSE senior and graduate level specialization courses have enrollments of about 20 so adding these additional students will not have a negative impact on the quality of education provided.
- c. *Effect on course enrollment in other units and explanations of discussions with representatives of those departments:* This is also expected to be insignificant, equivalent to adding a few more graduate students to our current programs. The largest impact might be on business, management and entrepreneurial related courses in the College of Engineering, with courses being possible in the Department of Industrial and Enterprise Systems Engineering and the Technology Entrepreneur Center, and those used for the Business or Technology and Management Minors. Even though MatSE currently participates with the MBA Program in a joint M.S.-M.B.A. degree for which the M.B.A. program indicated acceptance of the possible added enrollment, the College of Business denied our request for a letter of concurrence for our students to take their courses in business or business administration, courses which could be of significant value to their future career. They indicated concern "about the colleges current and future capacity to honor such a request". Admission to the two minors is limited, thus acceptance of students from this program will not increase their enrollment. Letters of concurrence from IESE and TEC are attached.
- d. *Impact on the University Library:* Minimal. (see attached letter)

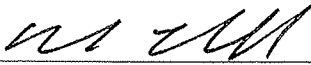
- e. *Impact on computer use, laboratory use, equipment, etc.:* None; the impact on research labs would be non-existent since a thesis is not required and the students would already have had the senior lab courses for their B.S. degree.

DESIRED EFFECTIVE DATE: Fall, 2012

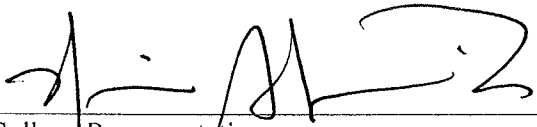
STATEMENT FOR PROGRAMS OF STUDY CATALOG: See Appendix I.

CLEARANCES:


Signatures:


Unit Representative:

12-5-11
Date:


College Representative:

1-9-12
Date:


Graduate College Representative:

4/20/12
Date:

Provost Representative:

Date:

Educational Policy Committee Representative:

Date:

APPENDIX I

STATEMENT FOR PROGRAMS OF STUDY CATALOG

The material here would be added to the current B.S.-M.S. description which appears only in the College of Engineering Program Information section of the Programs of Study Web site

http://courses.illinois.edu/cis/2009/fall/programs/undergrad/engin/about_engin.html#matse_bsms

and would be replicated at the MatSE Web site

http://matse.illinois.edu/academics/combined_degree.html.

It is not available through the directory of the University POS Web site.

For the Combined Degree of Bachelor of Science and Master of Engineering in Engineering with a Major in Materials Engineering

The five-year B.S.-M.Eng. program in Materials Science and Engineering combines two degrees: a B.S. in MatSE with a M.Eng. with a major in Materials Engineering. Current Illinois MatSE students enrolled in the College of Engineering, who maintain appropriate academic performance, are eligible to apply for this program. The program is designed to enhance the students experience in the engineering aspects of materials, broaden their knowledge beyond that possible in the standard 4-year curriculum and obtain a foundation in business, technology management, and/or entrepreneurship. Two semesters (or equivalent, a minimum of 30 weeks) of industrial co-op or internship are required; a research thesis is not required. In addition the students are expected to complete, during the combined program, at least 10 hours of courses in the areas of business, technology management and/or entrepreneurship from an approved list (available from the department). Students admitted to the program will receive both degrees once all requirements for the 5-year B.S.-M.Eng. degree program have been successfully completed but will be permitted to participate in the graduation ceremonies with their class if they have completed the equivalent number of credit hours. Students in the program would be eligible for a teaching assistantship in MatSE (only)

DEADLINE: Completed application and reference letters must be returned to the MatSE Office, 201 MSEB, 2 months before the end of the Fall semester of the students Junior year. The application and letter of reference forms for the B.S.-M.Eng. Program are [available online](#) or from the MatSE department office..

Admission to the Program

Current Illinois MatSE students with Junior standing and with an overall grade point average (GPA) of at least 3.00 (A = 4.00) may apply for provisional admission to the program. Admission is based on overall academic performance, letters of reference, and statement of purpose. The GRE General Test is not required.

Students provisionally admitted to the program:

- are assigned a graduate academic advisor when admitted.

- must maintain an overall GPA of 3.00 through completion of the B.S. component of the program, in order to remain in the program
- may register for graduate courses and earn graduate hour credits, with approval from their graduate academic advisor, even if they are more than 10 hours from completing the B.S. component
- must earn at least 120 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, with grades of B or better in the advanced area coursework, and an overall GPA of at least 3.00 in all graduate coursework, students:

- will be officially admitted into the Graduate College
- will be issued letters of admission from the Office of Admissions and Records and the MatSE Department, at which time they will be considered graduate students and assessed graduate tuition the following semester
- may apply or be considered for graduate teaching assistantships and tuition waivers, as well as fellowships and scholarships available to graduate students in MatSE.
- must continue to maintain a graduate GPA of 3.00 or better in order to remain in the combined program.

Students in the program are not eligible to continue in the Ph.D. program in MatSE. Students wishing to pursue a Ph.D. must apply separately for admission to that program.

Course Requirements

B.S. Component (120 hours)¹

- Same required courses as the traditional B.S. degree with minimum hours reduced to 120 hours
- The reduction of 8 credit hours includes:
 - 5 hours of free electives.
 - 3 hours of the area specialty course in a different area (the latter becomes part of M.S. program requirements)
- At least one semester (or 2 summers) devoted to an industrial internship or co-op.²
- It is strongly suggested that the student take 2 courses in some aspect of business, economics, environmental studies, labor and industrial relations, technology entrepreneurship or technology and management as the elective component of their Liberal Education requirements. Partial or complete fulfillment of the Technology and Management or Business minor or the Technology Commercialization Certificate is recommended for those admitted by application if available hours permit. The students are expected to complete, during the combined program, at least 10 hours of courses in the areas of business, technology management and/or entrepreneurship from an approved list (available from the department), with additional hours recommended. It is noted that since receipt of the B.S. degree is delayed until the requirements for the M. Eng are

completed, the student has the opportunity to complete the undergraduate minors while taking the M. Eng requirements.

- Overall GPA of 3.00 maintained through completion of B.S. component of the program and minimum residency requirements satisfied.

M.Eng. Component (minimum 36 additional hours of coursework)

- 36 hours course work, including at least 19 graduate hours of MatSE courses with 12 hours credit overall in 500-level courses. The course work shall include MSE 585 (two semesters or equivalent, 30 weeks total, of industrial internships or co-ops; one of the semesters can be during the B.S. program)², 6 hours of 400- or 500-level area specialty courses in the student's area, 3 hours of 400- or 500-level MSE courses from a different area, 2 hours of MSE 595, and 2 hours of MSE 529 or 559. Ten hours of courses in one or more of the areas of business or technology management, and entrepreneurship are required to be included in the overall program. Completion of the requirements for the various Certificates granted by the Technology Entrepreneur Center is recommended. See Appendix III for current list of suggested courses, Certificates and Minors
- MSE 492 (safety course); credit does not count toward degree.

Withdrawal

Students who do not complete all of the 5-year B.S.-M.Eng. degree program requirements may request, by petition to the Graduate College after obtaining approval by their advisor, the department, and the Associate Dean for Undergraduate Programs in the College of Engineering, to have graduate hours earned converted to undergraduate hours and applied toward a traditional B.S. degree in MatSE. Students reverting to the traditional B.S. degree program must satisfy all degree requirements, including completion of the required "area specialty course(s) in a different area" and the stated credit hour 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.

1. The 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 B.S. program or if the student completed all of the requirements of the standard B.S. degree (8 additional hours, as specified).

2. Students find internship companies and positions with the help of the departmental and College Placement offices. The MSE 585 internship requires approval by the departmental Director of Graduate Studies to insure that it matches the student's individual career objectives and meets the learning goals of the program. Students taking an internship as part of their undergraduate B.S. program should also check with the Director of Graduate Studies; his/her approval is required if the student is already accepted in the combined B.S./M. Eng. Program. Students will be expected to present an oral report on their internship in either MSE 529 or 559, as appropriate, the semester following completion of the internship.

APPENDIX II

Summary Comparison of Existing and Proposed MatSE B.S., M.S and Combined Degree Programs

Existing Traditional Degree Programs

B.S. in MatSE (128 hours)

- 22 hours social science, humanities, rhetoric; 16 hours mathematics, 18 hours chemistry and physics.
- 42 hours MatSE core (inc. MSE 182) (49 hours for Biomaterials).
- 15 hours area courses (11 for Biomaterials).
- 6 hours technical electives, 6 hours free electives, 3 hours area specialty course from a different area (except Biomaterials for which the requirement are 0, 6, 6 hours, respectively).
- Total 128

M.S. in MatSE without thesis (36 hours)

- 36 hours course work, including at least 10 graduate hours of MatSE courses, 12 hours credit in 500 level courses and up to 4 hours of MSE 529, 559 or 590 and 2 hours of MSE 595.
- MSE 492 (safety course); credit does not count toward degree.

Existing B.S.-M.S. Degree Program

B.S. in MatSE (120 hours)

- 22 hours social science, humanities, rhetoric; 16 hours mathematics, 18 hours chemistry and physics,
- 40 hours MatSE core (inc. MSE 182) (47 hours for Biomaterials).
- 17 hours area courses (13 for Biomaterials), including 5 hours of MSE 499 (Senior Thesis).
- 6 hours technical electives, 1 hour free electives (MSE 499 recommended), 0 hours area specialty course from a different area (except Biomaterials for which the requirement are 0, 1, 3 hours, respectively).
- Total 120

M.S. in MatSE with Thesis (32 hours)

- 24 hours course work, including at least 10 hours of MatSE courses with 12 hours credit overall in 500 level courses. The 8 hours shall include at least one 400-500 level course (for the B.S. or M.S.) MatSE area specialty course from a different area (two if in the Biomaterials concentration).
- 8 hours MSE 599 (Thesis).
- MSE 492 (safety course); credit does not count toward degree.

Proposed B.S.-M.Eng Degree Program

B.S. in MatSE (120 hours)*

- 22 hours social science, humanities, rhetoric; 16 hours mathematics, 18 hours chemistry and physics..
- 42 hours MatSE core (inc. MSE 182 and MSE 395) (49 hours for Biomaterials).
- 15 hours area courses (11 for Biomaterials).
- One semester or two summers of Industrial Internship/Co-op experience
- 6 hours technical electives, 1 hours free electives, 0 hours area specialty course from a different area (except Biomaterials for which the requirement are 0, 1, 3 hours, respectively).
- Total 120

M.Eng. with a major in Materials Engineering (36 hours)

- 36 hours course work, including at least 19 graduate hours of MatSE courses with 12 hours credit overall in 500-level courses. The course work shall include MSE 585 (two semesters or equivalent, 30 weeks total, of industrial internships or co-ops; one of the semesters can be during the B.S. program), 6 hours of 400- or 500-level area specialty courses in the student's area, 3 hours of 400- or 500-level MSE courses from a different area 2 hours of MSE 595, and 2 hours of MSE 529 or 559. Ten hours of courses in one or more of the areas of business or technology management and entrepreneurship, are required in the overall B.S./M.Eng. The obtaining of one of the Technology Entrepreneur Center Certificates is recommended
- MSE 492 (safety course); credit does not count toward degree.

*The 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 B.S. program or if the student completed all of the requirements of the standard B.S. degree (8 additional hours, as specified).

APPENDIX III

Possible courses, certificates and minors for MatSE B.S.-M.Eng students

ENG 360/TE 360

Lect in Engrg Entrepreneurship

Credit: 1 hours.

Fundamental concepts of entrepreneurship and commercialization of new technology in new and existing businesses. Guest speaker topics vary, but typically include: evaluation of technologies and business ideas in genera; commercializing new technologies; financing through private and public sources; legal issues; product development; marketing; international business issues.

GE 400

Engineering Law

Credit: 3 hours. **No graduate credit**

Nature and development of the legal system; legal rights and duties important to engineers in their professions; contracts, uniform commercial code and sales of goods, torts, agency, worker's compensation, labor law, property, environmental law, intellectual property..

ENG 461/TE461

Technology Entrepreneurship

Credit: 3 hours.

Critical factors affecting technology-based ventures: opportunity assessment; the entrepreneurial process; founders and team building; preparation of a business plan including market research, marketing and sales, finance, and manufacturing considerations.

ENG 465/TE 465

Business Technical Consulting

Credit: 4 hours.

Consulting process, problem definition, project management, technology commercialization, interpersonal skills, human resources management leadership, and followership. Consulting teams formed work directly with a real business client for twelve weeks on a project jointly defined by the client and team.

ENG 466/TE 466

High-Tech Venture Marketing

Credit: 1 or 2 hours.

Cornerstone marketing concepts for innovators and engineers to enable analysis of products and technologies from a marketing perspective: engineering product

development and adoption life cycle; objectives and strategies; marketing management; communication skills; sales process and tactics; special considerations for new high-tech engineering products and innovations..

ENG 491: Interdisciplinary Senior Design (1 to 4 hours)

The TEC has partnered with the Champaign area entrepreneurs to offer engineering seniors a two-course sequence in which students gain design experience as well as a hands-on experience in launching a startup. The overall completion date is at the end of the second (spring) term. Students participate in engineering and venture creation activities with individual as well as team responsibilities. First-term projects will be provided and supervised by Chicagoland Entrepreneurial Center (CEC) member companies, which are often venture-backed and have up to \$10M in annual revenue. The student teams will also have a College of Engineering faculty advisor that will help them navigate the technical landscape of their projects. Kapil Chaudhary, Principal, i2A fund, will provide several guest lectures.

For the second term, student teams will develop their own technology and will launch a venture to develop a prototype (or reach a pre-determined milestone if a prototype is not feasible). Students will present their ventures at an end-of-year venture fair and demonstration day, open to the public and attended by the CEC leadership and member companies.

The TEC is working with departments in the College of Engineering to offer senior design credit, but apart from Electrical and Computer Engineering, senior design credit is not yet guaranteed.

IE 430

Economic Found of Quality Syst

Credit: 3 or 4 hours.

Total quality systems for planning, developing, and manufacturing world-class products. Economic foundations of total quality. Product value, cost, pricing, environmental quality, activity-based costing, design for assembly, organization structure, lead time, innovation, Taguchi methods, simulation-based significance testing, Strategic Quality Deployment, statistical process control, and conjoint analysis.

IE 431

Quality Engineering

Credit: 3 hours.

Quality Engineering principles and the Six Sigma Define-Measure-Analyze-Improve-Control (DMAIC) process. Application of concepts and methods of statistical process control, designed experiments, and measurement systems analysis to cases of quality and productivity improvement; application of the fundamentals of quality engineering and the Six Sigma to areas of produce development, service enterprise, and manufacturing processes.

ENG 560/TE560
Managing Advanced Technol I

Credit: 1 hours.

Business perspective of managing advanced technology in industry: strategic context of advanced technology; analytical financial tools used to estimate its potential value; legal concepts important in its management; interpersonal issues related to leading and advocating on behalf of advanced technology groups.

ENG 561/TE 561
Managing Advanced Technol II

Credit: 1 hours.

Continuation of [ENG 560](#). Deepening of insights previously gained by the use of case studies.

ENG 565/TE 560
Technol Innovation & Strategy

Credit: 2 hours.

Concepts and frameworks for analyzing how firms can create, commercialize and capture value from technology-based products and services. Business, commercialization, and management aspects of technology. Emphasis on reasons that existing firms or startups which have successfully commercialized products or services fail to sustain their success as technology changes and evolves.

ENG 566/TE 566
Finance for Engineering Mgmt

Credit: 2 hours.

Cornerstone financial concepts for engineering management to enable analysis of engineering projects from a financial perspective: income statements; the balance sheet; cash flow statements; corporate organization; the time value of money; net present value; discounted cash flow analysis; portfolio theory.

ENG 567/TE 567
Venture Funded Startups

Credit: 1 hours.

Concepts, tools, and language used by venture capitalists (VCs). Venture-scale opportunity assessment and articulation; venture capital financing and valuation; deal structure; term sheets; financial plans for startups; customer development and marketing; product iterations; sales execution.

Certificates
Technology Commercialization (TC) (Undergrad)

The program is composed of one fundamental course and four hours of elective courses. The courses are designed to allow students to gain a general understanding of the technology commercialization landscape, then to apply that knowledge in a practical manner to an innovation.

Students who wish to obtain a certificate in Technology Commercialization must:

- Complete the required course, *Lectures in Engineering Entrepreneurship* (1 hour)
- Complete at least four credit hours of elective courses/activities from the following list:
 - ABE 430: *Project Management* (3 hours)
 - TE 461: *Technology Entrepreneurship* (3 hours)
 - TE 466: *High Tech Venture Marketing* (2 hours)
 - Placement in the semi-finalist teams in the Cozad New Venture Competition (equivalent to 2 hours course credit)
 - Invention to Venture workshop, held annually in the spring (equivalent to 0.5 hours course credit)

In place of any of the above listed electives, students who have previously taken either: *Product Development for Entrepreneurial Ventures* (3 hr), *An Entrepreneurial Approach to Green Engineering* (3 hr) or *Technology Opportunity Assessment* (3 hr) can receive credit for these courses toward the certificate.

Strategic Technology Management (STM) (Graduate)

Individuals who wish to obtain a certificate in Strategic Technology Management must:

- Hold a bachelor's degree
- Complete the following core courses:
 - ENG/TE 460: *Entrepreneurship for Engineers* (1 hour)
 - ENG/TE 461: *Technology Entrepreneurship* (3 hours)
 - ENG/TE 567: *Venture-Funded Startups* (1 hour)
- Complete any combination of the following elective courses for a total of at least two credit hours:
 - ENG/TE 560: *Managing Advanced Technology I* (1 hour)
 - ENG/TE 561: *Managing Advanced Technology II* (1 hour)
 - ENG/TE 565: *Technology Innovation and Strategy* (2 hours)
 - ENG/TE 466: *High Tech Venture Marketing* (2 hours)
 - ENG/TE 566: *Finance for Engineering Management* (2 hours)

Business Management for Engineers (BME) (Graduate)

Individuals who wish to obtain a certificate in Business Management for Engineers must:

- Hold a bachelor's degree
- Complete the following core courses:
 - ENG/TE 560: *Managing Advanced Technology I* (1 hour)
 - ENG/TE 561: *Managing Advanced Technology II* (1 hour)
 - ENG/TE 565: *Technology Innovation and Strategy* (2 hours)
- Complete any combination of the following elective courses for a total of at least two credit hours:
 - ENG/TE 466: *High Tech Venture Marketing* (2 hours)
 - ENG/TE 566: *Finance for Engineering Management* (2 hours)

Technology and Management Minor (B.S.)

Students who wish to pursue this minor must apply for admission to The Hoeft Technology & Management Program in the spring semester of their sophomore year. Enrollment in the minor is limited and admission is competitive. Applications are reviewed by the program staff and offers of admission are based on the student's academic record, extracurricular involvement, demonstrated leadership, and career goals.

TMGT 365 (BADM 365): New Product Marketing

This course exposes engineering students to the discipline of marketing and to business decision making in the unique context of new product marketing decisions. It provides engineering students a disciplined analytical approach to understanding the marketing of new products from concept generation to launch.

FIN 221: Corporate Finance

This course is an Introduction to corporate financial management. Students learn how the financial manager's choices add value to shareholder wealth through investment financing and operating decisions.

ACCY 200 TM: Fundamentals of Accounting

Accountancy 200 focuses on financial and managerial accounting systems. Students will gain practical experience with these systems by preparing budgets, performance reports, and financial statements of for-profit business entities. The course will highlight accounting issues faced by some of the largest and fastest-growing technology companies

TMGT 367 (BADM 367): Management of Innovation and Technology

This course focuses on the strategic management of technology and innovation in organizations. It builds primarily on broad models of technological evolution and organizational change. Students analyze crucial organizational innovation and technology issues (theoretical analysis) and identify concrete managerial actions to address innovation and technology problems and opportunities (managerial action).

TMGT 366 (BADM 366): New Product Development

This course presents an overview of the product development process from concept generation to design for manufacturing and project management. There is an emphasis on product definition, early concept development, visual reasoning

and engineering graphics. Students work in cross-disciplinary teams working through product development projects.

TMGT 460 (BADM 460): Business Process Modeling

This course is an introduction to the identification and analysis of business processes. Key elements of the course include:

- the definition of business processes
- tools for designing and analyzing processes, including system simulation and queuing theory
- managerial and organizational aspects of business processes
- an in-depth study of several types of important business processes using case analysis.

TMGT 461 (BADM 461): Integrated Project

The Integrated Project course is the capstone of the T&M curriculum. It is taken in the spring semester of the T&M student's second year. Projects are provided by corporate sponsors. They deal with real problems of significant issue to the sponsor and typically involve engineering, finance, accounting, and marketing. Interdisciplinary teams of six to eight students are assigned to each project. These teams work with program faculty advisors and representatives of the sponsors to develop detailed, implementable solutions.

Minor in Business for Non-Business Majors (B.S)

In addition to prerequisite courses our students would normally have, the following courses are required

ACCY 200-Fundamentals of Accounting (Fall of year of acceptance) **Enrollment is restricted to approved minor students.**

BADM 320-Principles of Marketing (Spring)

FIN 221-Corporate Finance Prerequisites: ACCY 200

BADM 310-Management and Organizational Behavior

APPENDIX IV

Letters of concurrence

From: <w-mischo@illinois.edu>
Subject: Re: Library concurrence letter
To: "Phillip Geil" <geil@illinois.edu>
Cc: Bill Mischo <w-mischo@uiuc.edu>
Date: Tue, 23 Feb 2010 03:07:55 -0600 (CST)

Phil:

These new programs will not require any additional Grainger Library collection and materials commitments. We are already collecting library materials at a research level in Materials Science and Engineering. Thanks for informing us of this new program and asking about library implications.

Bill

---- Original message ----

>Date: Mon, 22 Feb 2010 13:18:30 -0600

>From: Phillip Geil <geil@illinois.edu>

>Subject: Library concurrence letter

>To: w-mischo@illinois.edu

>

>Prof. Mischo:

> MatSE is in the process of submitting proposals for a Master
>of Engineering and combined B.S.-M.Eng degree. This is to request a
>letter of concurrence from the Engineering Library that these degrees
>will not require added library costs; we need such a letter for
>approval by the Grad College and the Educational Policy Committee of
>the Senate. The proposals are attached. We expect that primarily it
>will be the combined degree, for our B.S. students, that will involve
>the most students, possibly 5-10 per year. I do not believe they
>would have any additional effect on the library. An e-mail reply
>would be sufficient.

>Thanks,

>Phil Geil

>--

>Phillip H. Geil; Ph. 217-333-0149 Fax 217-333-2736

>Department of Materials Science and Engineering

>University of Illinois

>1304 W. Green St.

>Urbana, IL 61801

Date: Tue, 16 Feb 2010 12:23:30 -0600
Subject: Re: Letter of concurrence
From: Manssour <manssour@illinois.edu>
To: Phillip Geil <geil@illinois.edu>
CC: <mhpleck@illinois.edu>, <vcc@illinois.edu>,
H- Holly "Tipsword, Michelle D" <tippy6@illinois.edu>
Thread-Topic: Letter of concurrence
Thread-Index: AcqvNSOqYkmBShsoEd+S4AAfW/SF2A==

Phil --

We will be happy to provide access and accommodate MatSE students in GE/TEC related courses that are currently under our administrative control.

Please note, as Technology Entrepreneur Center is no longer under IESE, we are in the process of transferring the control of remaining GE/TEC related courses (GE 461, GE 560 & GE 561) to the College of Engineering. We expect this process to be completed by the end of semester.

Please let me know if you need any other information.

Regards,
-Manssour

Manssour H. Moeinzadeh

Associate Head
Dept. of Industrial & Enterprise Systems Engr
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104 S. Mathews Ave.
Urbana, IL 61801
<<http://www.iese.uiuc.edu/>,><http://www.iese.uiuc.edu/>,

Phone: (217) 333-0068, FAX: (217) 244-5705



Senate Educational Policy Committee Proposal Check Sheet

PROPOSAL TITLE (Same as on proposal): Establish a New Combined Bachelor of Science in Materials Science and Engineering-Master of Engineering with a Major in Materials Engineering in the Department of Materials Science and Engineering (MatSE), 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*”: Combined Bachelor of Science in Materials Science and Engineering-,Master of Engineering with a Major in Materials Engineering

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

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Technology Entrepreneur Center

College of Engineering
350 Coordinated Science Lab, MC-227
1308 West Main Street
Urbana, IL 61801-2995



Dr. Phillip Geil
302C Materials Science and Engineering Building
Department of Materials Science and Engineering
1304 W. Green St.
Urbana, IL 61801

RE: Letter of Technology Entrepreneur Center Support for M. Eng Degree

Dear Dr. Geil:

The Technology Entrepreneur Center (TEC) is pleased to offer our support of the Department of Materials Science and Engineering's proposal for a Masters of Engineering degree. As part of such support, the TEC would welcome students in the M. Eng program to apply for one of our two graduate certificates, have the courses count as some of the elective courses for the degree, or take appropriate courses as general electives.

Please let me know if you have any questions.

Sincerely,



Andrew C. Singer
Director

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



July 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 new combined Bachelor of Science in Materials Science and Engineering-Master of Engineering in Materials Engineering in the Department of Materials Science and Engineering.

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

Sincerely,



Kristi A. Kuntz
Assistant Provost

KAK/njh

Enclosures

c: V. Coverstone
P. Geil
A. Golato
E. Stovall
C. Tucker