

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.06.02

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



May 9, 2005

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

Dear Professor Aminmansour:

Enclosed are copies of a proposal from the College of Engineering for a joint BS/MS program in Materials Science and Engineering.

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

Sincerely,

Keith A. Marshall, Ph.D.
Associate Provost

KAM/dkk

Enclosures

c: C. Livingstone
A. Cangelaris
P. Geil
K. Hjelmstad
R. Wheeler

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN**RECEIVED**

MAY - 6 2005

OFFICE of the PROVOST

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



May 3, 2005

Keith Marshall
Associate Provost
Office of the Provost
207 Swanlund, MC-304

Dear Keith:

Enclosed is a proposal to establish a joint BS/MS program in Materials Science and Engineering. This proposal has been approved by the Graduate College Executive Committee; I am sending it to you now for further review.

Yours truly,

Karen M. Carney
Associate Dean

Enclosure

c: A. Aminmansour
A. Cangellaris
P. Geil
K. Hjelmstad
R. Wheeler

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

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



February 2, 2005

Keith Marshall
Office of the Provost and Vice Chancellor
for Academic affairs
207 Swanlund Administration Building
MC-304

Via: Dean D. E. Daniel, Engineering College

Dear Mr. Marshall:

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

Proposal for Joint BS/MS Program in Materials Science and Engineering

Enclosed is a copy of the request.

Sincerely,

Andreas Cangellaris
Andreas Cangellaris, Secretary
Executive Committee

Approval Recommended:

[Signature]
D. E. Daniel, Dean
College of Engineering

2/2/05
Date

ACC/kad

Enclosure

c: Ian Robertson
Rizwan Uddin
Kathy Darr
Michael Pleck
Keith Hjelmstad

PROPOSAL TO THE SENATE COMMITTEE ON EDUCATIONAL POLICY

TITLE OF THE PROPOSAL: Combined BS/MS degree in Materials Science and Engineering

SPONSOR: Phillip H. Geil, Associate Head, Department of Materials Science and Engineering, 217-333-0149, geil@uiuc.edu

BRIEF DESCRIPTION: Establishment of a combined BS/MS degree in Materials Science and Engineering is proposed. Students would need to take a total of 120 hours for the BS degree and 32 hours for the MS degree. It would be limited to outstanding students, with a MS thesis required. Further details of the requirements of the College of Engineering for such a degree, of the current requirements for traditional MatSE BS and MS degrees and of the proposed combined degree are given in the Appendices.

JUSTIFICATION: A number of the Departments in the College of Engineering currently have a combined BS/MS degree program similar to that we propose. We suggest the following advantages for the student, faculty and department:

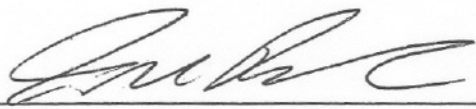
1. It will make MatSE more attractive to outstanding prospective undergraduates, permitting them to complete an MS degree, on average, one year sooner than for students earning separate degrees
2. It will aid the early entry of our best undergrads into a meaningful research project (for both the student and advisor) and encourage them to plan early for graduate school.
3. It will enlarge the pool of highly qualified students for PhD programs, here and at other schools. Preparation of the MS thesis will be of benefit at the time of preparation of the PhD thesis

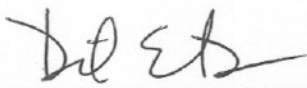
BUDGETARY AND STAFF IMPLICATIONS: None. Although it may increase our total enrollment by several students per year, our current classes and laboratories can accommodate them.

PROPOSED EFFECTIVE DATE: Fall 2005

STATEMENT FOR PROGRAMS OF STUDY: See Appendix I. To be inserted following the description of the Bachelor of Science Degree in Materials Science and Engineering.

CLEARANCES:

 Date 01/31/2005
Department of Materials Science and Engineering

 Date 2/2/05
College of Engineering

Graduate College

Office of the Provost

APPENDIX I

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

The five-year BS-MS program in Materials Science and Engineering combines two degrees: a BS in MatSE with an MS (with thesis) in MatSE. Current UIUC MatSE students enrolled in the College of Engineering who maintain *superior academic performance* are eligible to apply for this program. Students admitted to the program will receive both degrees once all requirements for the 5-Year BS-MS degree program have been successfully completed but will be permitted to participate in the Graduation Ceremonies with their class if they have completed 131 hours.

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. Application and letter of reference forms for the BS/MS Program are available from the MatSE department office

Admission to the Program

- Current UIUC MatSE students with Junior standing with an overall grade point average (GPA) of at least 3.5/4.0 may apply for provisional admission to the program. The 5-year program is highly competitive, and only students who maintain superior academic performance will be admitted. Admission is based on overall academic performance, undergraduate research experience, 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 3.5 through completion of the BS component of the program, in order to remain in the program
 - may register for graduate courses and earn graduate hours credit, with approval from their graduate academic advisor, even if they are more than 10 hours from completing the BS component
 - must earn at least 120 hours of undergraduate credit, 9 hours of graduate credit in advanced level area courses, and satisfy all BS requirements to be officially admitted to the Graduate College.
- Upon successful completion of the BS component, with grades of B or better in the advanced area coursework, and an overall GPA of at least 3.0 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 research or teaching assistantships, and tuition waivers, as well as fellowships and scholarships available to graduate students.
 - must continue to maintain a graduate GPA of 3.0 or better in order to remain in the combined program.

- Students in the program are eligible to apply for the PhD program in MatSE near completion of the MS component. If admitted, the combined degree will count as Stage 1 of the PhD program, as if the student is admitted with a master's degree.

University Residency Requirements

Undergraduate residency requirements include a student spending either the first three years, earning not less than 90 semester hours, or the last year (two semesters or the equivalent), earning not fewer than 30 hours, in residence at the Urbana-Champaign campus, uninterrupted by any work in another institution. Graduate residency requirements include that half or more of the graduate hours applied toward the degree must be earned in courses counted for residence credit. Consult the University of Illinois Programs of Study book for addition details about university residency requirements.

Course Requirements*

BS component (120 hours including 3 advanced (graduate level) area courses for at least 9 hours.

- Same required courses as the traditional BS degree with minimum hours reduced to 120 hours; except MSE 395** is dropped (i.e., 1 hour)
- 2 of the required remaining 4 area courses are to be taken at the graduate level (i.e., the students will be held to the course and grading requirements of a graduate student). The 3rd advanced level course can be either in the area or in another area ((as a tech elective).
- Reduction of 7 hours in free electives and 3 hours in tech electives (10 hours).
- Senior thesis to be taken in lieu of MSE 395** and one area course (6 hours total recommended, with 2 being the remaining 2 hours of free electives).
- Student retains one tech elective.
- Overall GPA of 3.5 maintained through completion of BS component of the program and minimum residency requirements satisfied.

MS component (minimum 24 additional hours of coursework plus 8 hours of MSE 599 thesis).

- Same overall requirements as for traditional MS with thesis.
- At least one 400-500 level course (for the BS or MS) will be a MatSE course from a different area..
- Complete a MS thesis according to MatSE department requirements; research for the senior thesis will often serve as a beginning for the MS thesis but the student may change thesis advisors.

Withdrawal

Students that do not complete all of the 5-Year BS-MS degree program requirements may request, by petition to the Graduate College with approval by their advisor, the department and the Associate Dean for Academic Studies of the College of Engineering, to have graduate hours earned, including the three advanced area courses, converted to undergraduate hours and applied toward a traditional BS in MatSE degree. Students reverting back to the traditional BS in MatSE

degree program must earn a minimum of 131 hours and satisfy all traditional degree requirements, including MSE 395**, to receive the BS degree in MatSE. Graduate credit not used to fulfill the BS degree requirements will remain on the transcript and may, at some future point, be considered for transfer to another degree program.

* The BS degree from the BS/MS Program is not ABET accredited.

**At present, students in their fourth or fifth year considering withdrawing from the MS portion of the program should register for MSE 395 in the Spring semester; the resulting BS degree would then be ABET accredited. It is anticipated that, in the near future, senior thesis will be accepted by ABET as an appropriate "design experience"; when approved MSE 395 will no longer be required.

APPENDIX II

Summary (Proposed Revised) Traditional Degree Programs*

BS in MatSE (131 hours)

- 22 hours social science, humanities, rhetoric; 16 hours mathematics, 18 hours chemistry and physics, 13 hours engineering
- 33 hours MatSE core (inc. MSE 182)
- 15 hours area courses
- 6 hours technical electives, 9 hours free electives (except Biomaterials)
- Total 131.

MS in MatSE with thesis (32 hours)

- 24 hours course work, including at least 2 MatSE courses and up to 2 hours of MSE 529, 559, 590 and 595
- 12 hours (3 units) credit in 500 level courses.
- MSE 492 (safety course); credit does not count toward degree.
- 8 hours of an approved thesis (MSE 599)

* Current BS program is 128 hours, with proposal submitted to increase the required hours to 131.