

SCIENCE AND ENGINEERING PANEL

MINUTES

*January 17, 2006
12:00 — 2:00 p.m.
TSC 203*

I. Minutes of 12/13/05 SEP meeting

➤ **APPROVED**

II. Report on items deferred to Chair and Curriculum Office:

A. ENGR 305 ENGINEERING BIOLOGY MATTERS (3, FaSp)

Issue: upper division numbering for a course without prerequisites and taken by freshmen

➤ **11/29/05 SEP MEETING:** Still in discussion

➤ **12/13/05 SEP MEETING:** Still in discussion

➤ **APPROVED.**

B. ASTE 291 TEAM PROJECTS I (1, max 4, FaSp)

ASTE 491 TEAM PROJECTS II (1, max 4, FaSp)

➤ **12/13/05 SEP MEETING:** In discussion

➤ **APPROVED.**

C. ISE 382 DATABASE SYSTEMS: CONCEPTS, DESIGN, AND IMPLEMENTATION (was: INTRODUCTION TO COMPUTER SYSTEMS) (2, Sp)

Issue: Course title and catalog description are no longer accurate.

➤ **12/13/05 SEP MEETING:** In discussion

➤ **APPROVED.**

DEFERRED ITEMS:

III. VITERBI SCHOOL OF ENGINEERING: BIOMEDICAL ENGINEERING

Req. by Michael Khoo

Add a new course:

Eff. Fall 2006

BME 412 FUNDAMENTALS OF CRANIOFACIAL BIOTECHNOLOGY (2, Sp)

Biomedical engineering and technology applied to oral health professions. Dental biomaterials, CAD-CAM, digital dental technology and tissue engineering applications to craniofacial diseases, disorders and enhancements. Prerequisite: BME 410.

- **11/29/05 SEP MEETING: DEFERRED TO PANEL.** The panel was concerned that there are no prerequisites for this course and suggests that the department make the proposed recommended preparation courses into prerequisites. Given that a prerequisite to the course would be 410, the panel requests the department consider choosing a number for the proposed course higher than 410, *i.e.* not 408 as currently proposed. Concern was also expressed regarding the grading strategy in that if implemented as proposed, students would reach the “W” deadline without any way to determine a likely course grade. The problem is that 75% of the final grade is based on Student Project Presentations, but the project proposals aren’t submitted until the 11th week of the semester. Even the formation of teams (when required) for the projects appears likely not to occur before the “W” date.
- **12/13/05 SEP MEETING:** No response from department. Continued deferral.
- **FOR TODAY’S MEETING:** Response from department. The course is renumbered as BME 412; BME 410 is added as a prerequisite; students will turn in progress reports on weeks 9 and 14.

Attachments:

1. Memo from Maarek to SEP (12/08/05)
2. Revised syllabus

- **APPROVED.** The course was originally proposed as BME 408 with recommended preparation of BME 404 and BME 410.

IV. VITERBI SCHOOL OF ENGINEERING

Req. by Yannis Yortsos

Revise a course:

Eff. Fall 2006

NEW: ENGR 102 ENGINEERING FRESHMEN ACADEMY (2, Fa)

Introduction to the profession of engineering. Ethical, political and societal consequences of engineering innovations and the impact of engineering on everyday life. Team projects and guest lectures. Open to freshmen only. Graded CR/NC.

OLD: ENGR 102ab ENGINEERING FRESHMEN ACADEMY (1-1, FaSp)

Introduction to the profession of engineering. Ethical and societal consequences of engineering innovations and the impact of engineering on everyday life. Team project and guest lectures. Open to freshmen only. Graded CR/NC.

- **NOTE:** This revision will add one unit to the B.S., Civil Engineering (Building Science) degree, raising the minimum required units from 135 to 136.
- **12/13/05 SEP MEETING: DEFERRED TO PANEL.** The panel requests sample student schedules for the 6 current programs that already require the course. Concern was also expressed about the increase in units for BSCE (Bldg Sci), and the fact that the actual section sizes have been considerably larger than described in the proposal.
- **FOR TODAY’S MEETING:** Response from department.

Attachments (sample student programs):

1. B.S., Civil Engineering
2. B.S., Civil Engineering (Building Science)
3. B.S., Civil Engineering (Construction Engineering)
4. B.S., Civil Engineering (Environmental Engineering)
5. B.S., Civil Engineering (Structural Engineering)
6. B.S., Civil Engineering (Water Resources)
7. B.S., Computer Science/Business Administration

8. B.S., Environmental Engineering
9. B.S., Environmental Engineering [Environmental Biotechnology track]
10. B.S., Industrial and Systems Engineering
11. B.S., Industrial and Systems Engineering (Information Systems Engineering)
12. B.S., Industrial and Systems Engineering (Information Systems Engineering) [Information and Operations Management track]

➤ **DEFERRED TO PANEL CHAIR.** The sample schedules provided in support of this proposal are defective in that it is impossible for any student to follow them. Courses appear in the sample schedule in semesters in which they are not offered. A student attempting to follow these schedules and simply delaying such courses one term would suffer semesters with more than 18 units and/or failure to graduate in four years. However, it appears that with suitable revisions, feasible sample schedules can be constructed. The panel defers to the Chair awaiting these schedules. Concern was expressed by several panel members regarding (1) the increase in the number of units required by the B.S., Civil Engineering (Building Science) degree, and (2) that this program's sample schedule requires 18 units and 6 courses in the first semester of the freshman year, which for some students is possibly too extreme as an inaugural college experience.

V. **VITERBI SCHOOL OF ENGINEERING: MORK FAMILY DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE** Req. by Theodore T. Tsotsis

Add a new area of emphasis:

Eff. Fall 2006

B.S., Chemical Engineering (Nanotechnology) [131 unit program]

- **12/13/05 SEP MEETING: DEFERRED TO PANEL.** The panel was concerned that two semesters of directed research is required in the senior year. What is the department's strategy for guaranteeing that students will be able to find research advisors for individual research projects? The panel suggests that the department consider creating a new 400-level course available to all students in the program, which could incorporate a research project if the department deemed it essential.
- **FOR TODAY'S MEETING:** Response from department with a #301 form for a new course.
- **DEFERRED TO CURRICULUM OFFICE,** pending approval of CHE 491.

CHE 491 NANOTECHNOLOGY RESEARCH FOR UNDERGRADUATES (2)

Individual research in nanotechnology. The research project and expected goals will be selected by the student in close consultation with a research mentor, typically a faculty member in the CHE-MS department. Graded CR/NC. Prerequisite: CHE 487.

- **DEFERRED TO CURRICULUM OFFICE,** pending a shorter, less narrative course description.

REVISED DESCRIPTION: Independent research in nanotechnology. Research project selected by the student in close consultation with a research mentor.

NEW ITEMS:

VI. **LAS: ENVIRONMENTAL STUDIES**

Req. by Jane Cody

Revise a degree program:

Eff. Fall 2006

B.S., Environmental Studies (Biology) [128 unit program]

Remove ENST 387x from electives list; add SWMS 420 to electives.

NOTE: BISC 470L has not yet been proposed.

- **APPROVED**, noting two changes from the proposal agreed to by the academic unit during the meeting. (1) BISC 470L has been removed from the program request, and (2) that the addition of SWMS 420 is not as a separate course which can be taken on an equal footing with the others in the elective list, but rather, it is added as an alternative in place of SWMS 415.

Further, the academic unit was under the impression that all three of its B.S. degree programs were being considered, and not just the Biology emphasis. The panel therefore instructs the Curriculum Office to approve immediately forthcoming proposals for the two remaining B.S. degree programs consisting of dropping ENST 387x and adding SWMS 420 as a alternative to SWMS 415 in the electives list.

Members present

Gary Adolphson (support staff)
Mihram Agbabian
Kelvin J.A. Davies
Christopher M. Gould (chair)
Veronica Ann Greene
Douglas Hammond
Brian Lickel
Frank Potenza
Jennifer Smith (student)

Members absent

Gene Bickers (*ex-officio*)
Elizabeth Garrett (*ex-officio*)
David Glasgow (*ex-officio*)
Edward Maby
Kenneth Servis (*ex-officio*)
Peter Starr (*ex-officio*)

Guests

Jane M. Cody