

**The University of Michigan
College of Engineering
Curriculum Committee**

Agenda

November 19, 2002

1:30-3:30 p.m.

GM ROOM

Fourth Floor Lurie Engineering Center

1. Approval of Minutes from November 5, 2002 Meeting
2. Math Liaison Experience – Presentation by Nik Katapodes
3. Potential Changes in ME 230, ME 330 – Presentation by Greg Hulbert
4. CEE Concentrations Revisited – Will Hansen
5. Course Approval Forms

**University of Michigan
College of Engineering
Curriculum Committee Meeting
Tuesday, November 5, 2002
1:30-3:00 p.m.
Lurie Engineering Center GM Room
Minutes**

Armin Troesch called the meeting to order at 1:40 p.m.

Members Present: A. Troesch, V. Chung, J. Fessler, P. Friedmann, W. Hansen, G. Herrin, G. Hulbert, S. Montgomery, B. Noble, H. Peng, R. Robertson

Members Absent: E. Chan, J.Holloway (NERS), B. Martin (IOE), S. Pang, P. Samson (AOSS), Shuichi Takayama (BME)

Guest: Tony Ding

Armin Troesch welcomed Vivian Chung, the new undergrad representative, and Tony Ding, Director of University Relations for U.M.E.C.

The minutes of the last meeting were approved. The minutes did not include the Joint CoE/LS&A minutes which were handed out separately.

Will Hansen Presentation on CEE Concentrations—Revisited

Will Hansen wasn't ready, since the people in CEE didn't get back to him with the necessary information, so this was tabled until the next meeting.

Course Approvals

Armin Troesch called for a motion to approve the following course modifications. This was moved and seconded:

Motion Carried (approved)

The Committee expressed regret that IOE 451 will be deleted.

AERO 365 (1 abstention)	New Course
CEE 540	New Course
EECS 311 Tabled	Modification – Changing Pre-Reqs ; Need to add cognizant faculty
EECS 370	Modification – Changing Pre Reqs
EECS 401	Modification – Changing Pre-Reqs; Program Change; Committee suggested adding Graduate Standing to Pre-Reqs
EECS 470	Modification – Changing Pre-Reqs.
EECS 514 (1 abstention)	New Course
EECS 515 (1 abstention)	New Course

IOE 451 Deleted
IOE 563 Deleted
IOE 573 Deleted
IOE 575 Deleted
MFG 501 (4 in favor, 3 opposed, 3 abstention) Modification – Changing Pre-Reqs

Memo from Jeffrey Fessler

What issues should be brought before the CoE CC? Armin Troesch stated that issues that impact other departments or other programs should be brought before the CoE CC and the Faculty Committee. The CoE CC also needs to maintain a consistency of standards. Jeff Fessler asked if EECS 401 was being grandfathered, the answer was yes.

Discussion on Math & Science Liaisons

Jeanne Murabito presented a draft of a proposal. This was a result of discussions with Levi Thompson and the LS&A Curriculum Committee. There hasn't been a liaison for the last 1 ½ to 2 years. A lot of Engineering students are coming into the College with AP credits and going directly into Math 215/216, and some even above that. Math is more problematic at this time. Engineering could make a change that affects LS&A (and does), The handout stated what was done before and what could be done now. The CoE CC needs to evaluate whether or not this is worthwhile. Armin suggested the committee think this over and bring comments to the next meeting. It was suggested to have Nik or Phil give a brief report to the Committee.

Discussion 400 & 500 Level Courses – Memo from Earl Lewis (Rackham Dean)

Armin Troesch asked if Graduate students do different work than Undergraduate students. Some departments said yes, some no. Will Hansen stated that is valuable for Undergraduate students to learn the value of research – the benefit of taking a 500 level course. Gary Herring asked if Undergraduate and Graduate students could be graded differently in the same course. Dean Lewis would like the Committee to think about this issue.

Adjournment: Motion to adjourn was made and seconded
Motion carried (approved)

Next Meeting
Tuesday, November 19, 2002
1:30-3:30 p.m.
GM Room-LEC

Wolfe, Judy

Subject: Potential changes in ME230, ME330

> > >
> > > On Wed, 23 Oct 2002, Gregory M. Hulbert wrote:
> > >
> > > > Last winter term, a subcommittee in ME was established
> > > > to evaluate our thermo/fluids/heat transfer sequence
> > > > of required courses, namely ME230 and ME330.
> > > > This subcommittee did an outstanding job in gathering
> > > > information and assessing this data towards improvement
> > > > of the ME offering of this essential component of the
> > > > ME curriculum.
> > > >
> > > > This committee submitted a report that recommends
> > > > splitting these courses into 3 separate courses,
> > > > one course on thermo, one course on heat transfer, one
> > > > course on fluid mechanics. In doing so, there are many
> > > > potential options towards achieving this separation,
> > > > including different approaches towards credit/contact
> > > > hours for each of these courses.
> > > >
> > > > The purpose of this email is to alert you to the
> > > > discussions that are now ongoing in the ME UG Program
> > > > Committee and to solicit your suggestions/concerns/comments

> > > > on this potential change. >> >
> > > > One possible scenario that I would like to seek your opinion
> > > > on is that ME230 would reduce from a 4 credit hour course
> > > > to a 3 credit hour course. The new ME230 would comprise the
> > > > thermo material presently taught in the existing course, but
> > > > the heat transfer material would be removed from this
course.
> > > >
> > > > If such a change were to occur, would this new thermo-only
> > > > ME230 be an acceptable course as part of your required
> > > > technical core subject courses or one of your technical
elective
> > > > courses, if you use this course in your program?
> > > >
> > > > Thank you for your input,
> > > > Greg Hulbert
> > > > --
> > > >
> > > > =====
> > > > Professor Gregory M. Hulbert
> > > >
> > > > Undergraduate Program Director
> > > > Department of Mechanical Engineering
> > > > 2250 G.G. Brown
> > > > 2350 Hayward
> > > > University of Michigan
> > > > > Ann Arbor, MI 48109-2125
> > > > > hulbert@umich.edu
> > > > > ph: 734-763-4456 fax: 734-647-7303
> > > > >
> > > >
>
>

COURSE APPROVAL FORMS

November 19, 2002

CHEM E 596	Modification – Changing Title; Changing Description
EECS 311	Modification – Changing Pre-Reqs
IOE 517	Deletion
ME 561	Modification – Removing AERO cross listing; Changing Pre-Requisites

Action Requested

- New Course
- Modification of Existing Course
- Deletion of Course

Complete the following sections:
 New Courses - B & C completely
 Modifications - A modified information, B & C completely
 Deletions - A & C completely

Date 10/16/2002

Effective Winter 2003

A. CURRENT LISTING

B. REQUESTED LISTING

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- Approval
- Curriculum Comm.
 - Faculty
 - Rackham
 - Cross listed Unit 1

Submitted By: Home Dept. Cross-listed Dept.

Name, Signature & Department

Home Dept. Ronald G. Larson, ChE

Cross-listed Dept(s). Frank Ascione, Pharmaceutical
Matthew O'Donnell, BME

SUPPORTING STATEMENT

Invited speakers from pharmaceutical, biomedical and other life science related industries and academia will present seminars focusing on recent research, development and manufacturing in pharmaceutical and biomedical engineering and related fields.

The topics may include: biomedical devices, tissue engineering, nano and micro-biomedical technologies, bioinformatics and chemoinformatics, high throughput drug screening and development, pharmaceutical development and biomanufacturing, and intelligent drug and gene delivery systems. This course is a requirement for the Pharmaceutical Engineering program.

Are any special resources or facilities required for this course?

Yes No

Detail the Special requirements

VIDEO SEMINAR SERIES IN PHARMACEUTIAL
ENGINEERING

“PHARMACEUTICAL PRODUCT AND PROCESS
ENGINEERING”

Rm 1180 Media Union
Tuesdays, 3:30 pm to 4:30 pm

- 1/08 “Efficiently Leveraging the Wealth of Genome Data for Drug Discovery”
David Hodgson, Pfizer Global R & D, Ann Arbor
Email: David.Hodgson@pfizer.com
- 1/15 “Computational Methods to Understand Structure-Activity Relationships”
Mic Lajiness, Pharmacia
Email: michael.S.Lajiness@pharmacia.com
- 1/22 “Soft Lithography and Surface Engineering in Biology”
Emanuele Ostuni, Surface Logix
Email: eostuni@surfacelogix.com
- 1/29 “The Role of ADME and Toxicological Screening in the Drug Discovery Process”
Louis Radulovic, Pfizer Global R & D, Ann Arbor
Email: Louis.Radulovic@pfizer.com
- 2/05 “Toxicity Assessment of Chemical Process Designs”
David Shonnard, MTU (confirmed)
E-Mail: drshonna@mtu.edu
- 2/12 (Room not available on Tuesday, switch to 2/14, Thursday)
- 2/14 “Laboratory-Based Pharmaceutical Process Engineering: A Novel Role”
Brian Sweierenga, Pfizer Global R & D, Holland
Email: Brian.Swierenga@pfizer.com
- 2/19 “Glycotechnology: Production of Sugar Products by Bioengineering”
Peng George Wang, WSU
Email: pwang@chem.wayne.edu
- 2/26 Spring break
- 3/05 “Process Transformation of Pharmaceutical Solids”
Ken Morris, Purdue U.
Email: morriskr@purdue.edu
- 3/12 “Basics of the Fluidized Bed Spray Granulation Process”
David Jones, Glatt Air
Email: djones@glattair.com

- 3/19 "Protein Spray Drying for Microencapsulation"
Rick Costantino, Alkermes
Email: rick.constantino@alkermes.com
- 3/26 "Measuring Drug Release from Dispersed Systems"
Michelle Long, Abbott Laboratories
Email: Michelle.A.Long@abbott.com
- 4/02 "Current Status on Pharmaceutical Blend Uniformity Assessment"
Ruey C. Hwang, Pharmacia
Email: ruey.c.hwang@pharmacia.com
- 4/09 "The Shifting Functional Balance of Patents and Drug Regulation"
Rebecca Eisenberg, UM Law School
Email: rse@umich.edu
- 4/16 "Pharmacoeconomics and Outcomes Research"
Dean Smith, UM School of Public Health
Email: deans@umich.edu

Course co-ordinators: Henry Wang (ChE), David Fleisher (Pharm), Chester Ni (Pfizer), Steven Schwendeman (Pharm) and Shu Takayama (BME)

*****"Financial support of this seminar series by Pfizer, Pharmacia and Eli Lilly are gratefully acknowledged"*****

(The reservation number for connecting to the videoconference seminars is 369739)



Action Requested

- New Course
- Modification of Existing Course
- Deletion of Course

Complete the following sections:
 New Courses - B & C completely
 Modifications - A modified information, B & C completely
 Deletions - A & C completely

Date 10/30/2002

Effective Winter 2002

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B. REQUESTED LISTING

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Approval

Submitted By: Home Dept. Cross-listed Dept.

- Curriculum Comm.
- Faculty
- Rackham
- Cross listed Unit 1

Name, Signature & Department

Home Dept. Jeff Fessler EECS *Jeff Fessler* 2002-11-7

Cross-listed Dept(s): _____

To: CoE Curriculum Committee
From: Jeff Fessler, Chair, EECS Curriculum Committee
Thu Nov 7 13:41:57 EST 2002



Please find attached an updated course change form for EECS 311 that now has the (previously omitted) cognizant faculty listed.

At the previous CoE Curr Comm meeting, there was concern expressed about the sequencing of the courses, and discussion about the possibility of revising our sample schedule.

After consideration, we do not wish to further revise our sample schedule. The EE degree was revised in 2000 to become a much more flexible program. It is even more flexible now, with the recently approved change that allows students to choose either EECS 401 or Math 425. There are now only *5* EECS courses (206, 215, 230, 280, 320) that are mandatory for all EE students. All of the remaining categories of courses are lists of *choices.* Because of this flexibility, students will take the courses in all sorts of different orders, so the reality is that our sample schedule is largely hypothetical. And many of our students are transfer students for whom the sample schedule is quite fictitious. In a flexible curriculum, it is the responsibility of both the students and their advisors to ensure that students take the courses in a sequence that allows them to reach their 400-level goals. No single sample schedule can possibly do that for the EE degree.

EECS 311 is not a required course for the EE degree. For some students it will be a "flexible technical elective", for some it will be an "upper level EE elective," for some it will be a "core elective" (which is why we call it a "core course"), yet others will not take it at all. Those who want to take courses that follow 311 will have to plan ahead with their advisors to ensure that they take 320 in time to reach 311 in time to reach whatever 400-level course they want. This is possible even if they follow the existing sample schedule. Perhaps some students (assuming they had no AP credit at all, which is rare) should postpone taking 280 if necessary to take 320 earlier. But for other students, postponing 280 would be a bad idea. So there is no universal benefit to changing the sample schedule.

The most important thing here is that 311 is being taught with the assumption that students have already have taken 320, because that was how we designed the new curriculum 2 years ago. So the 320 prerequisite needs to get on the books.



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- Modification of Existing Course
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Complete the following sections:

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Approval

Curriculum Comm. _____

Faculty _____

Rackham _____

Cross listed Unit 1 _____

Cross listed Unit 2 _____

Submitted By: Home Dept. Cross-listed Dept.

Name, Signature & Department _____

Home Dept. _____ IOE

Cross-listed Dept(s). _____ EECS

2002-11-6



Action Requested

- New Course
- Modification of Existing Course
- Deletion of Course

Complete the following sections:

- New Courses - B & C completely
- Modifications - A modified information, B & C completely
- Deletions - A & C completely

Date 10/21/2002

Effective Fall 2002

A. CURRENT LISTING

B. REQUESTED LISTING

<input checked="" type="checkbox"/>	Home Department Mechanical Engineering	Div # 280	Course Number 561		Home Department Mechanical Engineering	Div # 280	Course Number 561		
	Cross Listed Course Information Electrical Engineering 252 561 Aerospace Engineering 235 571				Cross Listed Course Information Electrical Engineering 252 561				
	Course Title _____				Course Title Design of Digital Control Systems				
	TITLE ABBREVIATION _____	Time Sched Max = 19 Spaces _____ Transcript Max = 20 Spaces _____			TITLE ABBREVIATION Des Dig Control Sys	Time Sched Max = 19 Spaces _____ Transcript Max = 20 Spaces _____			
	Course Description _____				Course Description for Official Publication (Max = 50 words) Sampling and data reconstruction. Z-transforms and state variable descriptions of discrete-time systems. Modeling and identification. Analysis and design using root locus, frequency response, and state space techniques. Linear quadratic optimal control and state estimation. Quantization and other nonlinearities.				
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	Cognizant Faculty Member: _____ Title: Associate Professors				Cognizant Faculty Member: A. Kuo and H. Peng Title: Associate Professors				
	Approval <input type="checkbox"/> Curriculum Comm. _____ <input type="checkbox"/> Faculty _____ <input type="checkbox"/> Rackham _____ <input type="checkbox"/> Cross listed Unit 1 _____ <input type="checkbox"/> Cross listed Unit 2 _____				Submitted By: <input checked="" type="checkbox"/> Home Dept. <input type="checkbox"/> Cross-listed Dept. Name, Signature & Department Home Dept. MECH ENG <i>Jun Ni</i> Cross-listed Dept(s). EECS <i>Jun Ni</i> AEROSP. <i>Iain Boyd</i> <i>J.C. Boyd</i> <i>2002-10-31</i>				

