IT Curriculum Committee
Meeting
September 15, 2008

Minutes

Attendance: Shield (AEM, Chair), Mann (Chem), Kumar (CEMS), Humphreys (AST), Stout (GEO), Nadathur (CSE), Kieffer (ECE), Stykowski (IT Dean), Gray (MATH), Kinney (ECE), He (BMEN), Francis (CEMS), LaPara (CE), Pineles (IT advising), Kelso (ME)

Visitor: Laurel Carroll (SVPP)

In red – actions taken

KEY
CD = Catalog Description
CP = Catalog Prerequisite
EP = Enforced Prerequisite
GB = Grading Basis
CE = Course Equivilency

Catalog Abbreviations

,	In prerequisite listings, a comma means "and".
=	Credit will not be granted if credit has been received for the course(s) listed in brackets after this symbol.
&	Concurrent registration is required (or allowed) in the course(s) listed after this symbol.
!	Work for this course will extend past the end of the term. A grade of K will be assigned to indicate that the course is still in progress.
#	Approval of the instructor is required for registration.
%	Approval of the department offering the course is required for registration.
@	Approval of the college offering the course is required for registration.

Course	Title	CURRENT	PROPOSED	Approved/ Comments

Course	Title	Current	Proposed	Approved/ Comments
BMEN 5501	Biology for Biomedical Engineers	Spr 2005 Career: UGRD **Cr:** 4.0 to 3.0 credit(s)	Effective: Fall 2008 Career: left at UGRD **Cr:** 3.0 to 3.0 credit(s) **History**: <no test provided>	Approved and completed with career as UGRD.
CE 1101	Civil Engineering Orientation	Fall 2008 **CP:** <no text provided>	Effective: Spring 2009 **CP:** Lower division students only. **History:** The only change is to include the language "lower division students only" in the catalog pre-req section.	Approved and completed
CE 4251	Pavement Analysis, Design and Rehabilitation		Effective: Fall 2009 **New Course**; **Cr** 4.0, **GB:** Stdnt Opt, **CD:** Concepts/principles in rigid/flexible pavement design. Traffic loads, soil considerations, material characteristics for highway/airfield pavement design. Concepts and practices in rehabilitating flexible and rigid pavement systems. **CP** CE 3201, 3301, 3402, upper div IT or grad student or # **EP** No prerequisites **History**: Replaces CE 4231 Principles of Pavement Design	Approved and completed
CE 4253	Pavement Engineering and Management		Effective: Spring 2009 **New Course**; **Cr** 4.0, **GB** Stdnt Opt, **CD** History of road construction; modern pavement construction that focuses on asphalt pavement and Portland cement concrete pavement construction, including the latest developments in pavement construction technologies. Concepts and practices in monitoring and maintaining flexible and rigid pavement systems. Manual and automated means of pavement assessment, structural and functional definitions of pavement performance, decision-making processes, and optimization. **CP** CE 3201, 3301, 3402, upper div IT or grad student or # **EP** No prerequisites **History**: Replaces CE 4232 Cemented Materials and CE 5231 Pavement Management and Rehabilitation	Approved and completed

Course	Title	Current	Proposed	Approved/ Comments
CE 5253	Asphalt and Portland Cement Concrete Materials		Effective: Spring 2009 **New Course; Cr** 4.0, **GB** Stdnt Opt, **CD** Cement chemistry and selection of materials for and design of Portland cement concrete mixtures. Lab assignments pertaining to mixture design and short-term and long-term behavior. Use of admixtures and fiber reinforcement. Effects of proportionment of standard materials. Selection and design of bituminous materials. Asphalt cement, rheology, emulsions, chip seals, hot mix asphalt design, viscoelastic characterization. Lab assignments pertaining to rheology, mixture design and viscoelastic behavior. **CP** Upper div IT or grad, CE 3402 or #. **EP** No prerequisites **History** Replaces CE 5232 Adv Portland Cement Concrete and CE 5233 Adv Bituminous Materials	Approved and completed
CHEM 4214	Polymers		**New Course; Cr** 3.0 credits, **GB** A-F or Aud **CD** Polymer structure-property relations: structure/morphology of crystalline/amorphous states. Crystallization kinetics. Vitrification and the glass transition. Mechanical properties, failure, permeability, optical/electrical properties, polymer composites, effect of processing on properties. **CP** Chem sr] or # **EP** Chem sr **History:** 03/31/2008: This new course is intended to be cross-listed with MATS 4214 and CHEN 4214	Needs prerequisites (PCHEM and Organic) added, CHEM will submit update and it will be completed
CHEM 4223W	Polymer Lab	**CP** 4221 or 8221 or MATS 5221 or CHEN 4214 or CHEN 5221 or # **Editor Comments:** Change in course number only	Effective: Spring 09 **CP** 4214 & CHEN 4214 & MATS 4214 or # **Editor Comm.:** 03/31/2008: Change in pre-req/co-req to reflect new CHEM 4214 course, and the elimination of CHEM 4221, MATS 5221 and CHEN 5221.	Preliminary approval. Needs CP corrected, CHEM will submit update and it will completed.

Course	Title	Current	Proposed	Approved/ Comments
ChEn 3045	Chemical Engineering Industrial Internship	**Credits**: 1.0 – 2.0 **Acad. Progress Units:** Not allowed to bypass limits. 1.0 credit(s) **Financial Aid Prog. Units**: Not allowed to bypass limits. 1.0 credit(s) **Course Rep:** Repetition not allowed.	Effective: Fall 08 **Credits**: 1.0 – 1.0 **Acad. Progress Units:** Allowed to bypass limits. 13.0 credit(s) **Financial Aid Prog. Units:** Allowed to bypass limits. 13.0 credit(s) **Course Rep:** Allow up to 2 repetition(s) totaling up to 2.0 credit(s). **Editor Comments:** 9/3/8 Updating so students can be considered as full time while doing an industrial internship. LLE	Given preliminary approval. confirmed
ChEn 3401W	Junior Chemical Engineering Lab	**CP:** [[[3006 or &3006], [3102 or &3102], [CHEM 2121 or &2121]] or equiv], upper div ChEn major **EP:** 002650 - ChEn 3006 or &, 3102 or &, Chem 2121 or &, upper div ChEn major **Editor Comments:** This is a copy of CHEN 4402: Chemical Engineering Lab II 3/01 At instructor's request, added ChEn 4102 and ChEn 4401W as prerequisites. 11/05 At instructor's request removed Department consent required.	Effective: Spr 2010 **CP:** [[[3006 or &3006], [3102 or &3102], [3201 or &3201],[CHEM 2121 or &CHEM 2121]] or equiv], upper div ChEn major **EP:** [[[3006 or &3006], [3102 or &3102], [3201 or &3201],[CHEM 2121 or &CHEM 2121]] or equiv], upper div ChEn major **Editor Comments**: 5-28-08 There was an omission in the pre-requisites and enforced pre-requisites on the ECAS entry when I updated this course from the ChEn 4401W to ChEn 3401W. I have corrected it by adding back in ChEn 3201 as a pre-req or co-req. for both fields. LLE	Approved and completed

Course	Title	Current	Proposed	Approved/ Comments
CSCI 5231	Wireless and Sensor Networks		Effective: Spring 2009 New Course; **Cr**. 3.0 **GB**: Stdnt Opt **Offered:** Spring, even years **CD**: A comprehensive introduction to the underlying concepts, commonalities, principles, and applications of Wireless and Sensor Networks. Enabling technologies, including hardware, embedded operating systems, programming environment, communication, networking and middleware services, shall be emphasized. Hands-on experience ~~on~~ programming tiny communication ~~devices shall be provided as well~~. **CP:** CSci 4211 or CSci 5211 or # **EP**: No required consent **History**: <no text provided>	Approved and completed with changed shown to CD.
CSCI 5461	Functional Genomics, Systems Biology and Bioinformatics		Effective: Spring 2009 **New Course**, **Cr.** 3.0, **GB**: Stdnt Opt **CD**: Computational methods for analyzing, integrating, and deriving predictions from genomic and proteomic data. Analysis of gene expression, proteomic data, and protein-protein interaction networks, protein/gene function prediction, learning and analyzing networks by integrating diverse data, visualization of large genomic datasets. **CP** CSci 3003 or CSci 4041 or instructor approval. **EP** No required consent **History:** <no text provided>	Approved and completed after syllabus entry into ECAS.
GEO 4201W	Vertebrate Paleontology: Evolutionary History and Fossil Records of Vertebrates	**Cr:** 4.0 to 4.0 credit(s) **Instr.ContactHours:** 4.0 hours per week **Componenet 1:** DIS (no final exam) **Years offered:** no entry **Term Offered:** no entry	Effective: Spring 2009 **Cr:** 3.0 to 3.0 credit(s) **Instr.ContactHours:** 3.0 hours per week **Componenet 1:** LEC (with final exam) **Years offered:** Odd years only **Term Offered:** Spring **Proposal Change:** Drop discussion section, not needed to teach course material.	Approved and completed

Course	Title	Current	Proposed	Approved/Comments
MATH 3113	Topics Elem Math I	**Term:** Fall, Spring, Summer **CP:** [Grade of at least C- in 1031] or placement exam	Effective: Fall 2008 **Term:** Fall **CP:** [Grade of at least C- in Math 1031 or PsTL 1006] or placement exam **Proposal Changes:** Changes are in prerequisite -- addition of PsTL 1006 and terms offered. **History**: <no text provided>	Approved and completed
MATH 4653	Elementary Probability	**CP:** [2263 or 2374 or 2573]; [2283 or 2574 or 3283] recommended	Effective: Fall 2008 **CP:** [2263 or 2374 or 2573]; [2283 or 2574 or 3283] recommended;; Credit will not be granted if credit has been received for: 5651 or 5652 or 5654 or Stat 5101 or Stat 5102 **History:** <no text provided>	Approved and completed
MATH 4707	Introduction to Combinatorics and Graph Theory	**CP:** 2243, [2283 or 3283] **CE:** 01073 - Math 4707/Math 5705/Math 5707 **Editor Comments**: Only change is grade basis to student optional -- to enable students to register SN as an option starting Fall 2005	Effective: Fall 2008 **CP:** 2243, [2283 or 3283]; Credit will not be granted if credit has been received for: 5705 or 5707 **CE** No course equivalencies **Editor Comments**: <no text provided> **History**: <no text provided>	Approved and completed
MATH 5705	Enumerative Combinatorics	**CP:** [2243 or 2373 or 2573], [2263 or 2283 or 2374 or 2574 or 3283]; Credit will not be granted if credit has been received for: 4707 **EP:** 001186 - Exclude fr or soph 5000 level courses	Effective: Fall 2008 **CP:** [2243 or 2373 or 2573], [2263 or 2283 or 2374 or 2574 or 3283] **EP:** No prerequisites **History**: <no text provided>	Approved and completed
MATS 2001	Intro. to the Science of Engineering Materials	**EP:** No prerequisite.	Effective: Fall 2008 **EP:** IT student **Editor Comments:** 7/30/8 Adding "IT Student" as an enforced pre-req. LLE	Approved and completed

Course	Title	Current	Proposed	Approved/ Comments
MATS 2002	Intro. to the Science of Engineering Materials Lab	**CP**: 2001 or &2001 **EP**: 001837 - MatS 2001 or &MatS 2001	Effective Fall 2008 **CP:** 2001 or &2001, IT Student **EP:** 2001 or &2001, IT Student Editor Commends: 7/30/8 Adding "IT Student" as an enforced pre-req. LLE	Approved and completed.
MATS 3011	Intro. to Materials Science and Engineering	**EP:** No prerequisites	Effective Fall 2008 **EP:** IT Student **Editor Notes:** 7/30/8 Adding "IT Student" as an enforced pre-req. LLE 2008-9-17, also added "IT Student" to CP, per LF, TWS	Approved and completed with "IT Student" also added to CP.
MATS 4223W	Polymer Lab	**Old:** MATS 5223W **CP:** 4214 or 5221 or ChEn 4214 or Chem 5221 or 8221 or #	Effective: Spring 09 **New:** MATS 4223W **CP:** 4214 or &4214 or CHEM 4214 or &CHEM 4214 or MATS 4214 or &MATS 4214 or #	Approved and completed (CP changed to shown as per discussion)
MATS 4400	Senior Design Project	**Graded Component:** DIS **CE:** 01180 - MatS 4400/MatS 4401	Effective: Spring 2009 **Graded Component:** LEC **CE:** MatS 4400/MatS 4402 **Editor Comments**: 7/3/8 Removed the discussion section as the course only has a lecture component. There are no plans to offer it with a discussion section. Fixed course equivalencies from 4401 to 4402. MatS 4400 meets with MatS 4402. System forced me to change auto enroll as there is only one component and the graded component was updated to reflect the current change. LLE	Approved and completed (was listed as CP change at time of meeting).
MATS 4402	Senior Design Thesis II	CE: (NONE)	Effective: Spring 2009 **CE:** MatS 4400/MatS 4402	Change to CE to match 4400, completed
MATS 5221	Introduction to Polymer Chemistry	Course Reps: Repetition not allowed	Effective: Fall 08 Deactivate Course Reps: Repetition no allowed	Approved and completed (currently scheduled warning)

Course	Title	Current	Proposed	Approved/ Comments
ME 4233	Vibration Engineering Laboratory		Effective: Spring 2009 **New Course**; 4.0 credits, **GB**: A-F or Aud **CD**: Introduction to vibration phenomena, concepts, and terminology. Vibration measurement and data acquisition: Nyquist sampling, aliasing, noise, sensors, filters, spectrum analysis. Data analysis and reduction, including frequency response (Bode plots), impulse response, Fourier transforms. Solutions to common problems, including design considerations, acoustic characterization, vibration isolation, and vibration damping. **CP** 3281, 4031W, ME upper division **EP** 3281, 4031W, ME upper division **History** \<no text provided\>	Approved and completed with addition of syllabus to ECAS.
MOT 4001	Leadership, Professionalism and Business Basics for Engineers	**Cr:** 2.0 to 0.0 credit(s) **Acad. Progress Units:** Not allowed to bypass limits. 0.0 credit(s) **Financial Prog. Units:** Not allowed to bypass limits. 0.0 credit(s) **Editor Comments:** A course that would give engineering undergraduates a broad exposure to basic elements of busines.	Spring 2009 **Cr:** 2.0 to 2.0 credit(s) **Acad. Progress Units**: Not allowed to bypass limits. 2.0 credit(s) **Financial Prog. Units:** Not allowed to bypass limits. 2.0 credit(s) **Editor Comments:** **New:** A course that would give engineering undergraduates a broad exposure to basic elements of business. we are submitting this proposal for the fall 08 curriculum committee meeting, requesting the following changes to be effective in the spring 09 term. - change min / max credits to 2.0 from 0 to 2.0 - change grading option to A/F ONLY. - also, in the previous submission of the course on 7/17/08 showed an increase in the number of contact hours from 2.0 to 4.0. This was done in error. The weekly contact hours are still remaining at 2.0	Approved without objection and completed

Course	Title	Current	Proposed	Approved/ Comments

Other Items:

1. Presentation: New LE requirements by Laurel Carroll.

See handouts on the Web site.

2. Examination Rules regarding open-book or closed-book exams. They are too vague at this point. (proposed by A McCormick)

This was referred to ASSA.

3. Co-op courses for lower division students; per A. McCormick. Paul Strykowski will present a proposal at this meeting

This was discussed and it was not clear how much use this would get or if it was subject to abuse. There is no one at the IT level to administer this as an IOFT course. Committee is open to considering a specific proposal by a department.

New Business:

Shield handed out the following: Department Information Form (please fill out and return to Shield), very preliminary draft of committee operating Procedures, and a copy of the relevant section of the IT constitution.   All of these are available on the new committee web site:

http://www.aem.umn.edu/~shield/itcc

This will be used for all committee communications in the future.

Attachments:

CDTL, SENG or FM (Professional Masters) Courses

Course	Title	Current	Proposed	Approved/ Comments

"INFORMATION ONLY" COURSES
Sept. 15, 2008 IT Curriculum Committee Meeting

Course	Title	Current	Proposed	Approved/ Comments
BMEN 5411	Neural Engineering		6/19/08 **Revised CD**: This course explores the fundamental theoretical basis for neural engineering in the context of past, present, and future applications.	completed
CE 5212	Transportation Policy, Planning and Deployment	Term: Fall	Update for Fall 08 Term: Fall, Spring	completed
CE 4231	Principles of Pavement Design	**Cr:** 3.0 **CD:** Concepts/principles in rigid/flexible pavement design. Traffic loads, soil considerations, material characteristics for highway/airfield pavement design.	Deactivate, Fall 2009 **History:** Replaced by CE 4251 Pavement Analysis, Design and Rehabilitation	completed
CE 4232	Cemented Materials	**3.0 credits** **CD:** Characteristics of and lab testing for mineral aggregates: cement, mortar, fresh/hardened concrete, and asphalt-cement mixtures. Construction and long-term performance of mixtures.	Deactivate, Spring 2010 **History:** Replaced by CE 4252 Pavement Engineering and Management	completed
CE 5231	Pavement Management and Rehabilitation	3.0 credits **CD:** Concepts and practices in monitoring, maintaining, and rehabilitating flexible and rigid pavement systems. Manual and automated means of pavement assessment, structural and functional definitions of pavement performance, decision-making processes, and optimization.	Deactivate, Summer 2010 **History:** Replaced by CE 4252 Pavement Engineering and Management	completed

Course	Title	Current	Proposed	Approved/ Comments
CE 5232	Advanced Portland Cement Concrete	3.0 credits **CD:** Advanced topics in cement chemistry and selection of materials for and design of portland cement concrete mixtures. Lab assignments pertaining to mixture design and short-term and long-term behavior. Use of admixtures and fiber reinforcement. Effects of proportionment of standard materials.	Deactivate, Spring 09 **History:** This course is being combined with CE 5233, Advanced Bituminous Materials to create a new course, CE 5233, Asphalt and Portland Cement Concrete Materials.	completed
CE 5233	Advanced Bituminous Materials	3.0 credits **CD:** Advanced topics in selection and design of bituminous materials. Asphalt cement, rheology, emulsions, chip seals, hot-mix asphalt design, viscoelastic characterization. Lab assignments pertaining to rheology, mixture design and viscoelastic behavior.	Deactivate, Spring 09 **History:** This course is being combined with CE 5232, Advanced Portland Cement Concrete, to create a new course, CE 5253, Asphalt and Portland Cement Concrete Materials.	completed
CSCI 5980	Special Topics in Computer Science		Fall 2008 Robotics Sensor Networks	completed
FM 5091	Programming and Presentation in Finance I	**Title:** Programming and Presentation in Finance I **CD:** Most common computer software tools used by financial professionals. Hands-on programming course.	Fall 2008 **New Title**: Computation, Algorithms and Coding in Finance I **CD**: Implements popular finance models and numerical techniques using mainstream computational tools and languages. **Proposal Changes:** Change in Title and course description only. **History**: <no text provided>	completed

Course	Title	Current	Proposed	Approved/ Comments
FM 5092	Programming and Presentation in Finance II	**Old Title:** Programming and Presentation in Finance II **CD:** Develops software tools from 5091. How to use computer applications to prepare presentation materials geared toward explaining ideas to those with less training in mathematics.	Fall 2008 **New Title:** Computation, Algorithms and Coding in Finance II **CD:** Implements popular finance models and numerical techniques using mainstream computational tools and languages. **Proposal Changes**: Change in title and description only. **History**: <no text provided>	completed

Other:

PCAS
1.   Electrical Engineering BEE program updates approved.