

IT Curriculum Committee

September 15, 2008

Minutes for April 21, 2008 meeting

Present: T. Shield (AEM) , Wei Shen (BMEn), Alon McCormick (ChEn) , Tim LaPara (CE), L. Kinney (ECE), J. Stout (Geo), D. Frank (Math), W. Durfee (ME), P. Strykowski (ITSS), S. Gehrke (ITSS), S. Kubitschek (ITSS), A. Pineles (ITSS), J. Anderegg (UHP), J. Walstedt (ITSS).

Agenda for April 21, 2008 IT Curriculum Committee Meeting

In red – comments from a previous meeting or provisional approval

KEY

CD = Catalog Description

CP = Catalog Prerequisite

EP = Enforced Prerequisite

GB = Grading Basis

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 |
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| Course | Title | Current | Proposed | Approved/ Comments |
|-----------------|-------------------------|--|---|--|
| AEM 5321 | Modern Feedback Control | AEM 8401 CP 4311 or # EP No prerequisites | Fall 2008 AEM 5321 CP 4321 or # EP 4321 or # | Returned to AEM; subsequently approved |
| AEM 5431 | Trajectory Optimization | CP 4311 or equiv or # EP 001186 - Exclude fr or soph 5000 level courses | Fall 2008 CP 4321 or equiv or # EP 4321 or equiv or # | Returned to AEM; subsequently approved |
| AEM 5451 | Optimal Estimation | CP [[Math 2243, Stat 3021] or equiv, 4311] or # EP No prerequisites | Fall 2008 CP 4321 or equiv or # EP [[Math 2243, Stat 3021] or equiv, 4321] or # | Returned to AEM; subsequently approved |
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| Course | Title | Current | Proposed | Approved/ Comments |
|------------------|--------------------|--|--|---|
| BMEN 5411 | Neural Engineering | <p>CD Neurophysiology, anatomy, development. Devices to interface with neural tissue. Neural modeling. Electrode design. Applications. Exploratory brain machine interfaces, neural driven prosthetics, micturition control, peripheral nerve replacement, prosthetic vision, seizure identification, prediction/prevention. Experimental, place cell measurement, neural guided robotics, prosthetic memory devices.</p> | <p>Fall 08 CD This course explores the fundamental theoretical basis for neural engineering in the context of past, present, and future applications. Major theoretical topics include advanced signal processing techniques, modeling of the nervous system and it's response to stimulation. These theoretical topics will be taught to develop a deeper understanding and practical knowledge of neural engineering applications. The applications to be studied are arranged by technological maturity. Classical neural engineering subjects include electrode design, neural modeling, cochlear implants, and deep brain stimulation. Developing applications include prosthetic limbs, micturition control, and prosthetic vision. Future applications will cover brain machine interface, seizure prediction, optical imaging of the nervous system and place cell recordings in hippocampus.</p> <p>6/19/08 Revised CD: This course explores the fundamental theoretical basis for neural engineering in the context of past, present, and future applications.</p> <p>EP 000370 - IT upper div or grad student</p> | <p>Tabled for changes.</p> <p>Returned to make the course description shorter and in line with ECAS requirements.</p> <p>CD revised and approved.</p> |
| | | <p>EP 001186 - Exclude fr or soph 5000 level courses</p> | | |

| Course | Title | Current | Proposed | Approved/ Comments |
|------------------|----------|---------|---|--|
| CHEM 4214 | Polymers | | <p>New Course; 3 credits, GB A-F or Aud</p> <p>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.</p> <p>CP Chem sr] or #</p> <p>EP Chem sr</p> <p>History: 03/31/2008: This new course is intended to be cross-listed with MATS 4214 and CHEN 4214</p> | <p>Tabled ; no chemistry representative. Subsequently Paul S. called a sub-committee meeting to deal with this – held 4.29.08. Interim approval by P. Strykowski, executed on 7/2/08.</p> <p>Chair’s Note: CD is the same as the primary course MATS 4214, but CP and EP are not the same.</p> |
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| Course | Title | Current | Proposed | Approved/ Comments |
|-----------------|--|---------|---|---|
| GEO 3402 | Science and Politics of Global Warming | | <p>Spr 09 New Course: 3.0 cr; GB Stdnt Opt CD Global warming viewed from physical sciences and political-social aspects. Science emphasizes detection and attribution of global warming using concepts of radiation, climate system, and carbon cycle. Politics emphasizes effects on society and biodiversity, and national and global efforts and controversy over possible responses and consequences. APU Not allowed to bypass limits. 0.0 credit(s) FAPU Not allowed to bypass limits. 0.0 credit(s) CP CLA students must have met degree requirements for physical sciences with lab and mathematical thinking. EP No prerequisites Course Equiv CLA students must have met degree requirements for physical sciences with lab and mathematical thinking. Yr most freq. offered: Every academic year Term most freq. offered: Spring</p> | <p>Tabled. Returned for updating course equivalency section. Subsequently, approved on 6/2/08. Paul S discussed Soc 3090 Sec 003 Course Equiv. with K. Matsumoto. CLA will not make Soc 3090 a permanent course until it is offered 3 times as a Special Topics course.</p> |
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| Course | Title | Current | Proposed | Approved/ Comments |
|------------------|--------------------------------|--|--|-----------------------|
| HUMF 5211 | Human Factors in Work Analysis | | Fall 08 New Course; 4.0 cr GB A-F or Aud CD Human factors engineering (ergonomics), methods engineering, and work measurement. Human-machine interface: displays, controls, instrument layout, and supervisory control. Anthropometry, work physiology and biomechanics. Work environmental factors: noise, illumination, toxicology. Methods engineering, including operations analysis, motion study, and time standards. APU Not allowed to bypass limits. 4.0 credit(s) FAPU Not allowed to bypass limits. 4.0 credit(s) CP <no text provided> EP No prerequisites Course Equiv ME 5211, 5511 Yr most freq. offered: Every academic year Term most freq. offered: Fall | Approved. |
| IE 5511 | Human Factor in Work Analysis | CE: No course equivalencies EP: 000370 - IT upper div or grad student | Fall 08 CE: HUMF5211, ME 5211 EP: No prerequisites | Approved. |
| MATH 1031 | College Algebra & Probability | CP: 3 yrs high school math or grade of at least C- in GC 0731; Credit will not be granted if credit has been received for: 1051, 1151, 1155 | Effective: Fall 2008 CP: satisfactory score on placement exam or grade of at least C- in PSTL 731 or 732; Credit will not be granted if credit has been received for: 1051, 1151, 1155 | Appv'd |
| MATH 1051 | Precalculus I | CP: 3 yrs high school math or placement exam or grade of at least C- in GC 0731; Credit will not be granted if credit has been received for: 1031, 1151 | Effective: Fall 2008 CP:: satisfactory score on placement test or grade of at least C- in PSTL 731 or 732; Credit will not be granted if credit has been received for: 1031, 1151 | Appv'd |

| Course | Title | Current | Proposed | Approved/ Comments |
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| MATH 1142 | Short Calculus | CP: 3 1/2 yrs high school math or grade of at least C- in [1031 or 1051] | Effective : Fall 08 CP: satisfactory score on placement test or grade of at least C- in [1031 or 1051] | Appv'd |
| MATH 1151 | Precalculus II | CP: 3 1/2 yrs high school math or placement exam or grade of at least C- in [1031 or 1051]; Credit will not be granted if credit has been received for: 1155 | Effective: Fall 2008 CP: satisfactory score on placement exam or grade of at least C- in [1031 or 1051]; Credit will not be granted if credit has been received for: 1155 | Appv'd |
| MATH 1155 | Intensive Precalculus | CP: 3 1/2 yrs high school math or placement exam or grade of at least C- in [1031 or 1051]; Credit will not be granted if credit has been received for: 1155 | Effective: Fall 2008 CP: satisfactory score on placement exam or grade of at least C- in [1031 or 1051]; Credit will not be granted if credit has been received for: 1155 | Appv'd |
| MATH 1271 | Calculus I | CP: 4 yrs high school math including trig or placement test or grade of at least C- in 1151 or 1155 | Effective: Fall 2008 CP: satisfactory score on placement test or grade of at least C- in 1151 or 1155 | Appv'd |
| ME 5211 | Human Factor in Work Analysis | | New Course: Fall 2008 CD: Human factors engineering (ergonomics), methods engineering, and work measurement. Human-machine interface: displays, controls, instrument layout, and supervisory control. Anthropometry, work physiology and biomechanics. Work environmental factors: noise, illumination, toxicology. Methods engineering, including operations analysis, motion study, and time standards. GB: A-F or Aud Max-Min Credits: 4.0 to 4.0 credit(s) Offered: Fall, every academic year CP: <no entry> EP: no course prerequisite CE: HUMF 5211, IE 5511 | Appv'd |

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Other Items:

1. Announcement: Alon McCormick will be leaving the position of ChEn DUGS. Next Fall Satish Kumar will be his replacement.

Attachments:

CDTL, SENG or FM (Professional Masters) Courses

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INFORMATION ONLY COURSES
April 21, 2008 IT Curriculum Committee Meeting

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|----------------------|----------------------------|------------------------------|--|---------|
| AEM 1905 | Freshmen Seminars 08-09 | | New Topic: Spaceflight with Ballooning | Apprv'd |
| AEM 4302 | Spacecraft Dynamics | | Added audit option. | Apprv'd |
| AEM 4311 | Flight Control | Active | Deactivate Note from T. Shield: There is the replacement theory course, 4321, that is joint with EE and ME. | Apprv'd |
| AEM 5495 | Topics; Aerospace Systems | Aircraft Handling | New catalog description; New enforced pre-req. | Apprv'd |
| BMEN 1601 | BMEn Undergrad. Seminar I | | This course equivalent to BMEn 2601 | Apprv'd |
| BMEN 1602 | BMEn Undergrad. Seminar II | | This course equivalent to BMEn 2602 | Apprv'd |
| CHEM 1905 001 | Freshman Seminar | My Other Car is a Bicycle | Fall 08 | Apprv'd |
| CHEM 1905 002 | Freshman Seminar | Solar Energy & Environment | Fall 08 | Apprv'd |
| CHEM 1905 003 | Freshman Seminar | Recycling in the Twin Cities | Fall 08 | Apprv'd |

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| CHEM 1905 004 | Freshman Seminar | Scientific Progress: Dynamics | Fall 08 | Apprv'd |
| CHEM 1905 001 | Freshman Seminar | My Other Car is a Bicycle | Fall 09 | Apprv'd |
| CHEM 1905 002 | Freshman Seminar | Solar Energy & Environment | Fall 09 | Apprv'd |
| CHEM 1905 003 | Freshman Seminar | Recycling in the Twin Cities | Fall 09 | Apprv'd |
| CHEM 1905 004 | Freshman Seminar | Scientific Progress: Dynamics | Fall 09 | Apprv'd |
| CHEM 1910W | Freshman Seminar | Quantum Mechanics & Philosophy | Fall 09 | Apprv'd |
| 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 | 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. | Apprv'd. (Accidentally delayed to 7/2/08.) |

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|--------------------------------|--------------------------------------|---|---|---|
| CHEM 4221 | Introduction to Polymer Chemistry | Active | Fall 08; Inactive | <p>Apprv'd 4/21/08 with understanding that K.Mann would explain implications to full committee. Kent missed the meeting Subquently Paul S. called a sub- committee meeting to deal with this – held 4.29.08.</p> <p>As a result of this approval, action will be required on cross-listed courses. (Chen 5221 and MatSci 5221 will also need to be inactivated in ECAS.) Laura took care of this.</p> |
| CHEN 4223W | Polymer Lab | CP: 4221 or 8221 or MATS 5221 or CHEN 4214 or CHEN 5221 or instr consent | Spr 2009 CP: prereq or coreq CHEM / CHEN / MATS 4214 or instr consent | Apprv'd |
| CHEN/ MATS 5221 | Introduction to Polymer Chemistry | Active | Fall 08 Deactivate | <p>Apprv'd</p> <p>See comment on Chem 4221.</p> |

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| EE 4962 | Industrial Assgmt III | Active | Deactivate | Apprv'd |
| GEO 5701 | Hydrogeology | Term most freq. offered: Fall | Spr 09 Term most freq. offered: Spring | Apprv'd |
| MATS 4223W | Polymer Lab | Old: MATS 5223W CP: 4214 or 5221 or ChEn 4214 or Chem 5221 or 8221 or # | Effective: Fall 08 New: MATS 4223W CP prereq or coreq CHEM / CHEN / MATS 4214 or instr consent History 3/28/8 Changing number to reflect that seniors will take the course. | Appv'd (See ChEn 4223W and Chem 4223W.) Chair's Note: Course number being adjusted as well. |
| ME 5080 | Topics in ME | Special Topics | Fall 08; Solar Decathlon- Energy Integration & Mgmt | App'd 4/11 |
| ME 5080 | Topics in ME | Special Topics | Spr 09; Solar Decathlon- Energy Integration & Mgmt | App'd 3/27 |
| PHYS 1905 | Freshman Seminar | Quantum Mechanics for Everyone | Fall 08 | Appv'd 4/9 |
| PHYS 1905 | Freshman Seminar | After the Big Bang | Fall 08 | Appv'd 4/9 |
| PHYS 1905 | Freshman Seminar | What is Everything Made Of | Fall 08 | Appv'd 4/9 |
| PHYS 1905 | Freshman Seminar | How Things Work | Fall 08 | Appv'd 4/9 |

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