

Minutes of the I.T. Curriculum Committee

September 22, 2003

Present: D. Boley (CSci), P. Cushman (Phys), D. Frank (Math/Chair), G. Gray (Chem), P. Hudleston (ITSA), T.J. Jones (Astro), L. Kinney (ECE), M. Nicosia (BMEn), T. Shield (AEM), D. Shores (CEMS), K. Smith (CE), J. Stout (Geol), Brian Tomich (ITSB)

Visitor: A. Pineles (ITLD)

1. Minutes of April 22, 2003 meeting APPROVED
2. Actions on courses were taken; see chart below

(shaded items for information only)

In red – comments from a previous meeting or provisional approval

In blue – corrections/additions following the meeting

SP = Semester Prerequisite

Course	Title	Current	Proposed	Approved/ Comments
Ast 1905	Freshman Seminar		New Topic: Of Rock, Fire and Ice, 2 cr	
Ast 1905	Freshman Seminar		New Topic: Nothing, 2 cr	
BMEn 4001W	Biomedical Engineering Design I	SP: 2501, 3001, 3101, 3301, 3701	SP: 2501, 3001, 3101, 3201, 3301, 3701	Approved
BMEn 5102	Bioelectric Measurements and Therapeutic Devices II	SP: 5101	SP: BMEn 5101 or instr consent	Approved
BMEn 5201	Advanced Biomechanics	3-4 cr SP: [[IT upper div or grad student], AEM [statics, deformable media]] or #	3 cr SP: [[IT upper div or grad student], BMEn 3001 or equivalent] or inst consent]	Approved

Course	Title	Current	Proposed	Approved/ Comments
BME 5212	Tissue Mechanics		<p>New Course: 2 cr, A-F Grade Base, Lect; The course will use the fundamental principles of continuum mechanics in analysis of physiological systems. It will be assumed that students are already comfortable with basic topics in continuum mechanics, including Cartesian tensor analysis, finite deformation kinematics, stress, the constitutive equation, and the governing conservation laws of mass, momentum and energy applied to deformable continua. The course will systematically consider individual tissues and organs, focusing on the following two topics: (1) What are the relationships among histology, anatomy, physiology and mechanical function in these tissues?; and (2) How are changes in mechanical properties related to pathology? Emphasis will be on tissues in the cardiovascular system. SP: BME 5201 (Advanced Biomechanics) or AEM 5501 (Continuum Mechanics)</p>	<p>Approved with shortened description: Fundamental principles of continuum mechanics applied to physiological systems. Systematic consideration of individual tissues and organs, focusing on two topics: (1) the relationships among histology, anatomy, physiology and mechanical function in these tissues; and (2) changes in mechanical properties related to pathology. Emphasis on tissues in the cardiovascular system.</p>

Course	Title	Current	Proposed	Approved/ Comments
BME 5444	Muscle		New Course: 3 cr, Opt Grade Base, Lect; Muscle structure/function: molecular mechanism by which force is generated. SP: None	Tabled. Is course cross-listed with BioChem? With Physiology? It has same number. Is it appropriate to have no prereq? Prov. Approval 2/11/03 Tabled twice at previous mtgs. Tabled 2/3/03 Title appropriate?
BME 5910	Special Topics in Biomedical Engineering		New topic title: Introduction to BioMEMs, 2 cr	Approved 9/17/03
CE 5212	Transportation Policy, Planning, and Deployment	Old Title: Urban Transportation Planning	New Title: Transportation Policy, Planning, and Deployment Change in course title to more accurately reflect the content of the course	Approved
Chem 1910W	Freshman Seminar, Writing Intensive	No repeats	Multiple Enrollment, with up to two completions and 4 cr total.	Approved 8/18/03
Chem 4411	Introduction to Chemical Biology	Old Title: Bioorganic Chemistry Abbr. Title: Bioorg Chem	New Title: Introduction to Chemical Biology Abbr. Title: Bioorg Chem Changed Abbr Title to: Intro Chem Biology	Approved. Tabled 4/28 Prov. Appr 5/4/03
Chem 5223W	Polymer Laboratory	SP: = MatS 5223; [5221 or 8211] or #	SP: =MatS 5223; [5221 or 8221] or ChEn 4214 or # Note: cross-listed MatS 5223	Approved. Should prereq be 8211 or 8221?
Chem 5412	Chemical Biology of Enzymes	Old Title: Enzyme Mechanisms Abbr. Title: Enzyme Mechanisms	New Title: Chemical Biology of Enzymes Abbr. Title: Enzyme Mechanisms Changed Abbr Title to: Chem Biology Enzymes	Approved. Tabled. 4/28 Prov. Appr 5/4/03

Course	Title	Current	Proposed	Approved/ Comments
ChEn 5104	Coating Process Fundamentals	Basic process functions. Viscous flow and rheology. Capillarity, wetting, electrostatic effects, phase change, colloidal transformations, mass/heat transfer in drying, kinetics in curing. Stress and property development in solidification. Illustrations drawn from theoretical modeling, flow visualization, and stopped-process microscopy.	Basic process functions; viscous flow and rheology of polymer solutions and particulate suspensions; capillarity, wetting; electrostatic effects; phase change, colloidal transformations, mass/heat transfer in drying; kinetics in curing; stress and property development in solidifying polymeric coatings. Illustrations drawn from theoretical modeling, flow visualization, and stopped-process microscopy. Note: Credit reduction and instructor approval added earlier (2/3/03) at instructor (Scriven) request	Approved
CSci 5521	Pattern Recognition	SP: 5301, Stat 3021 or #	SP: 2031, Stat 3021 or # Note: 5301 has been dropped	Approved
CSci 5552	Sensing and Estimation in Robotics		New Course: 3 cr, Opt Grade Base, Lect; Elements of probability and statistics. Bayesian estimation, maximum likelihood estimation, Kalman filtering, particle filtering. Sensor modeling and fusion. Mobile robot motion estimation (odometry, inertial, laser scan matching, vision-based) and path planning. Map representations, landmark-based localization, Markov localization, simultaneous localization and mapping (SLAM), multi-robot localization and mapping. SP: Stat 3021 , CSci 5551 or #	Provisional Approval after changes made
CSci 5980	Special Topics in Computer Science		New Topic: Natural Language Processing, 3 cr, A-F grade base, SP: CSci 5511 and CSci 5512W or #	Approved 9/19/03
EE 4111	Advanced Analog Electronics Design	Old Title: Analog Electronics Design With Operational Amplifiers Descript: Characteristics of operational amplifiers. Applications of operational amplifiers, including A/D and D/A converters. Compensation of operational amplifiers. Power amplifiers. Semiconductor controlled rectifiers, applications. Linear/switching voltage regulators.	New Title: Advanced Analog Electronics Design Descript: Basic integrated circuit building blocks of differential amplifiers, high bandwidth & instrumentation amplifiers. Current & voltage references. Feedback, stability & noise in electronic circuits. Integral laboratory.	Approved
EE 4601	Electromagnetics for RF Engineering and Optics		Delete Course Note: will be replaced by portions of EE 5601, 5602 and 5605	Approved
EE 5141	Introduction to Microsystem Technology	Old Title: Integrated Sensors and Transducers	New Title: Introduction to Microsystem Technology	Approved. Prov. Approval 9/19/03

Course	Title	Current	Proposed	Approved/ Comments
EE 5501	Digital Communication	Ugrad	Grad	Approved
Geo 4401	Aqueous Environmental Geochemistry	Geo 5301	Geo 4401 Comment: better suited at 4xxx level	Approved
Geo 5353	Electron Microprobe Theory and Practice	SP: 2301, one yr chem and physics or	SP: one yr chem and physics or #	Approved
Math 4090	Calculus Refresher		New Course: 4 cr, A-F Grade Opt., Lect. For students who wish to review their first-year calculus. Functions of one variable. Limits. Differentiation and integration of functions of one variable. Some applications, including max-min, related rates, volume and surface area of solids of revolution. Vectors and curves in the plane and in space.	Approved. Change number to 4005. Make SP: dept. approval
ME 5080	Topics in Mechanical Engineering		New topic: 4 cr; Energy: Technology, Resources and Society, Fall 2003 (Kulacki, instructor)	Approved
MatS 5223W	Polymer Laboratory	SP: 5221 or Chem 5221 or 8221 or #	SP: 4214 or 5221 or ChEn 4214 or Chem 5221 or 8221 or # Note: equiv Chem 5223W	Approved
Phys 1201W, 1202W	Introductory Physics for Biology and Pre-medicine I, II	Old Title: Introductory Physics for Pre-Medicine and Biology I, II	New Title: Introductory Physics for Biology and Pre-medicine I, II	Approved
Phys 5024	Introduction to Electric and Magnetic Fields -- Transitional Course		Delete Course:	Approved