Minutes of the I.T. Curriculum Committee
September 18, 2006

Present: J. Carlis (CSCI), C. Clanton (BAE [now BBE]), C. Cramer (Chem), D. Frank (Math&Chair), P. Hudleston (ITSA), T.J. Jones (Astro), William Kuduk(ITSB), J. Labuz (CE), R.V. Morey(BAE [now BBE]), D. Odde(BMEn), A. Pineles (ITLD), S. Ramaswamy (BP [now BBE]), S. Rudaz (Phys), T. Shield (AEM), D. Shores(CEMS), J. Stout (Geo), U. Tschirner (BP [now BBE])

1) Minutes of April 24, 2006 were APPROVED.
2) Actions on courses were taken; see chart below.
3) Program Change: Bioproducts & Biosystems Engineering (from Shri Ramaswamy)
   Combination of Biosystems & Agricultural Engineering and Biobased-products Engineering baccalaureate programs into a single program, with different tracks/options. See Attachments.
   Discussed and APPROVED.
   NOTE that as result of this change all courses which formerly had designators BAE and BP will be designated BBE starting Spring 2007.

Agenda For Sept. 18, 2006 IT Curriculum Committee Meeting

(shaded items for information only)

In red – comments from a previous meeting or provisional approval

CP = Catalog Prerequisite
EP = Enforced Prerequisite

Course	Title	Current	Proposed	Approved/ Comments
Ast 4101	Computational Methods in the Physical Sciences	Short Title: Computational Phys; Lect + Lab; CP: upper div CLA or upper div IT or grad or #; Equiv: none	Title: Computational Methods; Lect only; CP: upper div or grad or #; Equiv: Phys 5042	Tabled. Should the number of the course be 4042?

Course	Title	Current	Proposed	Approved/ Comments
BAE 4023	Process Control and Instrumentation	Title: Instrumentation and Control for Biological Systems CP: EE 3005 or & EE 3005, Stat 3021, upper div IT EP: IT upper division	Title: Process Control and Instrumentation CP: upper div IT or grad EP: upper division IT or grad	Approved 9/18/06 (in ECAS 10/27/06)
BAE 4713	Biological Process Engineering	Title: Bioprocess Engineering Fermentation/separation as applied to biological systems. Product recovery in bioproduct technology. Topics in bioremediation. Modeling of separation processes in biological systems. CP: [4013 or &4013], upper div IT	Title: Biological Process Engineering Material & energy balances, fluid flow & mixing, heat & mass transfer, and homogeneous reactions pertaining to bioprocess engineering and biological systems, fermentation engineering and reactor design fundamentals, and unit operations such as filtration, centrifugation, separation, absorption, extraction and chromatography. Applications of these principles in various biological systems, biorefining, and conversion of biomass into bioenergy, biochemicals, and biomaterials. CP: [4013 or &4013], BP 3033 upper div IT	Approved 9/18/06 (in ECAS 10/27/06)
BMEn 5910	Special Topics in Biomedical Engineering	1-4 cr (repeatable up to 4 cr)	2 cr (repeatable up to 4 cr)	Withdrawn
BP 1001	Bioproducts and Biosystems Engineering Orientation	Title: Bio-based Products Orientation, 1 cr Introduction to professions/careers related to bio-based products. One half-day field trip required.	Title: Bioproducts and Biosystems Engineering Orientation, 1 cr Introduction to the academic programs and careers related to bioproducts and biosystems engineering. Field trip required.	Approved 9/18/06 (in ECAS 10/27/06)
BP 3001	Mechanics and Structural Design	Title: Statics, Mechanics, and Structural Design, 4 cr Fundamental statics and engineering principles of structural materials. Safe/efficient engineering design skills. Emphasizes structural bio-based products. CP: General physics, algebra, trigonometry	Title: Mechanics and Structural Design, 4 cr The class provides students with a fundamental understanding of statics, dynamics, and principles of structural design. Through class examples, assignments and laboratory exercises, students will learn design techniques for individual components including trusses, beams, columns, using conventional lumber products, engineered wood products, and steel. CP: Math 1272 or Math 1372, Phys 1101 or Phys 1301	Approved 9/18/06 (in ECAS 10/27/06)
BP 3033	Material and Energy Balances in Biological Systems		New Course: 3 cr; Lect, Grade Base: A-F or Audit. Basic principles of materials and energy balances and their applications in biological systems. CP: Math 1272 or Math 1372, Phys 1302, Chem 1022 3 contact hrs, Offered every fall	Approved 9/18/06 (in ECAS 10/27/06)

Course	Title	Current	Proposed	Approved/ Comments
BP 4303	Introduction to Bio-Based Materials Science	Title: Bio-Based Materials Science, 3 cr, Grade Base: Stdnt Opt CP: Chem 3501, [jr or sr or #] EP: Jr or Sr	Title: Introduction to Bio-Based Materials Science, 3 cr, Grade Base: A-F or Audit. CP: BP 3001 EP: None	Approved 9/18/06 (in ECAS 10/27/06)
BP 4401	Bioproducts Engineering	Title: Bio-based Products Engineering, 4 cr Unit operations of bio-based products engineering/manufacture. CP: ChEn 4001, CE 3502, [jr or sr or #] 4 contact hrs,	Title: Bioproducts Engineering, 3 cr Unit operations of bioproducts engineering/manufacture. CP: BP 3033, CE 3502, UD or # 3 contact hrs,	Approved 9/18/06 (in ECAS 10/27/06)
BP 4502W	BBE Capstone Design	Title: Process and Product Design II, 3 cr, Grade Base: Stdnt Opt 3 contact hrs,	Title: BBE Capstone Design, 4 cr, Grade Base: A-F or Audit. 4 contact hrs	Approved 9/18/06 (in ECAS 10/27/06)
BP 5303	Introduction to Bio-Based Materials Science	Title: Bio-Based Materials Science	Title: Introduction to Bio-Based Materials Science Note: not one of courses in new BBE curriculum How does this differ from BP 4303?	Left for Dec mtg.
BP 5401	Bioproducts Engineering	Title: Bio-based Products Engineering, 4 cr Unit operations of bio-based products engineering/manufacture. CP: ChEn 4001, CE 3502, [jr or sr or #] 4 contact hrs,	Title: Bioproducts Engineering, 3 cr Unit operations of bioproducts engineering/manufacture. CP: BP 3033, CE 3502, UD or # 3 contact hrs, How does this differ from BP 4401?	Left for Dec mtg.
CE 4231	Principles of Pavement Design	Title: Pavement Engineering	Title: Principles of Pavement Design	Approved
CE 4311	Rock Mechanics	Equiv: None	Equiv: GeoE 4311	Approved
CE 5212	Transportation Policy, Planning, and Deployment	3 cr, 3 contact hrs, offered every other (even) year	4 cr, 4 contact hrs, offered every fall Note: Should this be spring, rather than fall?	Approved
CE 5214	Transportation Systems Analysis	3 cr, 3 contact hrs	4 cr, 4 contact hrs, offered every fall	Approved
ChEn 4011	Material and Energy Balances		Offer in Summer 2007	For info.

Course	Title	Current	Proposed	Approved/ Comments
CSci 5125	Collaborative and Social Computing		New Course: 3 cr, Lect. Grade Base: Stdnt Opt An introduction to computer-supported cooperative work and social computing. Covers technology, research methods, theory, and case studies of group computing systems. Course includes substantial readings and assignments to gain hands-on experience. CP: CSci 5115 or instructor's consent Offered every other spring	Approved
EE 4743	Switch-Mode Power Electronics Laboratory	2 cr	1 cr Note: this is correcting an error. Course is intended for and is being offered at 1 cr.	For info
Geo 3002	Climate Change and Human History	Equiv: None, 4 contact hrs	Equiv: Geo 5002, 3 contact hrs	Approved
Geo 5002	Climate Change and Human History	THIS CAN BE IGNORED: Inactive: Title: Earth History for Teachers, 4 cr, Lec, Lab (graded section) Evolution of life on Earth. Interrelationships of plate tectonism, climate change, and organic evolution leading to present ecosystem. Impact of hominid evolution on Earth systems and geological processes on human society. Required project designed to enhance ability to teach Earth history to K-12 students. CCE dscrpt: Introduction to the history of the Earth and its life with an emphasis on the last 600 million years of physical and biological evolution. Students will be required to complete a project designed to enhance their ability to teach Earth History to K-12 students 5 contact hrs CP: ed degree EP: Exclude fr or soph 5000 level courses Equiv: Geo 1002/1102/5002	Active: Title: Climate Change and Human History, 3 cr, Lec, Dis (graded section) Causes of long-/short-term climate change. Frequency/magnitude of past climate changes; their geologic records. Relationship of past climate changes to development of agrarian societies and to shifts in power among kingdoms/city-states. Emphasizes last 10,000 years. CCE dscrpt: As above. 3 contact hrs, Offered every other spring CP: GEO 1001 or equivalent or instructor permission EP: None Equiv: Geo 3002 Note: The difference between 3002 and 5002 will consist of a 20-minute in-class presentation (apart from the end-of-the-term poster presentation) of a reading assignment, and higher expectation for the quality of the term paper. Note: CEE program for teachers no longer exists and using this course number to correspond with its equivalent course helps with consistency Note: 3002 meets CLE Env theme, 5002 meets no CLE requirement.	The course number should be 5102. This is a new course. Approved.
Geo 5353	Electron Microprobe Theory and Practice	2-3 cr, Comp 1 Lab, Comp 2 Lect (w final)	3 cr, Comp 1 Lect (w final), Comp 2 Lab Note: Change to 3 credits only with required lab section	Approved

Course	Title	Current	Proposed	Approved/ Comments
GeoE 4311	Rock Mechanics	Title: Rock Mechanics II, 3 cr Failure mechanisms in rock masses. Elasto-plastic solutions applied to underground excavations. Design of linings and support systems; rock-support interaction. In situ stresses and excavation shape. Instrumentation and monitoring. CP: Upper division or grad student in IT, 3311, CE 3311, or # Equiv: CE/GeoE 4311 3 contact hrs	Title: Rock Mechanics, 4 cr, Site investigation and classification. In-situ stresses. Strength and failure criteria of rock and interfaces. Stereographic projections. Kinematic analysis of rock slopes. Block size and stability; reinforcement. Methods of stress analysis. Pillar design and stiffness effects. Elastoplastic analysis; rock-support interaction. Numerical modeling of support systems. Laboratory testing of rock. CP: Upper division or grad student in IT, CE/GeoE 3301 or # Equiv: None 4 contact hrs, Offered every spring	Approved
GeoE 3311	Rock Mechanics I	Active	Inactive	Deleted from Agenda
IE 5541	Project Management	Project screening/selection, multiple-criteria methods for project evaluation, project structuring/work breakdown, project teams, project scheduling, resource management, life-cycle costing, project control, project termination, research/development projects, computer support for project management.	This course is intended to provide an introduction to engineering project management. Its objective is to expose students to analytical methods of selecting, organizing, budgeting, scheduling, and controlling projects, including risk management, team leadership, and program management.	Approved. Edit description.
IE 5553	Simulation	Discrete event simulation. Using integrated simulation/animation environment to create, analyze, and evaluate realistic models for various manufacturing, assembly, and material handling systems. Experimental design for simulation. Random number generation. Selecting input distributions. Evaluating simulation output. CP: CNR or upper div or grad student EP: upper div or grad student	Discrete event simulation. Using integrated simulation/animation environment to create, analyze, and evaluate realistic models for use in various industry settings, including manufacturing and service operations and systems engineering. Experimental design for simulation. Selecting input distributions, evaluating simulation output. CP: Upper div or grad student; some familiarity with probability and statistics is desirable. EP: IT upper div or grad student	Approved.
Math 1001	Excursions in Mathematics	3 cr, 4 contact hrs / week	4 cr, 5 contact hrs / week	Tabled again. Tabled 4/24/06
Math 1031	College Algebra and Probability	3 cr, 4 contact hrs / week	4 cr, 5 contact hrs / week	Tabled again. Tabled 4/24/06
Math 1051	Precalculus I	3 cr, 4 contact hrs / week	4 cr, 5 contact hrs / week	Tabled again. Tabled 4/24/06

Course	Title	Current	Proposed	Approved/ Comments
Math 1151	Precalculus II	3 cr, 4 contact hrs / week	4 cr, 5 contact hrs / week	Tabled again. Tabled 4/24/06
Math 4653	Elementary Probability	CP: [2263 or 2374 or 2573]; [2283 or 2574 or 3283] recommended	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	Approved
Math 4707	Introduction to Combinatorics and Graph Theory	CP: 2243, [2283 or 3283]; Credit will not be granted if credit has been received for: 5705, 5707	CP: 2243, [2283 or 3283]; Credit will not be granted if credit has been received for: 5705 or 5707	Approved
Math 5447	Theoretical Neuroscience		New Course: 4 cr; Lect, Grade Base: Stdnt Opt, Nonlinear dynamical system models of neurons and neuronal networks. Computation by excitatory and inhibitory networks. Neural oscillations, adaptation, bursting, and synchrony. Memory systems. CP: 2243 or 2373 or 2574 3 contact hrs, Offered every fall	Tabled again. Tabled 4/24/06
Math 5651	Basic Theory of Probability and Statistics		Changes?	Deleted from agenda
ME 2011	Introduction to Engineering	CP: IT lower div EP: IT lower division	CP: IT lower division and IT lower division honors EP: IT lower division and IT lower division honors	Approved
Phys 1102W	Introductory College Physics II	CP: 1101; primarily for students interested in technical areas	CP: 1101W or 1107; primarily for students interested in technical areas	Approved
Phys 3201	Statistical and Thermal Physics		New Course: 3 cr, Grade Base: Stdnt Opt, Lect only Principles of thermodynamics and statistical mechanics. Selected applications such as kinetic theory, transport theory, phase transitions CP: 2601 Equiv: Phys 4201/5201 Ed Note: 3XXX level is more appropriate number, allowing students to enroll earlier in their undergrad career. The course is not intended for graduate students	Tabled again. Tabled at 12/5/05 mtg. Approved at 1/30/06 mtg, but await final confirmation from department Re-tabled 4/24/06

Course	Title	Current	Proposed	Approved/ Comments
Phys 4201	Statistical and Thermal Physics	Active	Inactive Note: 4201 replaced by 3201 effective fall, 06	Tabled again. Tabled at 12/5/05 mtg Note added 1/27/06. Not to be deactivated at this time Re-tabled 4/24/06
Phys 5041	Mathematical Methods for Physics	Title: Analytical and Numerical Methods of Physics I Survey of mathematical techniques, both analytic and numerical, needed for physics. Application to physical problems. CP: 2601 or grad student EP: None	Title: Mathematical Methods for Physics Survey of mathematical techniques needed in the analysis of physical problems, with an emphasis on analytical methods. CP: 2601 or grad student EP: Exclude fr or soph 5000 level courses	At meeting this was approved, but on 9/26 Dean Hudleston requested that this proposal should be considered as tabled, since 5041 and 5042 are a package.
Phys 5042	Mathematical Methods for Physics	Title: Analytical and Numerical Methods of Physics II Survey of mathematical techniques, both analytic and numerical, needed for physics. Application to physical problems. Lec (final) CP: 5041 or # Equiv: none	Title: Computational Methods in the Physical Sciences Survey of numerical and computational techniques, as applied to the solution of physical and astrophysical problems. Arranged lab. Lec (no final) CP: upper div or grad or # Equiv: Credit will not be granted if credit has been received for: Ast 4101; Note: Title changed to more accurately reflect content. Equivalencies changed to allow concurrent course w/Ast 4101.	Tabled. See AST above. There is a 4xxx-5xxx numbering problem here.