Department of Industrial Engineering

Memorandum

To: College of Engineering Undergraduate Affairs Committee  
From: Hamid Parsaei  
Date: September 25, 2006  
Subject: Technical Elective Courses

The departmental faculty has selected the MATH 3336 (Discrete Mathematics), MATH 3333 (Intermediate Analysis), MANA 3335 (Introduction to Organization Behavior and Management), and DISC 3370 (Information Systems Development Tools) as approved technical elective courses. Other technical course must approve in advance by Industrial Engineering departmental advisor. Detailed description of each course from the UH undergraduate category are attached.

The note ¹¹ on the page 158 (see attachment) of the UH undergraduate category should change as the following:

¹¹Approved technical courses are MATH 3336, MATH 3333, MANA 3335, and DISC 3370. Other technical course must approve in advance by Industrial Engineering departmental advisor.

approved

[Signature]

10/5/06
Proposed Technical Elective Courses
For the IE Degree Plan
(Effective Fall 2007)

MATH 3336: Discrete Mathematics
Cr. 3. (3-0). Prerequisite: MATH 2431 or equivalent. Topics selected from logic, set theory, combinatorics, and graph theory.

MATH 3333: Intermediate Analysis
Cr. 3. (3-0). Prerequisite: MATH 2433. Properties of real number system, properties of continuous functions, and sequences of functions.

MANA 3335: Introduction to Organizational Behavior and Management
Cr. 3. (3-0). Prerequisite: junior standing. Credit for both MANA 3335 and 3333:3334 cannot be applied toward a degree. General management functions and the role of individual, group, and organizational behavior in the management process.

DISC 3370: Information Systems Development Tools
Cr. 3. (3-0). Prerequisites: DISC 2373 or COSC 2410 and major or minor in MIS or major in Computer Science (business option). Survey of development options in commercial application systems, including structured methods and programming tools.
Students must earn a 2.25 grade point average in all courses and INDE major courses in order to enroll in 3000-level and above INDE courses. The major course point average of 2.25 must be maintained at all times until the last semester before graduation. If a student does not meet this major course point average, he/she is placed on engineering major probation. If in a succeeding semester, while on probation, the student does not meet the 2.25 course point average, he/she is placed on engineering course suspension. Students on major suspension are not allowed to take engineering courses during the semester of suspension. The major course point average is calculated using all INDE courses.

The number of attempts of an INDE course is limited to two. Attempt is defined as formal registration that results in a student receiving a letter grade, including grades of Q, U, W, and I.

First Year

Fall Semester

CHEME 1372. Fundamentals of Chemistry for Engineers

CHEM 1117. Fundamentals of Chemistry for Engineers Laboratory I

ENG1 303. Freshman Composition I

Hist 1376 or 1377. The United States to 1877

Math 1431. Calculus I

Humanties Core Course

Total

Spring Semester

INDE 1331. Computing for Engineers

ENG1 1104. Freshman Composition II

Hist 1378 or 1379. The United States Since 1877

Math 1432. Calculus II

Phys 1321. University Physics I

Total

Second Year

Fall Semester

INDE 2333. Engineering Statistics I

INDE 3330. Industrial Cost Systems

Math 2433. Calculus III

Phys 1522. University Physics II

POLS 1336. U.S. and Texas Constitutions and Politics I

Total

Spring Semester

MNEE 3400. Introduction to Mechanics

INDE 2331. Computer Applications for Industrial Engineering

INDE 3333. Engineering Economy I

POLS 1337. U.S. Government: Congress, President, and Courts II

Math 3221. Engineering Math

Total

Third Year

Fall Semester

INDE 3310. Statistical Process Quality, Control and Improvement

INDE 3364. Engineering Statistics II

INDE 3382. Stochastic Models

INDE 3432. Manufacturing Processes

Visual and Performing Arts Course

Total

Fourth Year

Fall Semester

INDE 3320. Computer-Integrated Manufacturing

INDE 3370. Discrete Event Simulation

INDE 4111. Industrial Engineering Seminar

INDE 4237. Human Factors and Ergonomics

Elect 2334. Thermodynamics

Social Sciences Core Course

Total

Spring Semester

INDE 3381. Linear Optimization

INDE 4334. Engineering Systems Design

INDE 4369. Facilities Planning and Design

INDE 4372. Operations Control

Technical Elective

Total

Degree Total

Industrial Engineering Degree Program for Other UH Engineering Graduates

Students who have completed a Bachelor of Science at the University of Houston in another field of engineering may obtain a Bachelor of Science in Industrial Engineering degree by completing, at the University of Houston, the additional year of course work shown below. Required prerequisites for this program are INDE 2333 and 3333, in addition to those courses required for the first degree.

INDE 3330. Industrial Cost Systems

INDE 3332. Computer Aided Design/Manufacturing

INDE 3334. Engineering Statistics II

INDE 3382. Stochastic Models

INDE 3381. Linear Optimization

INDE 3432. Manufacturing Processes

INDE 4331. Analysis of Industrial Activities

INDE 4369. Facilities Planning and Design

INDE 4372. Operations Control

Technical Elective

Total for Degree

Courses: Industrial Engineering (INDE)

1331: Computing for Engineers (also CHEME 1331, CIVE 1331) Cr. 3. (2-2). Prerequisites: Math 1431. Credit may not be received for more than one of CHEME 1331, CIVE 1331 and INDE 1331. Introduction to the computing environment; matrix arithmetic; programming essentials; spreadsheets; symbolic algebra tools; solution of typical engineering problems using computer tools.

2331: Computer Applications for Industrial Engineering Cr. 3. (3-0). Prerequisite: INDE 1331. Structured programming in Visual Basic with numerical analysis applications in industrial engineering. Introduction to computer aided drafting software.

2332: Engineering Statistics II Cr. 3. (3-0). Prerequisite: Math 1432. Probability and statistical inference for engineering applications; probability distributions, estimation, statistical tests, and reliability theory.