Sent 4/4/05

Engineering Faculty Document No. 9-04
February 8, 2005

To: Faculty of the College of Engineering

From: Faculty of the School of Chemical Engineering

Subject: Curriculum Change

The faculty of the School of Chemical Engineering has approved the following change and submits it for your approval.

New requirements: The change indicated below changes the math sequence of classes. MA 265 and MA 266 will be replaced by MA 262 and the addition of MA 303. The change will not affect the total credit hours required for graduation (131). To make room for these courses, two free elective credits have been removed. These requirements will affect Chemical Engineering majors entering the Department of Engineering Education in the fall of 2005.

Reasons: The proposed changes in the math requirements serve to increase the scope of calculus based concepts to which Chemical Engineering students are exposed and to include more advanced background in ordinary and especially partial differential equations. Important math concepts not taught previously within the old math requirements and which are needed in the junior and senior level CHE core courses will now be covered. Also, the new math requirements, by extending through the fifth semester, will better complement and reinforce the applied math skills required in various Chemical Engineering core courses.

Present **Proposed**

FRESHMAN YEAR

First Semester

(4)	CHM	123 or 115[a] Gen. Chemistry
(4)	ENGL	106 or 108 (3) English Comp I
(1)	ENGR	100 Freshman Engr Lec
(2)	ENGR	106 Intro to Computer
(4)	MA	165 or 161[b] Geom & Calc I
(3)	Elective[d]	

17 or 18

Second Semester

(4)	CHM	124 or 116[a] Gen. Chemistry
(3)	COM	114 Fund. of Commun
(4)	MA	166 or 162 Geom & Calc II
(4)	PHYS	152 Mechanics
(2)	CS	156[c] C Programming

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APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE COMMITTEE ON
FACULTY RELATIONS

CFR Minutes 999

Date 2-8-05

Chairman CFR Robert E. Montgomery

Present				Proposed			
SOPHOMORE YEAR							
				Third Semester			
(0)	CHE	200	Chem Engr Seminar	(0)	CHE	200	Chem Engr Seminar
(3)	CHE	205[e]	Chemical Engr Calc	(3)	CHE	205[e]	Chemical Engr Calc
(3)	CHM	261	Organic Chemistry I	(3)	CHM	261	Organic Chemistry I
(1)	CHM	263	Organic Chem Lab I	(1)	CHM	263	Organic Chem Lab I
(4)	MA	261	Multivariate Calculus	(4)	MA	261	Multivariate Calculus
(3)	MA	265	Linear Algebra	(3)	PHYS	241	Electricity & Optics
(3)	ELECTIVE			(3)	ELECTIVE		
17				17			
				Fourth Semester			
(3)	CHE	211	Chem Engr Thermo	(3)	CHE	211	Chem Engr. Thermo
(3)	CHE	320	Statistical Modeling	(3)	CHE	320	Statistical Modeling
(3)	CHM	262	Organic Chemistry II	(3)	CHM	262	Organic Chemistry II
(1)	CHM	264	Organic Chm Lab II	(1)	CHM	264	Organic Chm Lab II
(3)	MA	266	Differential Equations	(4)	MA	262	Linear Algebra and Differential Equations
(3)	PHYS	241	Electricity & Optics	(3)	ELECTIVE		
16				17			
JUNIOR YEAR							
				Fifth Semester			
(3)	CHE	306	Staged Separations	(3)	CHE	306	Staged Separations
(3)	CHE	377	Momentum Transfer	(3)	CHE	377	Momentum Transfer
(3)	CHM	370	Physical Chemistry	(3)	CHM	370	Physical Chemistry
(2)	CHM	376	Physical Chem Lab	(2)	CHM	376	Physical Chem Lab
(3)	BIOL	295E	(or equivalent)	(3)	BIOL	295E	(or equivalent)
(3)	ELECTIVE			(3)	MA	303	Differential Equations for Engineering and the Sciences
17				17			
				Sixth Semester			
(0)	CHE	300	Chem Engr Seminar	(0)	CHE	300	Chem Engr Seminar
(3)	I E	343	Engr Cost Analysis	(3)	I E	343	Engr Cost Analysis
(3)	CHE	330	Prin of Molec Engr	(3)	CHE	330	Prin of Molec Engr
(3)	CHE	348	Chem Reaction Engr	(3)	CHE	348	Chem Reaction Engr
(3)	CHE	378	Heat & Mass Transfr	(3)	CHE	378	Heat & Mass Transfr
(5)	ELECTIVES			(4)	ELECTIVES		
17				16			
SENIOR YEAR							
				Seventh Semester			
(0)	CHE	400	Chem Engr Seminar				
(3)	CHE	434	Chemical Engr Lab I				
(3)	CHE	456	Process Dyn & C'trol				
(9)	ELECTIVES						
15							

Present **Proposed**

Eighth Semester

(3)	CHE	435	Chem Engr Lab II
(3)	CHE	450	Design...Process Sys
(9)	ELECTIVES		
15			

Footnotes:

Present

[a] ChE prefers that students take the CHM 123/124 sequence. Students who have taken CHM 115/116 will also be accepted into the School of Chemical Engineering.

[b] The MA 165/166 (4 cr. each) sequence is preferred; however, the MA161/162 (5 cr. each) sequence may be taken. If MA 161 and/or 162 is taken, these courses will be accepted as only 4 credit hours each toward meeting the graduation requirements for ChE.

[c] C Programming is preferred by ChE; however, FORTRAN will be accepted. If CS 158 or ENGR 115 (both 3 cr. each) are taken, the extra credit may be used toward meeting the "free" or "technical" elective requirements.

[d] A general education elective is suggested in this semester.

e A "C" or better must be earned in CHE 205 to continue to enroll in CHE courses.

Proposed

[a] ChE prefers that students take the CHM 123/124 sequence. Students who have taken CHM 115/116 will also be accepted into the School of Chemical Engineering.

[b] The MA 165/166 (4 cr. each) sequence is preferred; however, the MA161/162 (5 cr. each) sequence may be taken. If MA 161 and/or 162 is taken, these courses will be accepted as only 4 credit hours each toward meeting the graduation requirements for ChE.

[c] C Programming is preferred by ChE; however, FORTRAN will be accepted. If CS 154, CS 158 or ENGR 117 (3 cr. each) are taken, the extra credit may be used toward meeting the "free" elective requirements.

[d] A general education elective is suggested in this semester.

e A "C" or better must be earned in CHE 205 to continue to enroll in CHE courses.

Present

†The 33 credit hours of elective courses are to be selected by the student in consultation with his or her undergraduate counselor to best fulfill the objectives of the individual student's program (see options on page 37). Broadly speaking, the elective program consists of 3 credit hours of technical electives, 9 credit hours of engineering electives, 18 credit hours of general education electives, and 3 credit hours of unrestricted electives. The specifics of this program are outlined on planning sheets provided by the undergraduate office to all students entering the school.

Proposed

†The 31 credit hours of elective courses are to be selected by the student in consultation with his or her undergraduate counselor to best fulfill the objectives of the individual student's program (see options on page 37). Broadly speaking, the elective program consists of 3 credit hours of technical electives, 9 credit hours of engineering electives, 18 credit hours of general education electives, and 1 credit hours of unrestricted electives. The specifics of this program are outlined on planning sheets provided by the undergraduate office to all students entering the school.

A. Varma, Head
School of Chemical Engineering
Date: 2/8/05