

To: The Faculty of the College of Engineering

From: The 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

(no change)

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
 17

(no change)

Present**Proposed****SOPHOMORE YEAR**Third Semester

(0)	CHE	200	Chem Engr Seminar
(3)	CHE	205 ^e	Chemical Engr Calc
(3)	CHM	261	Organic Chemistry I
(1)	CHM	263	Organic Chem Lab I
(4)	MA	261	Multivariate Calculus
(3)	MA	265	Linear Algebra
(3)	ELECTIVE		
17			

(0)	CHE	200	Chem Engr Seminar
(3)	CHE	205 ^e	Chemical Engr Calc
(3)	CHM	261	Organic Chemistry I
(1)	CHM	263	Organic Chem Lab I
(4)	MA	261	Multivariate Calculus
(3)	PHYS	241	Electricity & Optics
(3)	ELECTIVE		
17			

Fourth Semester

(3)	CHE	211	Chem Engr Thermo
(3)	CHE	320	Statistical Modeling
(3)	CHM	262	Organic Chemistry II
(1)	CHM	264	Organic Chm Lab II
(3)	MA	266	Differential Equations
(3)	PHYS	241	Electricity & Optics
16			

(3)	CHE	211	Chem Engr. Thermo
(3)	CHE	320	Statistical Modeling
(3)	CHM	262	Organic Chemistry II
(1)	CHM	264	Organic Chm Lab II
(4)	MA	262	Linear Algebra and Differential Equations
(3)	ELECTIVE		
17			

JUNIOR YEARFifth Semester

(3)	CHE	306	Staged Separations
(3)	CHE	377	Momentum Transfer
(3)	CHM	370	Physical Chemistry
(2)	CHM	376	Physical Chem Lab
(3)	BIOL	295E	(or equivalent)
(3)	ELECTIVE		
17			

(3)	CHE	306	Staged Separations
(3)	CHE	377	Momentum Transfer
(3)	CHM	370	Physical Chemistry
(2)	CHM	376	Physical Chem Lab
(3)	BIOL	295E	(or equivalent)
(3)	MA	303	Differential Equations for Engineering and the Sciences
17			

Sixth Semester

(0)	CHE	300	Chem Engr Seminar
(3)	I E	343	Engr Cost Analysis
(3)	CHE	330	Prin of Molec Engr
(3)	CHE	348	Chem Reaction Engr
(3)	CHE	378	Heat & Mass Transfr
(5)	ELECTIVES		
17			

(0)	CHE	300	Chem Engr Seminar
(3)	I E	343	Engr Cost Analysis
(3)	CHE	330	Prin of Molec Engr
(3)	CHE	348	Chem Reaction Engr
(3)	CHE	378	Heat & Mass Transfr
(4)	ELECTIVES		
16			

SENIOR YEARSeventh 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

(no change)

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