

To: The Faculty of the College of Engineering

From: The Faculty of the School of Chemical Engineering

Re: Curriculum Change for the B.S. degree in Chemical Engineering

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 alters the senior year sequence of classes. CHE 44900 will be removed from the curriculum. In light of the removal of these three credit hours, the following changes will be made to accommodate the three hours elsewhere. CHE 45000 will increase by 2 credit hours becoming a 4 credit hour course. The remaining credit hour will be removed from the curriculum lowering the graduation requirement of the School of CHE to 130 credit hours. These new requirements will be effective for current Chemical Engineering juniors (all students graduating in May 2012 or after).

Reasons: The change is proposed in response to the Dean's Curriculum Challenge. In reviewing the curriculum, it was found that the recent decision to incorporate 5 credit hours of senior design coursework split over a two semester sequence causes an additional teaching burden on the faculty of the School of CHE. The needed material can instead be taught just as effectively in a one semester 4 credit hour course, thereby eliminating 1 instructor need each fall semester. As 44900 is a newly required course that has not yet been offered (which was planned to be incorporated into the curriculum in the fall 2011 semester), we request this change be made effective immediately (to avoid the additional teaching burden). Furthermore, the removal of the additional credit will reduce the graduation requirements of the School of CHE to 130 credit hours.

| Present | Proposed |
|---|-----------|
| FRESHMAN YEAR (First Year Engineering) | |
| <u>First Semester</u> | |
| (4) CHM 12300 or 11500 ^a Gen. Chemistry | |
| (4) ENGL 10600 or 10800 (3) ^b English Comp | no change |
| (2) ENGR 13100 Transforming Ideas To Innovation I | |
| (4) MA 16500 or 16100 ^c Geom & Calc I | |
| 14 | |
| <u>Second Semester</u> | |
| (4) CHM 12400 or 11600 Gen. Chemistry | |
| (3) COM 11400 Fund. of Commun | |
| (4) MA 16600 or 16200 Geom & Calc II | |
| (2) ENGR 13200 Transforming Ideas To Innovation II | no change |
| (4) PHYS 17200 Mechanics | |
| 17 | |

Present

Proposed

SOPHOMORE YEAR

Third Semester

| | | | |
|-----|-----------------|--------------------|----------------------|
| (0) | CHE | 20000 | Chem Engr Seminar |
| (4) | CHE | 20500 ^d | Chemical Engr Calc |
| (3) | CHM | 26100 | Organic Chemistry I |
| (1) | CHM | 26300 | Organic Chem Lab I |
| (4) | MA | 26100 | Multivar Calculus |
| (3) | PHYS | 24100 | Electricity & Optics |
| (3) | Gen-Ed Elective | | |
| 18 | | | |

no change

Fourth Semester

| | | | |
|-----|-----------------|-------|--------------------------|
| (4) | CHE | 21100 | Chem Engr Thermo |
| (3) | CHE | 32000 | Statistical Modeling |
| (3) | CHM | 26200 | Organic Chemistry II |
| (1) | CHM | 26400 | Organic Chm Lab II |
| (4) | MA | 26200 | Liner Algebra & Diff Eq. |
| (3) | Gen-Ed Elective | | |
| 18 | | | |

| | | | |
|-----|-----|-------|--------------------------|
| (4) | CHE | 21100 | Chem Engr Thermo |
| (3) | CHE | 32000 | Statistical Modeling |
| (3) | CHM | 26200 | Organic Chemistry II |
| (1) | CHM | 26400 | Organic Chm Lab II |
| (4) | MA | 26200 | Liner Algebra & Diff Eq. |
| 15 | | | |

JUNIOR YEAR

Fifth Semester

| | | | |
|-----|------|-------|----------------------------|
| (3) | CHE | 30600 | Staged Separations |
| (4) | CHE | 37700 | Momentum Transfer |
| (3) | CHM | 37000 | Physical Chemistry |
| (3) | BIOL | 23000 | Biology of the Living Cell |
| (3) | MA | 30300 | Diff Eqs for Engr |
| 16 | | | |

no change

Sixth Semester

| | | | |
|-----|----------------------|-------|---------------------|
| (0) | CHE | 30000 | Chem Engr Seminar |
| (3) | CHE | 33000 | Prin of Molec Engr |
| (4) | CHE | 34800 | Chem Reaction Engr |
| (4) | CHE | 37800 | Heat & Mass Transfr |
| (3) | Gen-Ed Elective | | |
| (3) | Engineering Elective | | |
| 17 | | | |

no change

SENIOR YEAR

Seventh Semester

| | | | |
|-----|--------------------|-------|------------------------|
| (1) | CHE | 40000 | Professional Guidance |
| (3) | CHE | 45600 | Process Dyn & C'trol |
| (3) | CHE | 44900 | Design + Cost Analysis |
| (3) | Gen-Ed Elective | | |
| (3) | CHE Elective | | |
| (3) | Technical Elective | | |
| 16 | | | |

| | | | |
|-----|-----------------|-------|-----------------------|
| (1) | CHE | 40000 | Professional Guidance |
| (4) | CHE | 43500 | Chem Engr Lab |
| (3) | CHE | 45600 | Process Dyn & C'trol |
| (3) | Gen-Ed Elective | | |
| (3) | Gen-Ed Elective | | |
| (3) | CHE Elective | | |
| 17 | | | |

Eighth Semester

| | | | |
|-----|-----------------|-------|----------------------|
| (2) | CHE | 45000 | Design...Process Sys |
| (4) | CHE | 43500 | Chem Engr Lab |
| (3) | CHE Elective | | |
| (3) | Gen-Ed Elective | | |
| (3) | Gen-Ed Elective | | |
| 16 | | | |

| | | | |
|-----|--------------------|-------|----------------------|
| (4) | CHE | 45000 | Design...Process Sys |
| (3) | CHE Elective | | |
| (3) | Technical Elective | | |
| (3) | Gen-Ed Elective | | |
| (3) | Gen-Ed Elective | | |
| 17 | | | |

Total: 131

Total: 130

Footnotes:

Present

- ^a ChE prefers that students take the CHM 12300/12400 sequence. Students who have taken CHM 11500/11600 will also be accepted into the School of Chemical Engineering.
- ^b Students who complete ENGL 10800 will need 1 free elective hour in addition to the stated requirements
- ^c The MA 16500/16600 (4 cr. each) sequence is preferred; however, the MA16100/16200 (5 cr. each) sequence may be taken. If MA 16100 and/or 16200 is taken, these courses will be accepted as only 4 credit hours each toward meeting the graduation requirements for ChE.
- ^d A "C" or better must be earned in CHE 20500 to continue to enroll in CHE courses.

Proposed

no change

A. Varma

A. Varma, Head
School of Chemical Engineering
12/5/10

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes # 10
Date 2/2/2011
Chairman ECC R. Cipra