



MEMORANDUM

To: Executive Committee of Faculty Council (September 19, 2014)
Faculty Council (October 8, 2014)

From: Dr. Graeme Norval
Chair, Undergraduate Curriculum Committee

Date: August 12, 2014

Re: Minor Curriculum Changes for the 2014-2015 Academic Year

REPORT CLASSIFICATION

This is a routine or minor policy matter that will be considered by the Executive Committee for approving and forwarding to Faculty Council for information.

BACKGROUND

The Undergraduate Curriculum Committee is tasked with managing the curriculum change process for the Faculty. This report summarizes the program course changes for the upcoming academic year

STRUCTURE

Several programs have requested to make curriculum changes for the upcoming academic year.

Chemical Engineering

Most of the courses in the program have no listed requisites. This is not an issue for most students, however, there are issues with student counseling, such as students getting into courses with significant overlap of material. This is exacerbated with exchange students who may get enrolled in courses that assume a background knowledge. There is no means to prevent students with failed courses from enrolling in subsequent courses, which only exacerbates their problems.

The addition of requisites is good practice. The four levels of requisites are exclusions, pre-requisites, co-requisites and recommended preparation.

The list of requisites is below.

Number	Title	Exclusions	Pre-requisites	Co-requisites	Recommended Preparation
CHE112F/S	Chemistry	APS104, CHM139, CHM151			
CHE220F	Inorganic Chemistry	CHM238		CHE204Y	CHE112, APS104 or equivalent
CHE204Y/F	2nd Year labs			CHE220F, CHE213S	
CHE208F	Process Engineering		MAT188		
CHE211F	Fluid Mechanics	CME270, MIE312			
CHE221F	Calculus/Num Methods	MAT235			
CHE249F	Economics	CME368, ECE472, CHE374, MIE258			
CHE323F	Thermodynamics	MIE210		CHE326F	
CHE326F	Thermodynamics and Kinetics labs			CHE323F, CHE332F	
CHE324F	Process Design				CHE208
CHE332F	Reaction Kinetics			CHE326F	
CHE353F	Eng Biology	BME205			
CHE430F	Plant Design	APS490	CHE249, CHE324, two of CHE311, CHE322, CHE333		
CHE562F	Chem Props of Polymers	CHM325, CHM426	CHE213, CHE391, or equivalent		
CHE374F	Economics	CME368, ECE472, CHE249, MIE258			
CHE391F	Org Chemistry	CHE213, CHM138, CHM151			
APS104F	Chem and Materials	CHE112, MSE101			
CHE213S	Org Chemistry	CHM138, CHM151, CHE391		CHE204Y	
CHE210S	Heat and Mass		CHE221F		

Number	Title	Exclusions	Pre-requisites	Co-requisites	Recommended Preparation
CHE222S	Diff Equations	MAT234, MAT244			
CHE223S	Statistics	BME225S, MIE231, STA220, STA221, STA255			
CHE230S	Environmental Chemistry				CHE112F/S, APS104S, or equivalent
CHE322S	Process Control				CHE222, or equivalent
CHE333S	Reaction Engineering				CHE222, or equivalent
CHE334S	Team Strategies			One of CHE311, CHE322, CHE333	
CHE354S	Cell and Mol Biology		CHE353		
CHE412S	Adv Reaction Engineering				CHE353
CHE469S	Fuel Cells	MIE517			
CHE488	Entrepreneurship	APS234, APS432, MIE488, MSE488, ECE488, CIV488			

Cross-Disciplinary Programs

It is proposed to add two electives to the list of allowable electives in the Bioengineering Minor. The course **HPS318 History of Medicine** is currently an approved HSS elective, and the course **PHL281 Bioethics** is currently an approved CS elective.

The interest in the Bioengineering Minor is waning. Further, it is difficult for students to complete the minor within their program due to timetabling issues. Both the Sustainable Energy and Environmental Engineering Minors have HSS or CS electives which can be counted towards the minor. The addition of these two non-technical electives will add flexibility to the students who wish to complete the Bioengineering Minor.

The following table presents the number of minors awarded at completion of the academic year.

Student Count as values	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bioengineering	48	51	63	83	56	44	44	28
Engineering Business	0	0	0	0	0	17	59	103
Sustainable Energy	0	0	0	27	75	79	79	71
Environmental Eng	0	0	0	54	34	43	34	20
Robotics/Mechatronics	0	0	0	0	0	10	25	40
Minor	48	51	79	177	176	201	245	266

The following table presents the number of students enrolled in the minors at the start of the academic year.

Student Count as values	09/10	10/11	11/12	12/13	13/14	14/15
Bioengineering	63	178	164	129	87	48
Engineering Business	0	0	0	273	388	468
Sustainable Energy	0	180	224	160	128	100
Environmental Eng	0	120	102	70	44	28
Robotics/Mechatronics	0	0	0	25	47	78
Minor	63	478	494	657	694	722

ILEAD

It is proposed to change the name of the course **APS343F/S “Foundations of Engineering Leadership”** to “Engineering Leadership”. The course is listed as two-hour lecture plus two hours of tutorial; it is proposed to define the tutorial as a Practical/Laboratory, which is more consistent with the definitions of the learning outcomes.

PROGRAM(S)

All relevant programs are involved in these changes, and the impact on students in the various programs has been considered.

PROCESS AND CONSULTATION

This proposal has been reviewed and approved by the Undergraduate Curriculum Committee, which is comprised of faculty representatives from each undergraduate program; undergraduate students; the Vice-Dean, Undergraduate Studies; the Chair of First Year; the Associate Dean, Cross-Disciplinary Programs; and the Registrar. The Committee meets regularly and reviews changes to the undergraduate curriculum.

RECOMMENDATION AND MOTION FOR FACULTY COUNCIL

For information.