



MEMORANDUM

To: Executive Committee of Faculty Council

From: Dr. Graeme Norval
Chair, Undergraduate Curriculum Committee

Date: August 17, 2012 for September 7, 2012 Faculty Council Meeting

Re: **New Course: Multidisciplinary Capstone Design - APS4XXY1Y**

REPORT CLASSIFICATION

This is a **minor policy matter** that will be considered by the Executive Committee for endorsing and forwarding to Faculty Council for vote as a regular motion (requiring a simple majority of members voting to carry).

BACKGROUND

The new FASE Multidisciplinary Capstone Design course is a mandated primary deliverable of the NSERC Chair in Multidisciplinary Design Engineering, Prof. Kamran Behdinan. Endorsed by the Dean and all engineering department chairs, it builds extensively on the innovative ESP and Praxis course offerings in first year, and aims to foster multidisciplinary capstone participation amongst students. The central focus of this deliverable is for multidisciplinary student teams to contribute directly to a multidisciplinary capstone project (MCP) while communicating with a broad spectrum of industry sectors and clients. With the implementation of this course, the number of MCPs will expectantly increase each year to reach more than 20 projects in year 5. Interested students from the participating departments may enroll in the course.

STRUCTURE

This is a “double weight course” offered to fourth-year students. Students will have a choice between their departmental capstone design course and the MCP course.

Exclusion Courses:

CHE 430Y
CIV 498H
MIE 490Y
MIE 491Y
ECE 496Y
MSE 498Y

The “single weight” capstone design courses also are excluded. Students will need to take an EXTRA course weight to manage the substitution, or to use a technical elective slot. The details of this substitution will be decided by each option, and included in next year’s academic calendar.

BME 489H
ESC 470H
ESC 471H
ESC 472H

The CDE, as the course coordinator, will work with other members of the committee (capstone design coordinators in engineering programs) to implement the course. The coordination of the students will be the responsibility of the corresponding department such as student recruitment. All MCPs will be led by industry; students will work within a team of 2 to 4 and will be supervised by faculty members from one or more departments (depending on the required knowledge and involved disciplines). The faculty supervisors will meet with the students regularly and will be responsible for the assessment of the students’ design projects. The students will also meet/communicate with the industry sponsor on a regular basis.

The new multidisciplinary capstone course offering is proposed for the 2013-2014 academic year. Students who wish to take the course in the 2013-2014 academic year will be able to select their MCPs in Winter/Spring 2013.

PROCESS

With the Dean’s approval, and according to the Chair in Design Engineering (CDE) program, the FASE Multidisciplinary Capstone Lead Committee was established in May 2012 with membership from all engineering departments. The main objective of the MCP Lead Committee is to address planning issues that foster multidisciplinary capstone projects across the Faculty, and the CDE program has met its deliverables’ targets.

The MCP Committee had two meetings in Spring/Summer 2012. At these meetings and follow up communications via email, the participating members discussed and approved the development and implementation of the new MCP course.

PROGRAM

All programs are involved in these changes, and the impact on interested students from participating programs has been considered.

PROPOSAL/MOTION

Recommendation and motion for Faculty Council:

“THAT the proposed Multidisciplinary Capstone Design course be accepted for implementation beginning in the 2013-2014 academic year.”