FACULTY OF ENGINEERING GRADUATE CURRICULUM AND POLICY COMMITTEE
APRIL 12, 2011, 1:00 P.M.
MUSC-311/313

PRESENT: Dr. H. Sheardown (Chair), Mr. V. Akbarzadeh, Mr. D. Arthurs, Ms. S. Baschiera (Secretary), Mr. S. Jones, Dr. T. Kirubarajan, Mr. R. Love, Dr. T. Maibaum, Mr. P. Malysz, Ms. O. Peshko, Dr. S. Pietruszczak, Dr. S. Qiao, Dr. C. Swartz, Mr. D. Volante, Dr. S. Ziada, Mrs. M. Espiritu (Assistant Secretary)

BY INVITATION: Dr. S. Chidiac, Dr. M. Noseworthy, Dr. B. Protas, Dr. J. West-Mays

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I. Minutes of meeting

The minutes of the meeting of December 9, 2010 were approved on a motion by Dr. Swartz, seconded by Mr. Love.

II. Business arising

There was no business arising from the minutes of the previous meeting.

III. Graduate curriculum recommendations

Biomedical Engineering

The School of Biomedical Engineering proposed the following graduate curriculum revisions.

Change in course title and description
*702 – Medical Imaging Systems II *(to be cross-listed as Electrical and Computer Engineering *780 and Medical Physics *702)*

Request to cross-list a course:
Medical Physics *770 – Medical Imaging Systems I *(to be cross-listed as Biomedical Engineering *770)*

New course:
*706 – Biomedical Engineering II (Core)

Dr. Swartz moved, and Mr. Jones seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed graduate curriculum revisions from the School of Biomedical Engineering, as described in the documents."

Dr. West-Mays explained that the proposed course *706 – Biomedical Engineering II is a core course in addition to the existing *701 – Biomedical Engineering. Dr. West-Mays further said that course *706 is an introduction to biomedical engineering with a health science focus. After the discussion, it was suggested that it should be made clear to students with a health science background that they are expected to enrol in *701, and students with an engineering background should enrol in *706.

The motion was **carried**.

Chemical Engineering

The Department of Chemical Engineering recommended the following graduate curriculum changes.

New courses:
*782 – Biopharmaceuticals
*791 – Nanotechnology in Chemical Engineering

Dr. Swartz moved, and Dr. Ziada seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed new courses *782 – Biopharmaceuticals and *791 – Nanotechnology in Chemical Engineering, as described in the documents."

The motion was **carried**.

Civil Engineering

The Department of Civil Engineering proposed the following changes.

New course:
*743 – Fundamentals of Soil Behaviour

Change in course title and description:
761 – Civil Engineering Seminars

Request to cross-list a course:
ES *757 – Advanced Statistical and Data Driven Methods in Hydrology *(to be cross-listed as Civil Engineering *757)*

Course cancellations:
#713 – Theory of Elasticity
#715 – Structural Stability
#723 – Advanced Steel Design
762 – Civil Engineering Seminar (Ph.D.)

Dr. Pietruszczak moved, and Mr. Arthurs seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed graduate curriculum changes from the Department of Civil Engineering, as described in the documents."

The motion was **carried**.

Computational Engineering and Science

The School of Computational Engineering and Science proposed the following graduate curriculum changes.

Ph.D./M.A.Sc./M. Eng.: Merge two groups of courses into one group

Request to cross-list courses:

Chemistry *6PB3 – Computational Models for Electronic Structure and Chemical Bonding *(to be cross-listed as CES *6PB3)*
Math *749 – Mathematical and Computational Fluid Dynamics *(to be cross-listed as CES *749)*
Business *Q773 – Optimization I *(to be cross-listed as CES *776)*

Course cancellations:
#715 – Incompressible Computational Fluid Dynamics
#716 – Mathematical Introduction to Fluid Mechanics

Dr. Ziada moved, and Dr. Swartz seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed graduate curriculum changes from the School of Computational Engineering and Science, as described in the documents."

Dr. Protas explained that the School is proposing to merge the groups of courses "Computational Techniques Modules" and "Computational Physical Sciences Courses and Modules" into one group, "Computational Techniques Modules." Dr. Protas explained that the proposed cancellation of courses #715 and #716 is due to incorrect cross-listing of these courses with Physics #715 and #716.

The motion was **carried**.

Computing and Software

The Department of Computing and Software proposed the following graduate curriculum changes.

New course:
*733 – Mobile User Interface Design

Course cancellation:
*747 – Software Architecture Modeling and Reverse Engineering

Dr. Qiao moved, and Dr. Ziada seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the new course *733 – Mobile User Interface Design, and the cancellation of *747 – Software Architecture Modeling and Reverse Engineering, as described in the documents."

The motion was **carried**.

Electrical and Computer Engineering

Adding a number of courses specifically for M.Eng. and M.A.Sc. students

The Department of Electrical and Computer Engineering proposed to create new courses (*702-*709) specifically for its M. Eng. and M.A.Sc. students to provide more course selection for these students, and make available more courses that can be credited towards the minimum degree requirements.

Dr. Kirubarajan moved, and Dr. Ziada seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposal of the Department of Electrical and Computer Engineering to add a number of courses specifically for M. Eng. and M.A.Sc. students."

After the discussion, there was a general comment that there has been no precedent for restricting enrolment only to Master's students in 700-level courses. Typically, 700-level courses are open to all graduate students, with certain courses requiring permission of the instructor before enrolment. It was recommended for *702-*709 to be open also to Ph.D. students but for these courses not to count towards the minimum course requirements for the Ph.D. program.

The motion was **carried**, subject to the recommendation mentioned above.

The Department proposed the following new courses.

New courses:
*702 – Engineering Communication and Presentation
*703 – Advanced Computer Programming for Engineers
*704 – Advanced Engineering Mathematics
*705 – Probability and Stochastic Processes
*706 – Digital Signal Processing
*709 – High Performance Parallel Computing on Graphical Processing Units (GPU)
*772 – Neural Networks and Learning Machines
*777 – Advanced Topics in High Fidelity Image and Video Processing
*785 – Computer Integrated Surgical Systems

Dr. Kirubarajan moved, and Dr. Maibaum seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the new courses listed above, as described in the documents."

It was also agreed to remove the prerequisites "Registration in M. Eng or M.A.Sc. program" for courses *702-*709.

The motion was **carried**, subject to removing the prerequisites for courses *702-*709.

The department also proposed changes in course numbers, the cross-listing of two courses, and the cancellation of courses as follows:

Change in course number:
*707 – Linear Systems
*708 – Digital Communications

Request to cross-list courses:
Medical Physics *770 – Medical Imaging Systems I *(to be cross-listed as ECE *779)*
Biomedical Engineering *702 – Medical Imaging Systems II *(to be cross-listed as ECE *780)*

Course cancellations:
*711 – Computer-Aided Design
*715 – Simulation and Optimization
*716 – Numerical Solution of Partial Differential Equations in Engineering

Dr. Kirubarajan moved, and Dr. Swartz seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the change in course numbers for *707 and *708, the cross-listing of courses *779 and *780, and the cancellation of *711, *715 and *716, as described in the documents."

The motion was **carried**.

Engineering Physics

The Department of Engineering Physics has proposed the change in title and description for course UN *805 – Introduction to Operational Health Physics.

Dr. Ziada moved, and Dr. Swartz seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the change in course title and description for UN *805 – Introduction to Operational Health Physics, as described in the document."

The motion was **carried**.

Materials Science and Engineering

The Department of Materials Science and Engineering proposed the following graduate curriculum revisions.

Change to half course:
#764 – Solid State Polymer Analysis
#774 – Injection Metallurgy
#775 – Physical and Mathematical Modeling in Materials Processing

Change to half course, title, and description:
#743 – Advanced Topics in Corrosion Science and Engineering

Dr. Ziada moved, and Dr. Kirubarajan seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed curriculum changes from the Department of Materials Science and Engineering, as described in the documents."

The motion was **carried**.

Mechanical Engineering

Cancellation of the following courses was proposed by the Department of Mechanical Engineering:

*712 – Kinematics of Three-dimensional Mechanisms
*744 – Advanced Mechanical Engineering Thermodynamics
*757 – Simulation of Manufacturing Systems

Dr. Maibaum moved, and Dr. Ziada seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the cancellation of courses *712, *744, and *757, as described in the documents."

The motion was **carried**.

Walter G. Booth School of Engineering Practice

Dr. Chidiac reviewed the calendar copy for the Master of Technology Entrepreneurship and Innovation.

Dr. Maibaum moved, and Dr. Swartz seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the proposed calendar copy for the Master of Technology Entrepreneurship and Innovation, as described in the document."

The motion was **carried**.

The School is also recommending the following changes:

New courses:
*711 – Regeneration of the Natural and Built Environment
*728 – Legal Issues for the Technology-Based Enterprise
*747 – Energy Efficient Buildings

Change to 600-level courses:
*720 – Entrepreneurial Processes and Skills *(change to SEP *6E03)*
*721 – Breakthrough Technology Venture Development *(change to SEP *6EE3)*

Dr. Ziada moved, and Dr. Swartz seconded,

"that the Faculty of Engineering Graduate Curriculum and Policy Committee approve the new courses, *711, *728, *747, and the change of course *720 to *6E03, and *721 to *6EE3, as described in the documents."

The motion was **carried**.

There was no other business and the meeting adjourned at 2:20 p.m.