REPORT OF THE SENATE COMMITTEE ON ACADEMIC POLICY AND AWARDS

(SCAPA)

School of Graduate and Postdoctoral Studies: Introduction of a Graduate Diploma in Community Music Leadership

School of Graduate and Postdoctoral Studies: Introduction of a Non-Thesis Master of Engineering (MEng) in HVAC Systems

Faculty of Science: Introduction of a Minor in High Performance Computing

Faculty of Science: Withdrawal of the Major in Statistics Module

Faculty of Science and Schulich School of Medicine & Dentistry: Introduction of an Honors Specialization in Computational Biochemistry

Revisions to the Policy on Eligibility for Participating in the Spring Hong Kong Convocation Ceremonies

Revisions to the Policy on Structure of the Degree: Post-Degree Modules

School of Graduate and Postdoctoral Studies: Minor Amendment to the LLM/M.Phil (UWO/NALSAR) and LLM/LLM (NALSAR/UWO) Dual-Credential Degree Program

New Scholarships

FOR APPROVAL

1. **School of Graduate and Postdoctoral Studies: Introduction of a Graduate Diploma in Community Music Leadership**

Recommended: That effective January 1, 2012, a Graduate Diploma in Community Music Leadership be introduced in the School of Graduate and Postdoctoral Studies, as set out in **Appendix 1**.

Background:

The new Graduate Diploma in Community Music Leadership fits well with the ethos of The University of Western Ontario, in great part because it is an interdisciplinary field of study. It draws upon a variety of musical genres and performance practices for musical, social, therapeutic and cultural ends. It opens graduate study to a new group of musicians who wish to engage others musically in the community sphere rather than the public education system, and does so through an innovative program featuring online learning technology blended with traditional face-to-face modes.

2. **School of Graduate and Postdoctoral Studies: Introduction of a Non-Thesis Master of Engineering (MEng) in HVAC Systems**

Recommended: That effective September 1, 2011, a non-thesis Master of Engineering (MEng) in HVAC systems be introduced in the School of Graduate and Postdoctoral Studies, as set out in **Appendix 2**.

Background:

Heating, Ventilating and Air Conditioning (HVAC) deals with providing air at specific conditions (temperature, humidity, air quality, etc.) to a building space. HVAC systems are installed in almost all types of buildings, such as commercial, institutional, residential, health care, storage, etc. Globally, buildings consume up to 40% of the total energy, and almost 50% of the building energy is consumed by the HVAC systems, and there is a continuous growth of the HVAC industry. The demand for mechanical engineers in the HVAC industry is at three levels: 1) designing stage; 2) installation/commissioning stage; and, 3) operation and maintenance stage that covers the entire lifetime of the system. As the HVAC systems are utilized everywhere, there is a consistent demand for mechanical engineers in the HVAC industry all over the world. With the recent environmental awareness and the rise in the energy cost, there is a strong pressure on the HVAC industry to develop new concepts involving renewable energies to minimize the building energy consumption from conventional resources, which opens a new venue in this field.

3. **Faculty of Science: Introduction of a Minor in High Performance Computing**

Recommended: That effective September 1, 2011, a Minor in High Performance Computing be introduced in the Faculty of Science.

NEW CALENDAR COPY
http://www.westerncalendar.uwo.ca/2011/pg587.html
(pg. 167 of the 2011-12 Academic Calendar)

Add the Minor in High Performance Computing to the list of modules offered by the Faculty.

http://www.westerncalendar.uwo.ca/2011/pg653.html
(pg.184 of the 2011-12 Academic Calendar)

MINOR IN HIGH PERFORMANCE COMPUTING

This minor is especially designed for students with an interest in High Performance Computing (HPC), either for its own sake, or for its application to problems in the Sciences, Social Sciences, or Engineering.

Admission Requirements
Completion of first-year requirements, including 1.0 course with a mark of at least 60% from: Applied Mathematics 1201A/B or the former Calculus 1201A/B, Applied Mathematics 1413, Calculus 1000A/B, 1100A/B, 1301A/B, 1500A/B, 1501A/B, Mathematics 1600A/B or the former Linear Algebra 1600A/B.

Module
4.0 courses:
1.0 course: Computer Science 2101A/B, 3101A/B
1.5 courses: Computer Science 2208A/B, 2210A/B, 2211A/B
0.5 course: Computer Science 3340A/B
1.0 course from: Computer Science 3305A/B, 3350A/B, 3357A/B, 3388A/B, 4402A/B, 4457A/B

Note: If any of these courses have already been taken as part of an Honors Specialization, Specialization or Major in Computer Science, or an Honors Specialization in Information Systems, they must be replaced with 3000 or 4000-level Computer Science courses. This also includes Computer Science 2101A/B which is antirequisite to first-year Computer Science courses.

Background:

There has been a growing interest in High Performance Computing (HPC) in both research and instructional capacities across the Faculty of Science and in other Departments throughout the University. There is sufficient demand to warrant both courses and a module to support instruction in HPC, made accessible to non-Computer Science students to support other disciplines. (Structured properly, this can also support instruction within the Department of Computer Science.) DAP approvals for introducing 2101A/B and 3101A/B as new courses, and course revisions to add these courses as prerequisites to existing courses, have been received separately.

4. **Faculty of Science: Withdrawal of the Major in Statistics Module**

Recommended: That, effective September 1, 2011, admission to the Major in Statistics module in the Faculty of Science be discontinued;
that students enrolled in the module prior to September 1, 2011 be permitted to continue with the understanding that they must complete the requirements prior to September 2015; and,
that effective September 1, 2015, the module be withdrawn and all registration discontinued.

Background:

In May 2011, Senate approved the introduction of the new Major in Applied Statistics, effective September 1, 2011. This new module replaced the Major in Statistics module. The enrollment for the old module has been dwindling in the past few years and, as of Fall 2011, there are only two students in the fourth year and one student in the third year remaining in the module.

5. **Faculty of Science and Schulich School of Medicine & Dentistry: Introduction of an Honors Specialization in Computational Biochemistry**

Recommended: That an Honors Specialization in Computational Biochemistry, leading to a Bachelor in Medical Sciences (BMSc) degree. be introduced by the Faculty of Science and Schulich School of Medicine & Dentistry, effective September 1, 2012.

NEW CALENDAR COPY

HONORS SPECIALIZATION IN COMPUTATIONAL BIOCHEMISTRY

Enrollment in this module is limited and competitive, and requires registration in the BMSc Program. Meeting the minimum requirements does not guarantee that students wishing to enter or progress in this module will be offered enrollment. See BMSc Program for more detailed information.

Admission Requirements

Students must successfully complete their first-year requirements (5.0 courses during the Fall/Winter terms) with no failures. A mark of at least 60% must be achieved in each of the 3.0 principal courses below and an average of at least 75% must be obtained on these 3.0 principal courses:
1.0 course: Biology 1001A* and 1002B*, or the former Biology 1222 or 1223

1.0 course: Chemistry 1100A/B and 1200B, or the former Chemistry 1020, 1050, or 023.
1.0 course from: (Calculus 1000A/B, 1100A/B, or 1500A/B), (Calculus 1301A/B or 1501A/B), Mathematics 1600A/B or the former Linear Algebra 1600A/B, Applied Mathematics 1201A/B or the former Calculus 1201A/B, Applied Mathematics 1413

* Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B.

The following courses must be completed by the end of second year, with a mark of at least 60% in each:

0.5 course from: Physics 1028A/B, 1301A/B or 1501A/B
0.5 course from: Physics 1029A/B, 1302A/B or 1502A/B

It is recommended that the two 0.5 Physics courses be taken in the Fall and Winter terms of the same academic year. Either the former Physics 1020 or 1024, with a minimum mark of 60%, may be used in place of the two 0.5 courses in Physics listed above.

Module
10.0 courses:
0.5 course from: Computer Science 1025A/B or 1026A/B
0.5 course: Computer Science 1027A/B
1.0 course: Biochemistry 2280A, Biology 2581B
0.5 course from: Biology 2244A/B. Statistical Sciences 2244A/B, or the former Statistical Sciences 2122A/B
1.0 course from: Chemistry 2213A/B or 2273A; Chemistry 2223B or 2283G
1.0 course: Computer Science 2210A/B, 2211A/B
1.5 courses: Biochemistry 3380G, 3381A, 3382B
1.5 courses: Biochemistry 4483E (Research Project = 1.5 courses)
2.0 courses: Biochemistry 4410A, 4420B, 4435B, 4445F
0.5 course from: Biochemistry 4400F, 4430B, 4440A, 4450A, 4463G, 4465A

Notes for Module:

1. Enrollment in Biochemistry 3381A requires a minimum mark of 65% in Biochemistry 2280A, either Chemistry 2213A/B with a minimum mark of 65% or Chemistry 2273A with a minimum mark of 60%, and either Chemistry 2223B with a minimum mark of 65% or Chemistry 2283G with a minimum mark of 60%.
2. It is recommended that Computer Science 1025A/B or 1026A/B and 1027A/B be completed no later than Year 2. Enrollment in Computer Science 2210A/B and 2211A/B requires a minimum mark of 65% in Computer Science 1027A/B.

Background:

Given the large amounts of sequence, structure, mass spectroscopic, and microarray data that continue to be produced and are becoming more and more important in medicine and medical research, the Department of Biochemistry would like to raise the profile of bioinformatics and computational biochemistry, and encourage students to incorporate these disciplines into their undergraduate program. The department would also like to train a number of students to become adept at using computational approaches to answer biological questions. In collaboration with the Department of Computer Science, the Department of Biochemistry currently offers two Bioinformatics modules, both of which are extremely heavy in computer science courses. Only one student has graduated with the Honors Specialization in Bioinformatics (Biochemistry Concentration) module; enrolment has been better for the Honors Specialization in Bioinformatics (Computer Science Concentration), but these students study Computer Science primarily and are not interested in biological questions so much as computer algorithms and programming.

To improve this situation, the goal of the Department of Biochemistry is to "migrate" the current Honors Specialization in Bioinformatics (Biochemistry Concentration), leading to a BSc degree, to an Honors Specialization in Computational Biochemistry, leading to a BMSc degree. This new Honors Specialization module is based on the current Honors Specialization in Biochemistry module, except that 1.0 modular course (choice of Biology and/or Chemistry) has been removed and replaced by 2.0 modular courses from Computer Science. There is a significantly lesser emphasis on computer science than the current Honors Specialization in Bioinformatics (Biochemistry Concentration), but the module will contain sufficient computer science content to give the students a foundation in basic computer science skills that will help them develop their ability to use bioinformatics and computational biochemistry. In addition to a much lighter load in computer science, the Honors Specialization in Computational Biochemistry incorporates the 1.5 credit Biochemistry project course in Year 4, common to all modules offered by the Department of Biochemistry. The department anticipates that students in this module will apply bioinformatics and computational biochemistry to their research project, thereby facilitating and broadening the use of these approaches in the department as well as the other departments (Microbiology and Immunology, and Anatomy and Cell Biology) that pool their research projects with the Department of Biochemistry.

The Honors Specialization in Computational Biochemistry, leading to a BMSc degree, was designed in consultation with Dr. Greg Gloor who teaches Biochemistry 4445F "Bioinformatics", Dr. Peter Rogan (CRC in Genome Bioinformatics), Dr. Mike Katchabaw in Computer Science, and Russ Dickson, a graduate of the BSc Bioinformatics module and currently a graduate student in Biochemistry. The module is based on the idea that the Department of Biochemistry would like to train biochemists who are able to use computers to answer biological questions (i.e. that knowledge of biomedical science is most important), and that first-year students interested in Biochemistry, Chemistry, Biology, and/or Medical Sciences may not be aware of the importance of bioinformatics and computational approaches. Therefore, the students can take the standard first year program and register for their first computer science courses in second year.

This module may be completed only within a Bachelor of Medical Sciences (BMSc) Honors degree, offered jointly by the Faculty of Science and the Schulich School of Medicine & Dentistry. Students registered in the Honors Specialization in Computational Biochemistry will register in the Faculty of Science in Year 2 and the Schulich School of Medicine & Dentistry in Years 3 and 4.

6. **Revisions to the Policy on Eligibility for Participating in the Spring Hong Kong Convocation Ceremonies**

Recommended: That the Policy on Eligibility for Participating in the Spring Hong Kong Convocation Ceremonies be revised as shown below:

The current policy is located at: http://www.uwo.ca/univsec/handbook/general/convocation.pdf

Recommended: That the policy relating to a student's eligibility for the Hong Kong Convocation ceremonies be revised as highlighted below.

Policy on Eligibility for Participating in the Spring Hong Kong Convocation Ceremonies
There will be a University-wide Convocation Ceremony in Hong Kong that involves, in addition to those who complete their Executive MBA degree in Hong Kong, any undergraduate or graduate student who was eligible to graduate at ~~the Spring or Fall~~ ***a preceding*** Convocation ceremon~~ies~~***y in London or in the Spring ceremony of the same year.*** ~~of the preceding year in London or at the February in absentia degree conferral of the same year.~~ ***All*** Students are required to apply to participate in the Hong Kong ceremony and will receive either their degree diploma (if not collected at a London ceremony) or a Certificate of Participation. ***Students identified to participate who normally would have their degrees conferred in the subsequent June, are still eligible to be recognized in Hong Kong. However, their degrees will be conferred officially at the June convocation, and their diplomas will be mailed to them upon request. Note: Some details relating to a June graduate's academic achievement may not be known ("with distinction," gold medal winner, etc.) in time for identification at the May Hong Kong Ceremonies.*** (See also notes on diplomas below.)

Background:

The Hong Kong convocation ceremony is an important part of the overall convocation experience that a student at Western has the opportunity to enjoy. As a result of scheduling requirements in Asia, the Hong Kong convocation occurs in May, prior to Western's largest June convocation period. Therefore, the scheduling has previously excluded the potential participation of a large group of students. In an effort to provide a convocation opportunity to all interested students, while respecting the scheduling demands placed on the Hong Kong administration, an amendment to the policy on eligibility for participation in Hong Kong is requested.

7. **Revisions to the Policy on Structure of the Degree: Post-Degree Modules**

Recommended: That the policy on Structure of the Degree: Post-Degree Modules be revised to provide more specific information for students and faculties, effective September 1, 2012.

The current policy is located in the Senate Handbook on Academic and Scholarship Policy:
http://www.uwo.ca/univsec/handbook/regn/registration_progression.pdf

STRUCTURE OF THE DEGREE
unchanged

(on Page 10)
Post-Degree Modules

After graduation with an undergraduate degree, students may complete additional Major and/or Minor modules(s) without completing a second degree. ***Students must consult the Dean's Office of the Faculty in which the module is offered to request permission to register in a Post-Degree module. Permission may be denied if there is significant overlap with courses completed within the first degree.*** ~~Completion of Post-Degree modules will be recognized only by a notation on the student's transcript~~. A Post-Degree module must be in a different subject area, not included in the undergraduate degree.

Students must complete the total number of courses required for this additional module ***with an average on these courses of at least 60%. Courses successfully completed during the first degree that are considered "extra" courses by the Faculty offering the first degree may be considered for use towards the Post-Degree module, at the discretion of the Faculty offering the Post-Degree module. All courses required for the Post-Degree module must be completed through the course offerings of The University of Western Ontario. Completion of Post-Degree modules will be recognized only by a notation on the student's transcript.*** ~~For example, to complete a Post-Degree Minor module, students must successfully complete at least 4.0 courses after graduation. Students must consult the Dean's Office of the Faculty in which the module is offered for permission to register in a Post-Degree module.~~

Second Degree (Excluding Professional Degrees)

Graduates of The University of Western Ontario:

- ***Students must apply to the appropriate Faculty for permission to pursue a second degree at the same level or higher than the first degree.***
- ***The Faculty offering the second degree will consult the department(s) concerned and will consider admission requirements in determining whether the request will be granted.***
- ***Students must successfully complete all courses for the second degree through the course offerings of The University of Western Ontario.***
- ***Western courses determined as "extra" to the first degree may be used towards the second degree only with permission of the Faculty concerned.***
- ***The Faculty will consider the requirements for breadth, essay courses and residency in specifying the courses required to complete the second degree.***
- ***At least 5.0 senior courses are required to fulfill modular and degree requirements. The courses specified by the Faculty will be used in calculating the graduating average.***
- ***Students pursuing an Honors degree must achieve a minimum average of 70% on the modular courses specified for the second degree with no mark less than 60% in each modular course. A minimum average of 60% with no failures must be achieved on all optional courses. Higher requirements may apply to limited enrollment programs.***

- ***Students pursuing a Four-Year Bachelor (non-honors) degree must achieve a minimum average of 60% on the modular courses specified for the second degree, and a passing grade in each modular and optional course. Higher requirements may apply to limited enrollment programs.***
- ***Students must satisfy the breadth and essay degree requirements if not already satisfied within the first degree:***
    - ***Breadth: 1.0 senior course from each of Categories A, B, and C must be completed.***
    - ***Essay: at least 1.0 senior designated essay course must be completed.***

Graduates of other accredited universities:

- ***Students must apply to the Faculty offering the second degree for admission as Special Students.***
- ***The second degree must be at the same level or higher than the first degree.***
- ***The Faculty offering the second degree will consult the department(s) concerned and will consider admission requirements in determining whether the request will be granted.***
- ***Students must successfully complete all courses for the second degree through the course offerings of The University of Western Ontario.***
- ***The Faculty will consider the requirements for breadth and residency in specifying the courses required to complete the second degree.***
- ***At least 10.0 senior courses are required to fulfill modular and degree requirements. The courses specified by the Faculty will be used in calculating the graduating average.***
- ***Students pursuing an Honors degree must achieve a minimum average of 70% on the modular courses specified for the second degree with no mark less than 60% in each modular course. A minimum average of 60%, with no failures must be achieved on all optional courses. Higher requirements may apply to limited enrollment programs.***
- ***Students pursuing a Four-Year Bachelor (non-honors) degree must achieve a minimum average of 60% on the modular courses specified for the second degree, and a passing grade in each modular and optional course. Higher requirements may apply to limited enrollment programs.***
- ***Students must satisfy the breadth and essay degree requirements for graduation:***
    - ***Breadth: 1.0 senior course from each of Categories A, B, and C must be completed if not already satisfied within the first degree.***
    - ***Essay: at least 1.0 senior designated essay course must be completed through The University of Western Ontario.***

The chart below indicates the possibilities for upgrading to an Honors Bachelor Degree:

First degree	***Second degree***
Three-year degree containing:	***Honors degree***
Major ***Minor + Minor*** ***Major + Minor***	***Honors Specialization in either the same subject or a different subject than either the Major or Minor module completed in the previous degree***
	Double Majors in a different subject than the Major module completed in the previous degree
	Double Majors in either the same subject(s) or different subject(s) as the Minor module(s) completed in the previous degree
Four-year degree (non-honors) containing:	***Honors Degree***
Specialization ***Specialization + Major*** ***Specialization + Minor***	***Honors Specialization in either the same subject or a different subject than the Specialization or Major or Minor module completed in the previous degree***
	Double Majors in different subjects than the Specialization or Major or Minor module completed in the previous degree
	Double Majors, one of which is in the same subject as the Minor module completed in the previous degree
Major ***Major + Major*** ***Major + Minor*** ***Major + Minor + Minor***	***Honors Specialization in either the same subject or a different subject than a Major or Minor module completed in the previous degree***
	Double Majors in different subjects than the Major or Minor module(s) completed in the previous degree

	Double Majors in the same subject(s) as the Minor module(s) completed in the previous degree
Honors degree containing:	***Honors degree***
Honors Specialization ***Honors Specialization + Major*** ***Honors Specialization + Minor***	***Honors Specialization in a different subject than the Honors Specialization or Major or Minor module completed in the previous degree***
	Honors Specialization in the same subject as either the Major or Minor module completed in the previous degree
	Double Majors in different subjects than the Honors Specialization or Major or Minor module(s) completed in the previous degree
	Double Majors, one of which is in the same subject as the Minor module completed in the previous degree
Major + Major	***Honors Specialization in either the same subject or a different subject than a Major module completed in the previous degree***
	Double Majors in different subjects than the Major module(s) completed in the previous degree

The chart below indicates the possibilities for upgrading to a Four-Year Bachelor Degree:

First degree	***Second degree***
Three-year degree containing:	***Four-year (non-honors) degree***
Major ***Minor + Minor*** ***Major + Minor***	***Specialization in either the same subject or a different subject than the Major or Minor module completed in the previous degree***
	Major(s) in the same subject(s) as the Minor module(s) completed in the previous degree.
	Major(s) in a different subject(s) than the Major or Minor module completed in the previous degree
Four-year degree (non-honors) containing:	***Four-year (non-honors) degree***
Specialization ***Specialization + Major*** ***Specialization + Minor***	***Specialization in a different subject than the Specialization or Major or Minor module completed in the previous degree***
	Specialization in the same subject as the Major or Minor module completed in the previous degree
	Major in the same subject as the Minor module completed in the previous degree
	Major(s) in a different subject(s) than the Major or Minor module completed in the previous degree
Major ***Major + Major*** ***Major + Minor*** ***Major + Minor + Minor***	***Specialization in either the same subject or a different subject than the Major or Minor module completed in the previous degree***
	Major(s) in the same subject(s) as the Minor module(s) completed in the previous degree.
	Major(s) in a different subject(s) than the Major or Minor module completed in the previous degree

Notes:
Students applying to upgrade their previous degree conferred under the "old" University of Western Ontario regulations should consult their Faculty regarding permissible upgrades.

Students whose previous degree is a professional degree (BA Honors Business Administration, BESc, BFA, BMus, BMusA, BA(HEc), BSc(HEc), BSW(Hons), DDS, LLB or JD, MD, MDiv, MTS) should consult the Sequential Degree section for information.

Second degree (When one degree is a Professional Degree)
The rest of the policy remains unchanged

Background:

Previously, faculties have interpreted policies differently, and the proposed amendments are intended to provide a level of consistency thereby reflecting the current needs of students while maintaining the integrity of Western's processes.

FOR INFORMATION

8. **School of Graduate and Postdoctoral Studies: Minor Amendment to the LLM/M.Phil (UWO/NALSAR) and LLM/LLM (NALSAR/UWO) Dual-Credential Degree Program**

Senate approved the introduction of the new dual-credential program at its September meeting. A minor amendment has been made to the Notes section to indicate that NALSAR students will be admitted into the UWO LLM program only if they fully meet the entry requirements.

NEW CALENDAR COPY
http://www.westerncalendar.uwo.ca/2011/pg518.html

LLM/M.Phil (UWO/NALSAR) - LLM/LLM (NALSAR/UWO) Dual-Credential Degree Program
no changes

LLM/LLM Program for NALSAR Law Students
Begin at NALSAR in LLM program (2-year degree) and then to UWO for LLM (1-year degree)

Year	Academic Term	NALSAR Law	Western Law
Year 1	July - April	LLM Year 1 Tuition paid to NALSAR	
Year 2	Sept-Dec		Exchange to UWO in LLM program. Complete 2 (or 3) LLM courses (3 cr. each) Tuition paid to UWO.
	Jan - Aug		Complete remaining two LLM terms at UWO. Complete remaining 2 (or 1) LLM courses (3 cr.each) and thesis (12 credits) Tuition paid to UWO.
Both LLM degrees complete. Eligible for UWO's October convocation. NALSAR's degree to be conferred on approval by Academic Council.			

Notes:

1. ***NALSAR students will be admitted into the UWO LLM, contingent upon satisfaction of the full entry requirements.***
2. NALSAR students will complete 24 credit hours to receive the UWO LLM.
3. Students must be in good standing throughout the duration of the program
4. Students will be charged international student fees for their final terms at UWO.
5. UWO LLM funding available to students in this combined degree program if they meet the criteria.

9. **New Scholarships**

SCAPA has approved on behalf of the Senate, the Terms of Reference for the following new scholarships, for recommendation to the Board of Governors through the President & Vice-Chancellor:

Danter Family Ontario Graduate Scholarship (School of Graduate and Postdoctoral Studies, Science or Medicine & Dentistry)
Awarded annually to provide partial support to a full-time graduate student who is in a Master's or Doctoral program in either the Schulich School of Medicine & Dentistry or the Faculty of Science, based on academic achievement and research merit. The School of Graduate and Postdoctoral Studies will select the recipient who is funded through an Ontario Graduate Scholarship (OGS) or Queen Elizabeth II Graduate Scholarship in Science and Technology (QEGSST). This funding is made possible by a bequest from Florence Pennington.

Value: 1 at $5,000*
Effective: May 2011

**Ontario Graduate Scholarship (OGS/QEGSST) funding ensures a 2:1 match through the Provincial Government, increasing the value of the scholarship to $15,000.*

James and Ellen Baird Ontario Graduate Scholarship (School of Graduate and Postdoctoral Studies, Music)
Awarded annually to provide partial support to a full-time graduate student who is in a Master's or Doctoral program in the Don Wright Faculty of Music, based on academic achievement and research merit. The School of Graduate and Postdoctoral Studies will select the recipient who is funded through an Ontario Graduate Scholarship (OGS) or Queen Elizabeth II Graduate Scholarship in Science and Technology (QEGSST). This funding is made possible through a bequest from Mr. James Baird.

Value: 1 at $5,000*
Effective: May 2011

**Ontario Graduate Scholarship (OGS/QEGSST) funding ensures a 2:1 match through the Provincial Government, increasing the value of the scholarship to $15,000.*

Ontario Graduate Scholarship - Anonymous Donor (School of Graduate and Postdoctoral Studies)
Awarded annually to provide support to a full-time graduate student who is in a Master's or Doctoral program in any Faculty, based on academic achievement and research merit. The School of Graduate and Postdoctoral Studies will select the recipient who is funded through an Ontario Graduate Scholarship (OGS) or Queen Elizabeth II Graduate Scholarship in Science and Technology (QEGSST). This funding is made possible through an anonymous donor.

Value: 1 at $5,000*
Effective: May 2011 to April 2016

**Ontario Graduate Scholarship (OGS/QEGSST) funding ensures a 2:1 match through the Provincial Government, increasing the value of the scholarship to $15,000.*

Kathleen and William Troost MBA Scholarship (School of Graduate and Postdoctoral Studies, Business)
Awarded annually to a full-time student entering the Master of Business Administration program at the Richard Ivey School of Business, based on academic achievement and demonstrated community leadership. The MBA Scholarship Committee of the Richard Ivey School of Business will review and select each award recipient. This scholarship is made possible by a generous gift from Kathleen and William Troost, MBA '75.

Value: 1 at $35,000
Effective: May 2012 to April 2015 inclusive

Proposal for a Graduate Diploma in Community Music Leadership
Don Wright Faculty of Music, Department of Music Education

Summary

This proposal seeks approval for the introduction of a new Type 3 graduate diploma in Community Music Leadership. A Type 3 diploma is a stand-alone diploma to which students are directly admitted. This will be one of very few graduate programs in this field and the first of its kind in Canada. The graduate diploma in Community Music Leadership is a natural outcome of current work in music education. It aligns with the University's Strategic Research Plan 2008-2011 by building upon an area of existing research strength within the Don Wright Faculty of Music (DWFoM) through innovative graduate program development.

Such a diploma in Community Music Leadership fits well with the ethos of the University of Western Ontario in great part because it is an interdisciplinary field of study. It draws upon a variety of musical genres and performance practices for musical, social, therapeutic and cultural ends. It opens graduate study to a new group of musicians who wish to engage others musically in the community sphere rather than the public education system and does so through an innovative program featuring online learning technology blended with traditional face-to-face modes.

This diploma aligns with the Faculty Academic Plan by assuring continuation of long term commitments that the Department of Music Education has made to promote access to music making for all and in growing graduate enrolment and provision. It also aligns with the University agenda to develop innovative graduate programs.

Rationale

Currently the Don Wright Faculty of Music provides opportunities for promising music students to become professional music educators working with young people in school systems. Graduates carry Western's good name throughout Canada and beyond and the Faculty's program is well respected in the field. Indeed, Donald McKellar established the Faculty of Music with just such an aim in mind: to promote excellent music education.

However musical education and musical experiences do not stop with secondary school. Skilled community musician/educators are needed to work in a variety of settings. There is an increased need for leadership in music education with learners of all ages and in many contexts.

Program Objectives

It is proposed that a diploma program that can be undertaken as a full-time one-year graduate program of study be undertaken on a part-time basis. The program will:

1) Offer opportunities to develop depth and breadth of expertise and understanding in community music,
2) Equip students in an emerging field with a professional diploma,
3) Emphasize practical musical training in multiple genres, grounding in the many skills needed for this field balanced with rigorous academic study, and
4) Develop the skills necessary to contribute to research and teaching in the emerging field of community music in Canada.

Broader outcomes may involve the creation of innovative projects involving inner city social healing, intergenerational music making and orchestral outreach. This diploma program is envisioned as supporting students as they seek their niche working with others outside of the usual music education settings. The Faculty plans to compile information on the future career paths of alumnae.

These objectives are a good fit for the mandate of the Faculty of Music and for its role at the cutting edge in music education.

Recruitment and Admissions

Prospective students will be music educators and musicians who wish to gain a professional qualification in the field of community music leadership and to facilitate the expressive work of others. It is anticipated that the first cohort will consist of 10 to 15 students and will include both older and international students. Recruitment strategies will include announcements through professional channels, through appropriate music education and music therapy journals, letters to colleagues, and personal communications. The expected date of the first uptake is September 2012.

It is anticipated that the program will be of great interest to international students. A cohort size of between ten and twenty students per year is anticipated after an initial build-up period of five years. The kinds of musicians who would work in community music may not fit the profile of a music major in a regular university program. Many fine musicians play instruments that are not used in orchestras. They may choose to specialize in popular, traditional, jazz, or other musical genres. A background in a related arts area or in a social science field may serve as an excellent preparation for working with people in informal contexts.

Admission Requirements

Prior academic attainments equivalent to an undergraduate degree are required, although the degree does not need to be in music. Candidates are required to submit a sample of writing demonstrating ability to think and write in English.

Applicants to this program are expected to demonstrate high standards of practical musicianship as well as the skills necessary to work effectively as a facilitator and enabler of others in music. Candidates will be required to demonstrate their musicianship through an audition process, preferably in person. If the candidate is international, the review committee may use video or skype. Expertise on any instrument and in any genre will be considered.

Applicants with non-standard qualifications may qualify for entry through relevant work experience. Applicants in this category may be asked to attend an interview and present a portfolio demonstrating their work and achievements. Examples of applicants with non-standard qualifications may include musicians who perform in popular genres such as hiphop, on instruments such as electric guitar. Their expertise may be with ensembles such as samba bands, or creative song writing. They may be older students or with university training in a variety of social sciences, medicine, or related arts.

Program Delivery

The diploma program will use WIMBA and other emerging technologies for online course delivery augmented with both face-to-face seminars, and counseling. The dual delivery nature of the program will enable students and musicians in remote areas to work with this program.

Since there is potential to engage with other institutions for some course offerings in the future, there is likely to be much choice in how the courses will be delivered and received. The nature of potential partnerships may take various forms such as exchange possibilities, encouraging students to take courses at other Ontario universities through the Ontario Visiting Graduate Student program, collaborating on grants, guest lecturing at other university faculties. At least one of the courses offered will be delivered online for the benefit of students at partner institutions. However, the two core courses will need to have a combination of online and face-to-face because some facilitation skills are best taught that way and because individuals in the group need to work together. There will be a compulsory onsite element geared towards our anticipated student population and scheduled in the summer semester, evenings and over weekends.

Quality Assurance and Academic Evaluations

The proposed University of Western Ontario Diploma in Community Music will ensure that students will have opportunities to interact and participate freely in the shaping and criteria for their specific programs of study. Evaluations in any given course may take multiple forms from written assignments, feedback on live or videotaped sessions and presentations to portfolios assessments. The Faculty expects graduate level work from its graduate students.

Similar programs at other universities. In what ways will this program be unique or innovative?

The proposed University of Western Ontario Diploma in Community Music would be the first of its kind in Canada. At present there is an undergraduate emphasis in programs in community music at Wilfred Laurier University. It appears that the University of Windsor is talking about a community arts program. There is also a new doctoral program at New York University in Community Music. Likewise there are courses being formulated at Boston University. However, there do not appear to be any other graduate diploma initiatives in the field in North America. On an international scale, there are a few models that are operating very successfully.

Resources

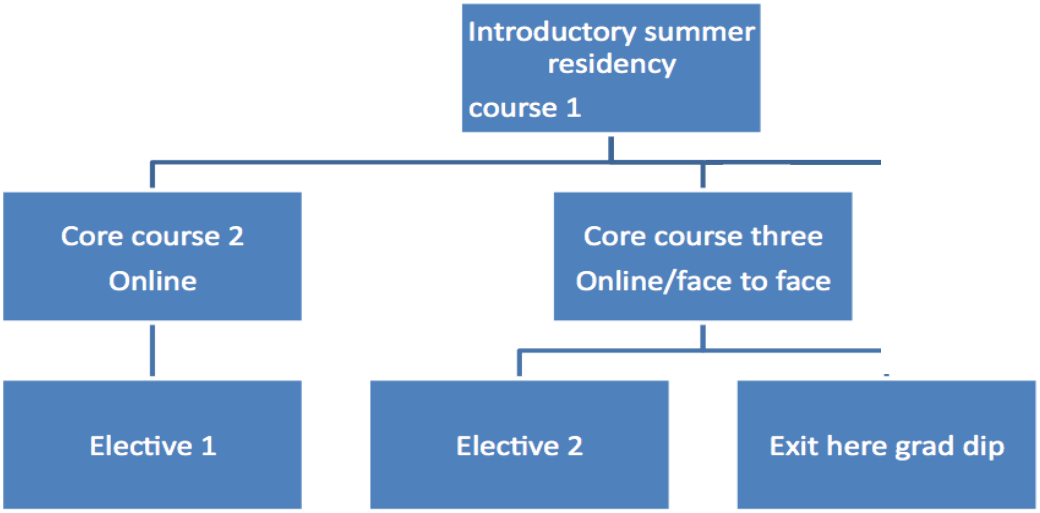
The Music Library and Talbot College are scheduled for renovations that will support the diploma program. The Faculty's library colleagues have been consulted and necessary resources are available.

Core Faculty

Kari Veblen, Associate Professor Music Education, Associate Dean of Grad Studies & Research
Ruth Wright, Associate Professor of Music Education, Chair of Music Education
Viki Meredith, Professor of Music Education, Associate Dean of Undergraduate Studies
Gerald Neufeld, Associate Professor of Music Education
Colleen Richardson, Assistant Professor of Music Education
Kevin Watson, Assistant Professor of Music Education
Paul Woodford, Associate Professor of Music Education
Proposed core faculty have a record of scholarly activity appropriate to the needs of the proposed program (See CVs attached)

Core Courses

A flow chart of the core courses would look something like this



These courses may be taken as a stand-alone block or in conjunction with elective courses.

Core Courses

- Community Music Workshopping Skills/ Collaborative Leadership I
  This interactive course is designed to develop initial observation, evaluation, communication and teaching techniques and skills necessary for work in community music. While musical competencies are assumed, this course provides further musical work in ensemble skills, basic conducting, ensemble percussion work, composition, arranging improvisation and songwriting.

- Community Music Workshopping Skills/ Collaborative Leadership II
  In this course, students will consolidate the observation, evaluation, communication and teaching techniques and skills developed in CMWS/CL-I. The course provides further musical work in a range of genres but with greater emphasis of working in the community rather than with peers.
- Community Music in Practice
  This course is a year-long practicum with interactive components over the course of two semesters. Students will meet to reflect on this as a group at scheduled points in the process. This action-research practicum allows the student to participate, observe and reflect on structures, systems, logistics, funding etc. of actual community music programs. These programs may include orchestral outreach, prison and probation services, day-care centres, health settings, residential homes, youth services, adult education, music venues, voluntary service and multicultural arts groups. The course culminates in a final plan for project management and development.

<u>Elective Courses</u>

- Managing and Administrating Community Music Leadership (Ivey)
  This course, to be developed and taught through Richard Ivey School of Business will develop skills in practical management and financial planning. Students will have the opportunity to explore successful business enterprises, to work on development plans for their own projects and to study various funding and grant opportunities. Our students will join other Ivey students.
- M3861b Special Topics: Focus on Elementary Curriculum and Canadian Content
  This music education course surveys Canadian music and cultural perspectives. Although Canada may be said to be a nation of immigrants, there are unique musics both old and new in this pluralistic society.
- Global Perspectives On Community Music
  This online course is an inquiry-driven graduate seminar combining current scholarship in community music with ethnographic techniques of participant observation and interview. In addition to heavy use of major reference works, and emerging international research in community music, students will have an opportunity to interact with guest speakers.

This proposal is limited to what the Faculty itself can offer and deliver. However, students have the opportunity to select a graduate course in related music, music education and popular music streams as appropriate for their specific programs. A more comprehensive menu and listing of electives will be developed as intended and informal collaborations become a reality.

Master of Engineering (MEng)
Introduction of a New Field
"HVAC Systems"
Major Modification

OVERVIEW OF THE NEW FIELD

Heating, Ventilating and Air Conditioning (HVAC) deals with providing air at specific conditions (temperature, humidity, air quality, etc) to a building space. HVAC systems are installed in almost all types of buildings, such as, commercial, institutional, residential, health care, storage, etc. As the HVAC systems provide air at the desired conditions, their demand is equally important in both cold as well as warm environments. As a result, the HVAC industry is well-established all over the world. Globally, buildings consume up to 40% of the total energy and almost 50% of the building energy is consumed by the HVAC systems[1]. There is a continuous growth of the HVAC industry. The increase in demand for the HVAC systems has been projected as 6.2% per year reaching $93 billion by 2014[2].

HVAC industry is heavily relied on mechanical engineers. The demand of mechanical engineers in the HVAC industry is at three levels; (i) designing stage, (ii) installation/commissioning stage, and (iii) operation and maintenance stage that covers the entire lifetime of the system. As the HVAC systems are utilized everywhere, there is a consistent demand of mechanical engineers in the HVAC industry all over the world. With the recent environmental awareness and the rise in the energy cost, there is a strong pressure on the HVAC industry to develop new concepts involving renewable energies to minimize the building energy consumption from conventional resources, which opens a new venue in this field.

The Department of Mechanical and Materials Engineering (MME) proposes the introduction of a new field (HVAC Systems) in the existing Non-thesis Master of Engineering (MEng) program.

<u>Program Objectives</u>:

The program is aimed at graduate mechanical engineers who want a career in the dynamic and growing HVAC industry. The proposed change is structured to widen the knowledge base of the engineering graduates in the HVAC-related fields from fundamental as well as applied aspects.

<u>Strategic value to Western</u>:

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[1] *Pérez-Lombard et al. A review on buildings energy consumption information, Energy and Buildings, Vol.40, 394-398, 2008.*

[2] *World HVAC Equipment, Published by The Freedonia Group, Inc., 2010.*

The proposed field falls within the broader areas of advanced fluid mechanics (from fundamental aspect) and environmental sustainability (from energy efficiency and renewable energy aspects) which are recognized as areas of research strength at Western in the UWO Strategic Plan 2008-11. The proposed MEng field in HVAC systems is considered as one of the niche areas in the Western Engineering Strategic Academic Plan 2011-14.

Program Details:

Mechanical engineering graduates with a Bachelor's degree in Engineering, or an equivalent degree from an accredited University with a minimum of 70% (computed based on the last two years of a bachelor's degree marks, or on their previous graduate marks) are eligible to register in the existing MEng Program. These existing requirements will be also apply to admission to the proposed HVAC field.

The MEng program is comprised of 10 half courses or 8 half courses and a project (equivalent to two half courses), divided into three categories.

The first category (Category A) is comprised of courses that cover the advanced topics from the mechanical engineering core which are essential as they bring the minimum knowledge base of bachelor's degree holder mechanical engineer to the graduate level. There are six core half courses in this category as listed below, and students have to complete four out of six courses.

Category A

MME 9515 Fluid Machinery

MME 9610 Applied Measurements & Sensing Systems

MME 9612 Finite Element Methods

MME 9614 Applied Computational Fluid Mechanics and Heat Transfer

MME 9617 Energy Conversion

MME 9621 Computational Methods in Engineering

Note that the courses in this category are offered on a regular basis as part of the existing graduate program in the Department of Mechanical and Materials Engineering.

The second category (Category B) is comprised of professional engineering courses which are general requirements for the existing MEng program in the Faculty of Engineering. There are four half courses in this category as listed below, and students are required to complete two out of four courses.

Category B

CBE 9185 *Risk Assessment and Management in Engineering Systems*

CEE 9510 *Engineering Planning and Project Management*

ECE 9010 *Intellectual Property for Engineers*

MME 9670 *Engineering Communication*

Note that the courses in this category are offered on a regular basis as a part of the existing graduate program in the Faculty of Engineering.

The third category (Category C) is the specialization in the HVAC systems. There are four courses in this category, as listed below, which cover the necessary aspects of the HVAC systems engineering. Two courses (MME 9516 and MME 9517) are already offered on a regular basis as a part of the graduate program in the Department of Mechanical and Materials Engineering. We have found these HVAC courses to be very popular and effective; however, broader knowledge base and depth in this area is necessary to become a specialist in this field. Therefore we have expanded our offering by introducing two new courses (MME 9641 and MME 9642), which provide the required broader knowledge base and depth. Furthermore, an MEng project option is also available in this category which is equivalent to two half courses. The MEng projects will be mainly industry-oriented which will provide a practical experience and an exposure to the HVAC industry. In this category, students have two options, (i) complete all four courses, or (ii) complete two courses and an MEng project. The second option (ii) will only be available to the students who have already completed HVAC I and HVAC II or equivalent courses in the previous degree.

<u>Category C</u>

MME 9516 *HVAC I*

MME 9517 *HVAC II*

MME 9641 *Thermal Systems Engineering*

MME 9642 *Building Systems Engineering*

The four specialized graduate courses to be offered in Category C cover all relevant areas of the HVAC Systems engineering and develop the knowledge base. A brief review of each of these courses is provided below:

MME 9516 (HVAC I) covers the main HVAC psychrometric processes, heating and cooling load calculations, and refrigeration cycles. The course also has a lab component and a design project. Students also learn an HVAC modeling software HAP, which is widely used by the HVAC industry.

MME 9517 aims to developing students' knowledge and understanding of the design of main HVAC sub-systems for example, air and water distribution systems, fan/pump sizing and selection, and the selection of HVAC system components such as chillers, boilers etc. The course has a design project. Field trips to the local HVAC systems' sites are also a part of the course. In addition, guest lectures are also arranged where industry experts in various HVAC components share their knowledge and experience with the students.

MME 9641 (*Thermal Systems Engineering*) covers the fundamental theory, basic design criterion and in-depth analysis of different thermal sub-systems used in the HVAC systems, which include heat exchangers, refrigeration systems, heat pumps, and engines. The course also has a lab component.

MME 9642 (Building Systems Engineering) covers the fundamentals of the building sub-systems. As the HVAC systems are installed in all types of buildings, the knowledge of the building sub-systems and the building energy consumption is vital for the proper designing, selection, operation and maintenance of the HVAC systems. The course also introduces the energy efficiency in buildings and the use of renewable energies in buildings, which are in line with the new trends in the HVAC industry.

The six graduate courses to be offered in Category A cover the broader knowledge base to further strengthen the fundamentals that can be applied in the HVAC field. For example, MME 9515 (Fluid Machinery) conducts an in-depth analysis of pumps which are essential components in the HVAC systems; MME 9610 (Applied Measurements & Sensing Systems) widens the knowledge base from instrumentation and measurement perspective which is important from the monitoring and control aspects of HVAC systems; MME 9612 (Finite Element Methods) covers the stress analysis which is useful from the structural aspects; MME 9614 (Applied Computational Fluid Mechanics and Heat Transfer) trains students on using simulation tools to simulate fundamental thermo-fluid processes, which are also involved in HVAC systems; MME 9617 (Energy Conversion) focuses on various energy resources and energy conversion processes which would be useful in developing energy efficiency strategies and integrating renewable energies to minimize the building energy consumption from conventional resources; MME 9621 (Computational Methods in Engineering) covers important methods and techniques used in the numerical analysis of mechanical engineering problems, which could be helpful in the general analyses.

Consultation process in the preparation of the brief, including faculty and student input and involvement

The proposed program was presented and discussed at the MME Department Council meeting and unanimously approved. The program was also consulted with the local HVAC industry and the local chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers

(ASHRAE) and they have assured cooperation in soliciting industry-oriented projects. The program was then discussed at the Graduate Chairs committee meeting in the Faculty of Engineering and approved. Finally, the program was discussed at the Faculty council and unanimously approved.

Evidence to support the introduction of the program

As mentioned earlier, HVAC is a growing industry but at the same time it is not significantly influenced by the economic variations as the HVAC systems are considered as basic necessities. Therefore, there is a consistent demand of mechanical engineers in the global HVAC industry. The advanced knowledge of the HVAC profession and the practical experience (in the form of MEng projects) will place the graduates from this program in a preferred standing for the potential HVAC industry employers as compared to the regular mechanical engineering graduate. In MME, we offer two toggled HVAC courses as fourth year technical electives. Both of these courses are very popular among 4th year undergraduates and we expect that the proposed program will motivate a large number of these students to pursue Master's degree.

Special matters and innovative features

The proposed program is unique to Ontario and Canada. Even very few universities in the US or around the world offer graduate program in HVAC. Therefore, it would serve as a niche area in the Western Engineering. Due to the uniqueness of the program at the national and international levels, it will attract national as well as international students.

Listing of faculty members in the program

Primary members:

a) tenured or tenure-track core faculty members whose graduate involvement is primarily in the graduate program under review

1. Dr. Roger Khayat, Associate Professor, Mechanical and Materials Engineering
2. Dr. Michael Naish, Associate Professor, Mechanical and Materials Engineering
3. Dr. Eric Savory, Associate Professor, Mechanical and Materials Engineering
4. Dr. Kamran Siddiqui, Associate Professor, Mechanical and Materials Engineering
5. Dr. Anand Singh, Professor, Mechanical and Materials Engineering
6. Dr. Anthony G. Straatman, Professor, Mechanical and Materials Engineering
7. Dr. Chao Zhang, Professor, Mechanical and Materials Engineering

Other:

1. Walid Altahan, Laboratory Manager, Mechanical and Materials Engineering

- There are 7 full-time Primary tenured professors and one staff member. These members will have the primary responsibility for the courses in Categories A and C. Four primary professors (E. Savory, K. Siddiqui, A. Straatman and C. Zhang) and the staff member (W. Altahan) will also be responsible for the supervision of the MEng projects in the program. The staff member Walid Altahan is a permanent staff member (Laboratory Manager) in the department since 2003. He holds an MESc degree in Mechanical Engineering and has a vast industrial experience in HVAC systems. He is eligible to teach graduate courses in the department and has been teaching HAVC I and HAVC II since 2007. Walid has made several improvements in the content and delivery of both courses and has received USC Teaching Honour Roll Award and Terry Base Teaching Award for these courses. Two primary tenured professors (K. Siddiqui and C. Zhang) have taught HVAC courses in the past and could take over these courses if necessary.

- The department also has an HVAC Resource Laboratory equipped with an educational Air Handling Unit and computer work stations with HVAC modeling software HAP.