

REVIEWS OF ACADEMIC PROGRAMS AND UNITS**November 2010 – May 2011**

Report to the Committee on Academic Policy and Programs
September 20, 2011

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REVIEW SUMMARY

DIVISION/UNIT:	Faculty of Applied Science and Engineering University of Toronto Institute for Aerospace Studies (UTIAS)
DATE:	May 4-6, 2011
COMMISSIONING OFFICER:	Dean, Faculty of Applied Science and Engineering
PROGRAMS OFFERED:	
Undergraduate	Program Option through Division of Engineering Science
Graduate:	Master of Applied Science (M.A.Sc.) Master of Engineering (M.Eng.) Doctor of Philosophy (Ph.D.)
EXTERNAL REVIEWERS	Prof. Arun K. Misra, Thomas Workman Professor. Dept. of Mechanical Engineering, McGill University Tom I-P. Shih, Professor and Head, School of Aeronautics and Astronautics, Purdue University
PREVIOUS REVIEW DATE:	2006
SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:	UTIAS is a first rate department. Its strengths are its ties with industry, its unique experimental facilities, and its focus on certain areas of excellence. The major weakness is that UTIAS does not have the international recognition that it deserves. Faculty • New Director – should search externally for someone with a degree from another institution. Administration • Strategic plan – excellent with clearly defined areas of focus. • Budget – it is critical that UTIAS not face further budget cuts. • Funding – could be increased through interdisciplinary initiatives. • International recognition: • More effort should be made to promote faculty for awards and honors and integrate them into the North American Aerospace community. • The number of foreign visitors should be increased. • More graduate students should be recruited from the US. • Infrastructure – building maintenance funds are needed. • Two recommendations from the previous review were not implemented and are repeated here: • The need for a technician for the undergraduate design labs. • The establishment of a strong visitors program. Programs • Reviewers made a variety of suggestions for enhancing the undergraduate experience, including combining the writing course with the lab course. • Undergraduate students would like to be able to count graduate courses taken as an undergraduate towards a master's degree.
RECENT OCGS REVIEW(s) DATE:	2005/06

CURRENT REVIEW

DOCUMENTATION PROVIDED TO REVIEWERS:

Terms of Reference
Self-Study
UTIAS 2010-2020, A Case for Growth
2005/2006 External Review Report
Engineering Faculty Self-Study 2010
Engineering Faculty Annual Report 2010: Performance Indicators

CONSULTATION PROCESS:

The reviewers met with the Dean, Faculty of Applied Science and Engineering; Director and Associate Director, Institute for Aerospace Studies; junior and senior faculty members; Institute graduate students, and undergraduate students from Aerospace Option; Institute administrative staff; and Chairs from other Faculty of Applied Science and Engineering departments.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

UTIAS is first rate with outstanding students and professors, strong support staff, and excellent facilities. It compares well with the leading institutions in aerospace engineering around the world. The quality of research is excellent, and the Faculty of Applied Science and Engineering provides strong support, opportunities and incentives for collaboration.

1. Undergraduate Program

The reviewers observed the following strengths:

- Scope and priorities – appropriate and sound.
- Quality – high with excellent students and highly competent faculty.
- Teacher ratings – higher than the Faculty's average.
- Openness and accessibility of faculty – appreciated by students.
- Specific program strengths include –
 - o The two required capstone design courses.
 - o The undergraduate thesis.
 - o The opportunity to do a professional experience year.
 - o Weekly homework that is graded and monthly exams in most courses.
 - o A breadth of activities outside of the classroom.

2. Graduate Program

The reviewers observed the following strengths:

- Scope and priorities – appropriate and sound.
- Quality – high with excellent students and highly competent faculty.
- Support for independent research – students appreciate the strong support provided by the faculty through funding, excellent facilities, and guidance.

The reviewers identified the following areas of concern:

- Courses – students would like to see more course offerings, especially in the PhD program.

The reviewers made the following recommendations:

- MEng – could better serve Canada's workforce needs in the aerospace industry.
- Graduation rate – UTIAS should aim for one PhD student graduated per faculty per year, which is the standard at peer institutions.

3. Faculty/Research

The reviewers observed the following strengths:

- Faculty – highly competent faculty members who care about teaching and are doing excellent research.
- New faculty – outstanding, with PhDs from a wide range of leading universities.

- Productivity –
 - o Publications – all faculty are writing journal and conference papers, and averages on publications and citations are strong.
 - o Supervision – All faculty are advising PhD and MASc students.
- Recognition – many faculty have received distinguished awards.
- Unity of research – two important areas of focus: reducing the environmental impact of aviation, and space exploration and microsatellites.

The reviewers made the following recommendations:

- Graduation rate – the number of PhD students graduated per faculty per year should be used as another indicator of research activity.

4. Administration

The reviewers observed the following strengths:

- Vision and long-range plan – appropriate and aligned with those of the University and the Faculty.
- Leadership –
 - o Strong with a clear vision.
 - o Director has strong links to Canada's leading national committees on aerospace.
 - o A good advisory board to provide guidance.
- Alumni engagement – efforts have been made through brochures, newsletters, and the web.
- Resource allocation – Investment in RAs and equipment support for professors is commendable.
- Administrative staff – pleased with their work environment and extremely loyal.

The reviewers identified the following areas of concern:

- International reputation – lacks strength.
- Remote location –
 - o Students –
 - Miss seminars and other activities across the university.
 - Would like stronger collaborations with faculty and students in other units.
 - Lack access to university resources such as the machine shop.
 - o Faculty – need a location with sufficient space for their research, including wind tunnels and artificial terrain.

The reviewers made the following recommendations:

- Enhancing international visibility –
 - o Attending and presenting at international conferences.
 - o Serving on committees for the American Institute of Aeronautics and Astronautics.
 - o Inviting world leaders to a seminar series in aerospace engineering.
 - o An advisory council to promote UTIAS and develop collaborations internationally.
- Location – if a move to the main campus is not possible, then it should be a location with sufficient space and subway access, such as Downsview Park.
- Technician support – stable funding should be available in case professors cannot fully support a technician.
- Administrative staff –
 - o Work load is high.
 - o A plan for back-up is needed in case of absences.

ADMINISTRATIVE RESPONSE – Appended



UNIVERSITY OF TORONTO

FACULTY OF APPLIED SCIENCE & ENGINEERING

Cristina Amon, Dean

July 27, 2011

Professor Cheryl Regehr
Vice-Provost, Academic Programs
University of Toronto
27 King's College Circle

Dear Cheryl

Thank you for your letter of June 10, 2011 regarding the May 2011 External Review of the University of Toronto Institute for Aerospace Studies (UTIAS). We consider the external review an important opportunity to critically reflect on the strengths, opportunities and future plans for our academic units and for the Faculty as a whole. We take great pride in the high quality of the people and programs associated with UTIAS and we look forward to incorporating the feedback received through this review in the strategic planning of the Institute, and the Faculty.

I write in response to the reviewers' recommendations, specifically in the four areas you identify. Next we provide a summary of each area identified in the review followed by the Faculty's administrative response.

1. Breadth of Curricular Offerings

- *The reviewers note that graduate students would like to have access to a broader range of courses*

Administrative response:

As a result of a number of retirements and new hires, UTIAS is moving through a period of transition. While the professors retiring typically teach one to two graduate courses, the new hires do not introduce their first graduate course until their third year. Thus far two of the new professors have introduced graduate courses. Two more graduate courses will be introduced in the coming academic year and two more in 2012-13. Over the next year, UTIAS will review its graduate course offerings to ensure that no major gaps exist and to make appropriate modifications in order to attract more MEng candidates.

2. Graduate Students

- *The reviewers suggest using PhD student graduate rate as an indicator of research activity. They indicate that the standard at peer institutions is to graduate 1 PhD student per faculty per year, and suggest that UTIAS should aim to achieve the same.*

Administrative response:

We fully agree with this recommendation. The Institute will adopt this target and will track progress toward it. Given the recent spate of hiring, it is unlikely to be achieved immediately, as it takes a few years before a new professor can recruit and then graduate a PhD student. Moreover, some of UTIAS's peer institutions do not have research-oriented Masters degrees. Nevertheless, UTIAS believes this target to be achievable, as indicated by strong recent growth in PhD enrolment.

3. Location

- *The reviewers emphasized the importance of selecting a location for UTIAS that meets the needs of students and faculty.*

Administrative response:

The Faculty has been working to identify options for relocating UTIAS. In addition to considering options for relocation to the St. George Campus, UTIAS is presently pursuing funding for an opportunity to relocate to a new facility in Downsview Park in 2015, by which time this location will include a subway station and a GO station, as well as an Aerospace Innovation Centre. This opportunity would provide UTIAS with improved facilities consistent with its excellence, enhanced accessibility to the downtown campus in particular, and a location near to several partners. Any relocation of the UTIAS facility will be determined based on the collective best interests of students and faculty, and in alignment with the strategic goals of UTIAS and the Faculty of Applied Science and Engineering.

4. External Reputation

- *The reviewers emphasized that UTIAS, despite its strong performance is little known outside of Canada except to direct collaborators. Greater effort to improving the international profile and reputation of UTIAS is strongly encouraged.*

Administrative response:

UTIAS will continue to take steps to improve its international reputation. We have made progress over the past five years toward raising UTIAS's international profile. For example, participation in international technical committees and international research collaborations has greatly increased. Many of UTIAS's recent hires have strong international connections. Moreover, several recent UTIAS graduates have obtained excellent positions outside of Canada, for example postdoctoral fellowships at Cambridge and Stanford and a faculty position at the University of Dayton, to name a few. Furthermore, graduates from the Aerospace Major of Engineering Science continue to be offered admission regularly to top US aerospace departments such as MIT and Michigan. The formation of an International Academic Advisory Board, as suggested by the reviewers, will also be assessed and further measures, such as participation by the UTIAS Director in the US Aerospace Department Chairs Association, will also be undertaken. In addition, UTIAS plans to strengthen the financial position to enable the opportunity to increase the faculty complement from 14 to 18. These positive changes will take some time to

bear fruit, and we believe that the visibility and international profile of UTIAS will continue to improve.

Thank you very much for the opportunity to provide a response to the report of the external review team. We look forward to the continued development of the future directions of the University of Toronto Institute for Aerospace Studies.

Sincerely

A handwritten signature in blue ink, appearing to read "Cristina Amon". The signature is fluid and cursive, with a large initial "C" and a stylized "A".

Cristina Amon

REVIEW SUMMARY

DIVISION/UNIT:	Faculty of Applied Science and Engineering Chemical Engineering and Applied Chemistry
DATE:	December 1 st and 2 nd , 2010
COMMISSIONING OFFICER:	Dean, Faculty of Applied Science and Engineering
PROGRAMS OFFERED: Undergraduate	Chemical Engineering, BASc
Graduate:	Chemical Engineering and Applied Chemistry, MASc, MEng, PhD
EXTERNAL REVIEWERS	Andrew Hrymak, Dean College of Engineering, University of Western Ontario Andrew Gellman, Head of Chemical Engineering, Carnegie Mellon University
PREVIOUS REVIEW DATE:	2005
SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:	Strengths: • Outstanding students. • High research productivity. • Effective hiring of junior faculty members. • Strong alumni relations. Concerns: • Isolated from the science departments in Arts and Science. • Graduate students are recruited almost exclusively from within the University. Recommendations: • International recognition – a more strategic focus, including promotion of the successes of faculty members, is needed to promote the department as one of the best in the world. • Research clusters – should be re-examined to align with areas of strength and/or strategic initiatives. • Graduate course requirements: • Should be re-examined. • Courses in other faculties should be more accessible to students in interdisciplinary programs. • Recruitment – speed up admissions to compete more effectively for top graduate students from outside of the GTA and internationally. • Fund development – additional resources and effort are needed in coordination with the Faculty and the University.
RECENT OCGS REVIEW(s) DATE:	2008/09
CURRENT REVIEW	
DOCUMENTATION PROVIDED TO REVIEWERS:	Terms of Reference Self-Study (including Summary of Academic Priorities) 2005/2006 External Review Report Excerpt from Faculty undergraduate course calendar Faculty Self-Study (2010)

CONSULTATION PROCESS: The reviewers met with the Dean, Faculty of Applied Science and Engineering; Chair, Dept. of Chemical Engineering and Applied Chemistry; Vice Deans, Associate Dean, and First Year Chair, Faculty of Applied Science and Engineering; Associate Chairs, Graduate, Undergraduate and Research, Dept. of Chemical Engineering and Applied Chemistry; representatives from cognate units; junior and senior faculty members; departmental administrative staff; Departmental Alumni Advisory Board; and undergraduate and graduate students.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

The Department is very healthy and its programs are exceptional. It is one of the top departments in Canada and, in many respects, is on par with top departments globally. The Chair and faculty are to be commended on the degree of change and the progress that has been made over the past decade.

1. Undergraduate Program

The reviewers observed the following strengths:

- Program – very strong.
- Curriculum – rigorous compared to other chemical engineering programs.
- Students –
 - High quality.
 - Very positive about the program and their post-graduation prospects.
- Professional development – the *Leaders of Tomorrow* program is highly regarded.

The reviewers identified the following areas of concern:

- Curriculum –
 - The rigour puts a heavy load on students and professors.
 - The bioengineering components of the program may be growing at the expense of the traditional components.
- Class sizes – relatively large.
- Student interaction – students lack time to work together on assignments due to the time constraints of commuting from within the GTA.
- Teaching –
 - The number of TA hours devoted to a typical class is minimal.
 - Not all faculty and TAs effectively use tutorials.
 - The use of homework seems to be inconsistent.
- Tracking of graduates – needs to be improved.

The reviewers made the following recommendations:

- Curriculum –
 - Heavy work load – analyze for redundancies or components that can be eliminated.
 - Accreditation requirements – monitor course offerings and requirements to make sure they are compliant.
 - Student recommendations –
 - Greater coordination between professors teaching courses covering related materials to allow for synergies and avoid unnecessary duplication.
 - Better coordination of lab experiments with lecture coverage of concepts.
 - Formal training in the use of software.
- Student interaction – could be facilitated through web technology or more flexible scheduling of assignments.
- Teaching – TAs need to be formally trained to conduct tutorials and provide more substantive input rather than simply monitoring student exercises.
- Student to faculty ratio – should be monitored as it may grow due to budget constraints.
- Admissions standards – could be raised, given the large enrolments.
- Student remediation – weak students could be identified earlier in the program.

2. Graduate Program

The reviewers observed the following strengths:

- Program – strong and is strengthening in a number of areas.
- Student body – the number of graduate students has increased, particularly in the PhD program.
- Career prospects – students seem very positive about their career prospects on graduation.
- Recruitment – the weekend recruitment event is a commendable and successful initiative.

The reviewers identified the following areas of Concern:

- Student body – diversity is limited by the high percentage (50%) of graduate students recruited from within UofT.
- Course offerings – limited, many are offered only every other year.
- Time-to-completion –
 - Long for the PhD compared to many top programs around the world.
 - There may be unnecessary delays in getting theses approved and the final defense.
- PhD funding – not competitive with peer US universities.

The reviewers made the following recommendations:

- Curriculum – has not evolved much in the past decade and should be reviewed, especially given the general shift of research towards applied chemistry and life sciences.

3. Faculty/Research

The reviewers observed the following strengths:

- Recruitment – The department has done well in hiring excellent faculty and in recruiting female faculty members.
- Research funding and productivity – improved significantly over the past decade, and on par with many of the best departments in the world.
- Research clusters –
 - Pulp and Paper is probably the best of its kind in the world.
 - Biomolecular and Biomedical Engineering and Environmental Science and Engineering also have the capacity to be world class.
- Research facilities –
 - Very good and improving.
 - Faculty have been very successful in acquiring new instrumentation for laboratories.
- Student involvement – the impact of the research programs on students seems to be entirely positive.

The reviewers identified the following areas of concern:

- Teaching load – heavier than in peer US universities, allowing less time for research.

The reviewers made the following recommendations:

- Research clusters – ensure they are consistent with and serving the department's strategic goals.
- Outreach – further engagement of industry in the research programs.

4. Administration

The reviewers observed the following strengths:

- Administration – the Department is well organized and managed.
- Vision – clearly articulated and appropriate, and consistent with that of the Faculty.
- Staffing – appropriate (although the workload is high and this needs to be monitored).
- Infrastructure – continuous improvement through renovation of laboratories and classrooms.
- Collaboration –
 - Collegial and supportive relations with other departments.
 - Quite strategic in the area of biomedical engineering.
- Alumni and industry partners – overall were very positive on the department's direction.

The reviewers made the following recommendations:

- Outreach to alumni – could be improved for the long term purpose of increased giving.
- Advancement – greater efforts will be needed to support major changes in infrastructure, faculty renewal and staff increases.
- Advisory Board – the department should consider including academics from regional universities.

ADMINISTRATIVE RESPONSE – Appended



UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Cristina Amon, Dean

August 23, 2011

Professor Cheryl Regehr
Vice-Provost, Academic Programs
University of Toronto
27 King's College Circle

Dear Cheryl

Thank you for your letter of April 13, 2011 regarding the December 2010 External Review of the Department of Chemical Engineering and Applied Chemistry. We consider the external review an important opportunity to critically reflect on the strengths, opportunities and future plans for our academic units and for the Faculty as a whole. We take great pride in the high quality of the people and the research and teaching programs associated with the Department of Chemical Engineering and Applied Chemistry and we look forward to incorporating the feedback received through this review in the strategic planning of the Department and the Faculty.

I write in response to the reviewers' recommendations, specifically in the five areas you identify. Next we provide a summary of each area identified in the review followed by the Faculty's administrative response.

1. Undergraduate Curriculum

- The reviewers suggested that the curriculum includes an unnecessarily large number of science courses and should be reviewed to consider reducing some of the program requirements.
- The reviewers note some inconsistencies within the tutorial system and suggest formal training of TA's for more effective support of undergraduate students.

Administrative response:

The Department has developed a curriculum map which will be ready for release to the students in September 2011. This map will allow for greater efficiency in the delivery of programming, eliminating redundancies and decreasing contact time. In fact, the Department has already taken steps to reduce contact hours by eliminating one hour in each of terms 2F and 2S and one technical elective in 3S.

In preparation for the development of a system of graduate attributes as required in future for CEAB accreditation, the Department has been developing learning objectives and now has progressed half way through the curriculum. It is expected that the development of learning

objectives will be complete in 2011-12. The Department is undertaking preparations for CEAB accreditation with a site visit in the Fall of 2012. Preparations for the site visit will be complete by June 2012. These preparations will allow for a more accurate articulation of our programming so as to meet but not excessively exceed the demands of accreditation. With all these preparations behind us and adjustments to course offerings, we can expect that the Department would have a slimmed down curriculum in place for the 2012-13 academic year.

The Department will undertake assessment of the range of tutorial operating characteristics across the undergraduate curriculum to be used as the basis for a discussion among colleagues and establishment of guidelines for tutorial operations. Training of TA's was identified as a recommendation for the Faculty to consider as part of the Faculty external review in May 2010. We have tasked our Teaching Methods and Resources Committee to develop and implement initiatives to support improved teaching across the Faculty, including workshops on various aspects of teaching, sharing teaching best practices and implementing a teaching award for Teaching Assistants to recognize excellence. The Committee is also examining improvements to the mandatory training of our teaching assistants and, in the context of a new course evaluation system, to improve the evaluation of teaching assistants.

2. *Tracking of Graduates*

- *The reviewers suggested it would be useful to maintain contact with graduates of the program to determine long-term outcomes of the program.*

Administrative response:

The Department will gather NSERC data on the present location of graduated MASc and PhD students (highly qualified personnel) trained by principal investigators. In addition, the Department will undertake, in cooperation with Alumni Affairs, an alumni tracking project using summer students in the summer of 2012. We have previously done this with financial support provided by the Engineering Alumni Association and the Department.

3. *Recruitment of Graduate Students*

- *While they note improvements in this area, the reviewers indicate that many of the students in the graduate program are from the University of Toronto and recommend broadening the student base.*

Administrative response:

The Department will continue to aggressively develop its strategy and program for recruiting top rank Canadian students through its Graduate Research Weekend with a view to even better results at the next event in February 2012. The Department will also provide a presentation package for faculty to use when they travel to conferences, workshops and universities so that they can speak about the graduate programming at the University of Toronto with prepared slides and video.

4. *Graduate Curriculum*

- *The reviewers suggested that the number of graduate courses offered to students, particularly for those in the MEng program, could be enhanced and that processes for thesis defence could be streamlined.*

Administrative response:

The Department has, this spring, increased the number of MEng courses to be offered in 2011-12 by four and increased the number of graduate courses for MASc and PhD students by two. We have done this through cultivating alumni who are well positioned in leading, locally based, international consulting companies. We will continue expansion and consolidation of our graduate course offering with a view to adding more courses by September 2012.

Although the Departmental oral examination has a long tradition as a means of preparing students for the final PhD oral examination and for ensuring the high quality of student defences, the Department will undertake to implement a formal policy for an optional bypass of the Departmental oral examination predicated upon outstanding performance and recommendation of the Reading Committee. Although this policy has been in existence on a case-by-case basis over the last two years, a formal policy will be articulated.

5. External Relations

- *The reviewers suggested that the teaching and research programs of the Department would benefit from greater outreach and engagement with industry.*

Administrative response:

The Department is committed to greater engagement with current industry partners and outreach to new ones. One way we will do this is through increasing the number of experienced engineering practitioners teaching undergraduate and graduate courses. The Department will also actively support faculty members who establish research-related partnerships with industry. For example, BioZone is undertaking to cultivate corporate partners with a view to establishing a corporate partners group by December 2011. The Centre for Water Innovation (CWI) recently applied for funding from the Dean's Strategic Fund and was authorized to conduct a workshop in the Fall of 2011 which would showcase research in the Department and across the Faculty related to water and strengthen a campaign for industrial partners to this centre under development.

Thank you very much for the opportunity to provide a response to the report of the external review team. We look forward to the continued development of the future directions of the Department of Chemical Engineering and Applied Chemistry.

Sincerely



Cristina Amon

REVIEW SUMMARY

DIVISION/UNIT: Faculty of Applied Science and Engineering
Division of Engineering Science

DATE: December 7-8, 2010

COMMISSIONING OFFICER: Dean, Faculty of Applied Science and Engineering

PROGRAMS OFFERED:
Undergraduate Engineering Science, BASc – with majors in: Aerospace Engineering; Biomedical Engineering; Electrical and Computer Engineering; Infrastructure Engineering; Nanoengineering; Engineering Physics; Energy Systems Engineering; and Engineering Mathematics, Statistics and Finance

Graduate: N/A

EXTERNAL REVIEWERS

Tyseer Aboulnasr, Dean, Faculty of Applied Science, University of British Columbia
Patricia R. Burchat, Gabilan Professor of Physics, Chair, Physics Dept., Stanford University

PREVIOUS REVIEW DATE: 2005

SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:

- One of the academically elite programs within the University.
 - Allocation of funds –
 - o Should be more transparent to department and division chairs.
 - o Should recognize the need for program administration, support of students, academic planning, and pedagogical development.
 - Support for the program among department chairs is not as strong as indicated in the 1999 report.
 - Curriculum –
 - o The common two years in the ESC program provide a good opportunity for students to make informed career choices.
 - o Criteria for the introduction and phase out of program options need to be established.
 - o There should be more program elements addressing leadership, design, communication, and creative and integrative thinking.
 - Resources should be provided to undertake the bold and imaginative pedagogical initiatives afforded by the program.
 - Students are “keen, highly motivated, and proud of their program”.
 - The bonds that form among students and with the Division must be nurtured after graduation.
-

RECENT OCGS REVIEW(s) DATE:

N/A

DOCUMENTATION PROVIDED TO REVIEWERS:

Chair’s Reflection
Terms of Reference
Engineering Science Academic Plan for 2004-2010
2005/2006 External Review Report
Excerpt from Faculty undergraduate course calendar
Faculty of Applied Science and Engineering Self-Study (2010)
Faculty of Applied Science and Engineering 2010 Annual Report

CONSULTATION PROCESS: The reviewers met with the Dean, Faculty of Applied Science and Engineering; Chair, Associate Chair and Assistant Chair, Engineering Science; Engineering Science Option Chairs; junior and senior faculty members involved in teaching to the Engineering Science program; Engineering Science administrative staff; Engineering Science undergraduate students; and Chairs from other Faculty of Applied Science and Engineering departments.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

1. Undergraduate Program

The reviewers observed the following strengths:

- Engineering Science program – “a jewel in the curriculum offered at the University of Toronto.”
- Curriculum – the breadth of exposure and rigorous emphasis on fundamentals in the first two years is appreciated by students when they enter years 3 and 4.
- Students –
 - o Exceptional, with a mean average in their final six high-school courses of around 93%, compared to 89% for the Faculty.
 - o Percentage of female students is around 30%, which is higher than the Faculty overall.
- Support of other departments –
 - o Chairs of the departments that provide the teaching resources feel that the program is complementary to their own, rather than in competition.
 - o They view the program as a potential source of excellent students for their own graduate programs.

The reviewers identified the following areas of concern:

- Program descriptions – the language used implies a judgement of other engineering programs.
- Students –
 - o Are entering with varying levels of preparation in math and science.
 - o Some have serious weaknesses in communication skills.
 - o Some show signs of exhaustion and a consequent tendency to minimize the work needed for an assignment.

The reviewers made the following recommendations:

- Program descriptions – should focus on the objective positive attributes of the program.
- Student preparation –
 - o Teaching staff should assist in assessing which students are in need of further preparation in math and science and provide modular teaching resources.
 - o Assessment and remediation may be needed during the summer before first year.
 - o Those with weak communication skills should be identified early and provided with resources to address the deficiencies.
- Curriculum:
 - o Course objectives – clarify whether the goal is to pack more material into the curriculum or to address the material more deeply, as the burden on the students may be too great if they are expected to handle both.
 - o Introduction to majors¹ –
 - Students would like to have access to ‘electives’ in different majors during the second year.
 - An alternative route would be a non-credit initiative to introduce students to the majors.
 - o Nanoengineering major – could be repackaged, perhaps with a closer link to materials science, as there have been declining enrolments.
 - o Focus – students would like more emphasis on the “big picture” (ethics, policy and economics issues) as well as global health.
- Lecturers hired to support Engineering Design and Engineering Education –
 - o Workloads should be re-evaluated to make sure they are appropriate and sustainable.
 - o A plan should be developed for these positions to accommodate potential leaves.

¹ Majors and Options are synonymous within Engineering Science

- Outreach – students recommended a greater focus on informing industry of the value of the program.
- Career planning – students should be presented with the full breadth of opportunities available to them after they graduate, as there is an expectation that graduates will pursue higher degrees.

2. Faculty

The reviewers observed the following strengths:

- The faculty, drawn from across the University, are committed to excellence and innovation.

3. Administration

The reviewers observed the following strengths:

- Leadership –
 - o The Chair is very committed to the program and has led significant positive developments in curriculum, recruitment of students, external relations and facilities.
 - o The Chair has been effective in addressing issues raised in the 2006 and 2008 accreditation reviews.
- Fundraising – the emphasis on fellowships and stipends for summer research is very appropriate.
- Staff – support each other well and together run an extensive student support system.
- Space – the reviewers were impressed with the new space in the Bahen Center.

The reviewers made the following recommendations:

- Professional licensure for faculty who teach – this requirement presents a special challenge, which should be addressed without compromising the program's strength in science and mathematics.

ADMINISTRATIVE RESPONSE - Appended



UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Cristina Amon, Dean

May 5, 2011

Professor Cheryl Regehr
Vice-Provost, Academic Programs
University of Toronto
27 King's College Circle

Dear Cheryl

Thank you for your letter of March 25, 2011 regarding the December 2010 External Review of the Division of Engineering Science. We consider the external review an important opportunity to critically reflect on the strengths, opportunities and future plans for our academic units and for the Faculty as a whole. We take great pride in the quality of the Engineering Science Program and we look forward to incorporating the feedback received through this review in the strategic planning of the Division.

I write in response to the reviewers' recommendations, specifically in the three areas you identify. For ease of reading, a summary of each area identified in the review is followed by the Faculty's administrative response.

1. Program Description

- *Assess and revise the language used in program descriptions so that the strengths of the program are articulated in ways that ensure realistic student expectations and do not draw unnecessary comparisons to other engineering programs.*

Administrative response:

With regards to the language used in earlier editions of the Faculty Calendar, we have recently made revisions to the program preamble in the 2011-12 Faculty Calendar. We have also substantially revised the generic description of the program that we provide to students and that appears on the program website. In both cases, the distinguishing features of the program are articulated by our degree level expectations that were developed and approved in 2008, and will be further defined and refined through our on-going work on the development of the engineering graduate attributes.

2. Curriculum Review

- *Continuously monitoring of options and majors to ensure that they are meeting student needs and are consistent with the goals of the program.*

Administrative response:

Review and monitoring of options/majors will continue to be an integral and on-going component of the work of the Division. Since 2005, every option/major has undergone

significant review (currently, Biomedical and Nanoengineering are under review). The foundation curriculum in Years 1&2 has also been substantially revised, reviewed and revised again over the past 5+ years.

Each review is supported by an ad-hoc committee, which typically draws on expertise from across the Faculty and beyond, or by the standing Engineering Science Curriculum Committee. With the complexity of the program and the challenge to continue to define the frontiers of engineering science, review and monitoring will continue to be front and centre. Such review is healthy for the program in a number of ways, not least of which is the opportunity it provides to engage both new and experienced faculty from across the University in curriculum development.

Another important component of our curriculum work has been the development of a curriculum mapping tool that will allow faculty and students alike to see how courses are integrated and where and when topics are taught. The tool for the foundation curriculum is expected to be ready by June 2012 at which time we will begin expanding it for every option/major in Years 3&4. The Division of Engineering Science also has developed a number of evaluation tools to help understand the student experience, including focus groups and regular student surveys.

2. *Supporting Student Success*

- *Consideration of early identification and remedial support for students struggling in math, science and communications.*

Administrative response:

Efforts to improve in this area will be tested starting in 2011-12 by identifying a few key courses in which some first year students are known to struggle due primarily to their high school background, and work to identify and provide students in need with additional help during the first 2-3 weeks of both the fall and winter sessions.

Over the past several years, our efforts have also focused on providing Facilitated Study Groups (FSGs) for every technical course in the foundation curriculum. These FSGs are staffed by trained and capable upper year Engineering Science students and are available for students in Years 1&2 on a drop in, voluntary basis. The FSGs give students the opportunity to spend time exploring difficult topics in both a group and one-on-one setting.

With regards to students struggling in communications, the identification of these students is handled well in Praxis I. In 2011-12, we will work on making the criteria for what defines 'needing support' versus those 'not needing support' more concrete, and this will involve better training of assessors as well as discussion of criteria. Ideally, these criteria will be based on the Graduate Attributes for Communication. The avenues currently provided for student support are also good. Because each student has a unique set of problems and experience in the language, we have found that workshops on specific issues along with the opportunity to meet with a tutor to develop individual plans to achieve language competency provide the best solutions. We will also work towards improving student participation in these activities.

- *Communicating effectively with students concerning expectations and workload.*

Administrative response:

Currently, our efforts in this area involve an extensive on-line orientation program throughout the summer months as well as an on-site orientation during the first week of classes.

The challenge with the on-line orientation is that it is voluntary and the challenge with the on-site orientation is that the students tend to suffer from information overload early in the fall session.

We plan to test novel ways to deliver the on-site orientation material over a somewhat extended period of time rather than trying to compress it into the first week.

- *Ensure that students are fully aware of all the options available to them post graduation.*

Administrative response:

The Faculty and University have extensive resources to help students in this regard, namely the Engineering Career Centre and the University's Career Centre. In the last two years, we have been piloting a job shadowing program during Reading Week giving first year students the opportunity to spend a day with an Engineering Science alumnus in their workplace as a way to increase awareness of post-graduate opportunities. Given that approximately 65% of our graduates pursue graduate studies, our efforts have also included providing students with graduate school workshops. We will further expand the workshops to include other professional programs (e.g. law and medicine) as well as industry specific workshops tailored to each option/major.

Thank you very much for the opportunity to provide a response to the report of the external review team. We look forward to the continued development of the future directions of the Engineering Science Program.

Sincerely



Cristina Amon

REVIEW SUMMARY

DIVISION/UNIT:	Faculty of Arts and Science Department of French
DATE:	March 9-10, 2011
COMMISSIONING OFFICER:	Dean, Faculty of Arts and Science
PROGRAMS OFFERED: Undergraduate	French Language & French Linguistics, BA: Spec, Maj French Language & Literature, BA: Spec, Maj Second Language Learning (French), BA: Maj
Graduate:	French Language & Literature, MA, PhD
EXTERNAL REVIEWERS	Prof. Richard Hodgson, Department of French, University of British Columbia Prof. Dominic Thomas, Department of French and Francophone Studies, UCLA Prof. Douglas C. Walker, Department of French, Italian and Spanish, University of Calgary
PREVIOUS REVIEW DATE:	2004
SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:	The Department is “preminent” in research. It is the only French department in anglophone Canada that is able to offer real breadth of curriculum, and it must maintain this breadth to fulfill its “national role” in French studies. <u>Undergraduate programs</u> • The major programs are thriving. • Graduate students, who do most of the language teaching, require more training in language instruction. • Study abroad opportunities should be increased, especially through universities in Quebec. <u>Graduate programs</u> • The graduate program overall is in “excellent health.” • All centuries and a full range of theories should be available for study and research. • Assistantship workloads should be more evenly spread. <u>Faculty</u> • Five appointments are needed over the next few years to replace retiring faculty in the following areas: medieval studies, Francophone literatures, 19th century, film, and French as a second language. • Especially strong faculty areas at present include linguistics and contemporary French and Quebec literature and theory. <u>Relations with other units</u> • Relations are strong with units such as Linguistics, Medieval Studies, Caribbean Studies and Cinema Studies. • Relations with OISE should be further developed, as many students wish to become teachers. <u>Administration</u> • The Department is well structured and works harmoniously. • Facilities are good and support staff were praised. • Additional office, research and graduate student space would be desirable.
RECENT OCGS REVIEW(s) DATE:	2004/05

CURRENT REVIEW

DOCUMENTATION PROVIDED TO REVIEWERS:

Terms of Reference
University of Toronto Quality Assurance Process (UTQAP)
French Undergraduate and Graduate Program Self-Study
inclusive of appendices: Previous undergraduate and graduate program reviews; UofT Library Report; Department Academic Plan 2010-15 and Faculty response; FAS Space Assessment Report; FAS Undergraduate program level objectives; Graduate degree level expectations; and Department By-Laws.

CONSULTATION PROCESS:

The reviewers met with the FAS Dean, FAS; Associate Dean, Interdisciplinary and International Affairs; Chair and Graduate Chair, Dept. of French; Chair, Dept. of Language Studies, UTM; Principal, St. Michael's College, representatives of cognate units; junior and senior faculty members; administrative staff; undergraduate and graduate students; UC Librarian and Liaison Librarian for the French Dept; and the Department Chair Advisory Search Committee.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

1. Undergraduate Program

The reviewers observed the following strengths:

- Curriculum –
 - Recent changes fit with current trends in the discipline and with the academic plans of the Faculty.
 - A number of courses have innovative content or modes of delivery.
- Objectives and learning outcomes – clearly enunciated and appropriate.
- Innovations –
 - Research opportunities for students through work study programs
 - Optional language seminars and tutorials.
- Assessment methods – appropriate and effective.
- Completion rates – high.
- Teaching –
 - Evaluations are positive.
 - Training in language pedagogy has been introduced for graduate student instructors.
- Exchange programs – students are very positive about the Explore Summer Bursary Program.

The reviewers identified the following areas of concern:

- Language courses –
 - Enrolment is far too high.
 - Students are not being placed at the appropriate level by the Online Placement Exam.
- Curriculum – course offerings have been substantially reduced in some areas.

The reviewers made the following recommendations:

- Use of classroom technology –
 - Underutilized in language courses
 - Students should be encouraged to take advantage of it.

2. Graduate Program

The reviewers observed the following strengths:

- Objectives – clearly articulated and in accordance with those of the Faculty.
- Admission requirements – appropriate.
- Time-to-degree and program completion – rates have improved.

- Teaching – evaluations are positive.
- Proposed new program – reviewers are positive about the proposed Professional Master's in French Language.

The reviewers identified the following areas of concern:

- Applicants – pool for doctoral program is small and lacks diversity.
- Curriculum – course offerings have been reduced in a number of areas.
- Supervision – concerns raised regarding the availability of faculty.

The reviewers made the following recommendations:

- Program outcomes – more emphasis should be given to the multiple potential outcomes of graduate education.
- Admissions – strategies should be developed for admitting more international doctoral students.
- Orientation –
 - o Procedures should be reviewed
 - o Mentors could be assigned for new students and a new Graduate Student Handbook developed.

3. Faculty/Research

The reviewers observed the following strengths:

- Faculty are –
 - o Hardworking and committed
 - o Publishing in appropriate outlets
 - o Receiving competitive external research grant support.
- Reputation – the Department enjoys an excellent international reputation.
- Areas of strength – the Department is especially strong in linguistics.
- Recruitment – several excellent new hires have strengthened key areas and links with other units.
- Student involvement – both undergraduate and graduate students are pleased with the range of research involvement available.
- Support services – academic support services are strong, especially the library.
- Collaboration and research visibility – strengthened by two initiatives: the e-journal ARBORESCENCE and the GRELFA group.

The reviewers identified the following areas of concern:

- Breadth of coverage – the desire to maintain strength in all periods of French literary history does not appear realistic given the size of the faculty complement and the current state of the discipline.

The reviewers made the following recommendations:

- Breadth of coverage – the Department needs to identify those areas in which it will concentrate since comprehensive coverage is no longer feasible.
- Workload equity – needs to be addressed for faculty.
- Language instruction – the important role of those teaching language courses should be emphasized.
- Curricular and research focus – should be reexamined in response shifting geopolitical realities and the recent transformation of French Studies to more interdisciplinary approaches.

4. Administration

The reviewers observed the following strengths:

- Collaboration – strong and productive relations with other units at the University and with governmental and Francophone communities.
- Administrative structures and regulations – appropriate.
- Planning – the five-year plan clearly and effectively sets out the Department's priorities and strategic initiatives.

The reviewers identified the following areas of concern:

- Morale – discussions with faculty, staff, students and external members highlighted concerns around workload, budgetary uncertainty, transparency in governance and divisions between faculty in different areas.

- Chair – Because of his rank as Associate Professor, the Chair is excluded from certain key decision-making procedures concerning promotion and tenure.
- Space –
 - o The administration, professors, and graduate students are widely dispersed.
 - o At least two graduate students feel unsafe in their basement offices in Teefy Hall.

The reviewers made the following recommendations:

- Morale –
 - o Student and faculty achievements should be celebrated through a newsletter or the website.
 - o A committee should be appointed to nominate faculty, students and staff for awards and prizes.
 - o Scholarly workshops, colloquia and guest lecture series, and annual receptions should be held to promote collegiality and cohesion.
- Chair –
 - o Reviewers' preference is for an external candidate (full-professor) with a vision and a mandate to transform the departmental culture.
 - o If an associate professor is appointed, he or she should have the authority to serve on all departmental committees.
- Space – the problems with physical dispersal and the security of some offices need to be addressed.
- Collaboration – there should be increased consultation with OISE concerning undergraduate courses and the proposed professional master's.
- *Centre d'Etudes de la France et du monde Francophone* – ongoing stable funding for the *Centre* should be a priority in planning.
- Exchange programs – more programs should be developed with other universities, especially in Quebec.
- Departmental website – essentially inactive and should be revitalized.

ADMINISTRATIVE RESPONSE – Appended



UNIVERSITY OF TORONTO
FACULTY OF ARTS & SCIENCE

22 August 2011

Prof. Cheryl Regehr
Vice-Provost, Academic Programs
University of Toronto

Dear Cheryl:

I am writing in response to your letter of 4 July 2011 concerning the March 2011 External Review report of the Department of French and its B.A., M.A., and Ph.D. programs. As commissioning officer for the review, I am pleased to read the reviewers' overall positive assessment of the Department's academic and research programs. I appreciate that the evaluators recognized the Department's excellent international reputation and many strengths including its faculty members' scholarly record; a defining presence of equally strong French language, linguistics and literary streams; its links with Medieval Studies, Film Studies, Comparative Literature and cognate language departments; strong academic support services; the strengthening of the integration of research into the undergraduate curriculum; the articulation of the graduate program objectives; and ongoing assessment of program quality. I agree with the evaluators that decisions made in the near future will be critical in ensuring the continued excellence of French Studies at the University of Toronto.

The search committee to recommend a new chair and graduate chair for the Department of French met with the external reviewers during their site visit. They discussed the challenges and opportunities for the Department and the qualities and experience a new chair would require. The Committee reviewed all the nominations and comments received and also considered all other possible candidates within the three-campus graduate unit, including colleagues at UTM and UTSC. Chair candidates are normally drawn from the full or associate professor ranks of the unit. The Committee concluded that there were indeed viable candidates within the tri-campus department who should be considered for the position and a short-list was assembled. Committee members then confidentially consulted with teaching staff, administrative staff and students in the Department to solicit their views of the short-listed candidates. The Committee reconvened, discussed the input received through this process and made a recommendation for the Chair position. The Committee strongly endorsed Professor Jeffrey Steele as the ideal candidate for the position. A subsequent Graduate Chair search committee, chaired by Professor Brian Corman, Dean of the School of Graduate Studies, reached a similar conclusion.

Professor Steele began his term as the new Chair and Graduate Chair of the Department of French on 1 July 2011 and I have every confidence that he and the Department will meet the challenges outlined by the review. Professor Steele brings to the position extensive academic administrative experience and sensitivity that will enable him to provide leadership to the Department and to help the Faculty further advance its efforts. The review has clearly identified some issues that will require the attention of the new Chair. Prof. Steele has embarked on a consultation and visioning process in the Department and careful thought and consideration have been given to the report recommendations. Below, you will find a summary of these discussions,

reporting on steps already taken to address the challenges, and plans proposed by the French department for the next year and beyond.

Curricular and research focus / or /scope

It has been a substantial challenge for the Department to maintain wide coverage in all areas of French studies both due to retirements and the numerous secondments of its members to senior academic administrative positions in both the Faculty and University. As the evaluators highlighted, there is a need to review the breadth of areas that can be covered at both the undergraduate and graduate levels with sufficient depth. To this end, the new Chair has planned two fall retreats (September – St. George French; October – Tri-campus graduate programme). One of the primary objectives of these meetings will be to identify areas of research and teaching excellence in which all faculty members can participate and for which resources can be allocated in the short and longer terms. Both retreats will be followed with sets of regular meetings over the next year.

The Chair and I both appreciate that the reviewers recognized the importance of the Department's initiative for a new professional masters in French language. Since the reviewers' visit, an ad hoc committee of tri-campus faculty has met and made considerable progress on this project. An initial brief was presented to my office in June. We have worked with the Department and this proposal has been presented to the Provost's office for review. Pending the outcome of the consultation meeting with the Provost, preparation of the full proposal would also include considerable consultation with external stakeholders, including individuals in both the educational and government sectors.

In line with the evaluators' suggestion, Prof. Steele recently met with the administrators of the Centre for Educational Research on Languages and Literacies at OISE to discuss potential collaborations in the area of French language teaching and research both at the undergraduate and graduate levels.

Course offerings and delivery

We are sympathetic to undergraduate students' concerns regarding course selection. To date, the Department has been able to offer a wide range of courses in its three main areas (French language, linguistics, and literature) in spite of faculty attrition. To ensure that course offerings are maintained in the short and medium term, the Department has recently hired three additional full-time contractually limited faculty for each of these areas, with assistance from the Dean's Office. In the case of delivery of language teaching, faculty heavily involved in the French language series have been reviewing the instructional methods in relation to the new course structures implemented last year as part of the Faculty's curriculum renewal exercise; one new initiative to be implemented in 2011-12 will involve online video tutoring.

The Department will also be investing resources in the revision of its online placement test to ensure that undergraduate students continue to be placed in the course most appropriate for their current French proficiency.

Encouraging study in a French-speaking environment

The Department is fully committed to and highly interested in renewing previous exchange opportunities and investing in new ones. In terms of the former, the Department will strongly consider renewing its previous exchange involving French graduate student ‘lecteurs’ responsible for contributing to the French language series and general cultural activities.

In terms of new initiatives, following on previous internal discussions and beginning this fall, the Department will investigate possible relationships with francophone universities in both Québec and Europe having similar and complementary strengths in the Department’s main teaching and research areas with the goal of establishing exchanges not only for students but also for faculty. The latter would allow for the offering of a wider range of courses and permit research collaborations. The Department also believes that, in the case of Québec universities in particular, exchange programs may lead to improved graduate recruitment. The Department will also take advantage of the services and international networks that are now being built within FAS, in particular, the offices of Associate Dean Interdisciplinary & International Affairs, and Director of International Programs and Partnerships to investigate and identify potential national and international partners for student exchanges and research collaboration. The Department will also explore International Course Modules (ICM) and 399 courses which are specifically designed with student international experience in mind.

Space:

The Department concurs with the evaluators’ comment on the need for a more unified physical space in order to foster community, both intellectual and personal. While understandably a longer-term project, Prof. Steele has met recently with Prof. Domenico Pietropaolo, Principal of St. Michael’s College, and myself to discuss possibilities at St. Michael’s College and the wider university respectively. In the department’s internal discussions over the next year, the question of space needs in relation to graduate teaching and faculty research will be at the forefront.

The reviewers highlighted graduate students’ safety concerns regarding their offices in the basement of Teeffy Hall. These offices, as well as the offices occupied in Carr Hall by faculty members from the Department, all belong to the University of St. Michael’s College and are allocated on an annual basis by the college’s Principal. The Principal is responsible for the academic programs offered by the College and also for the decision to allocate office space or to offer status as Fellow of St. Michael’s College to the faculty members and graduate students of the ‘resident departments’ from the Faculty of Arts and Science (French, German, Italian and Slavic). St. Michael’s College has been supportive of the resident departments and has been generous in the allocation of office space both to faculty members and to graduate students of the Department of French.

As these offices, and the related physical maintenance and occupational safety matters, are under the control of the Physical Plant of the University of St. Michael’s College, the former Chair and the new Chair have had several discussions with the University of St. Michael’s College on the matter of safety for office spaces. Recently, the new Chair met with the FAS Assistant Dean & Director, Infrastructure Planning and the Principal specifically to address safety concerns regarding basement offices in Teeffy Hall. Several options, some of which are low cost and more easily implemented, were recommended for implementation. Options include modifying the hallway lighting to be motion sensitive, installing security mirrors,

increasing the number of existing security patrols, providing an overview of campus safety to incoming students, and re-evaluating the fire safety secondary exits and window security. This was a very positive meeting and with a clear commitment to resolve the concerns expressed in the report. The Principal then met with the College President who immediately authorized the proposed security changes (including lighting, mirror and increased security patrols) to be implemented for the fall term. Further changes, such as providing a campus safety orientation to incoming students and re-evaluating the secondary exits will be initiated by the new Chair with assistance from infrastructure and planning as required.

Promoting collegiality and cohesion:

Matters of identity and cohesion are central to ensuring continued excellence in French Studies. The Department's fall retreats and subsequent planning meetings will focus squarely on this issue. Along with the issues of space addressed above, more pro-active communication and transparency in governance will be crucial not only for promoting collegiality and cohesion but also for harnessing the full resources of all faculty and students as the Department addresses the challenges outlined in the external review report. To this end, work has already begun on a departmental newsletter and revitalization of the website. In order to foster a stronger community, the Department will also hold a new series of workshops for graduate student pedagogical training and a research-in-progress colloquium. Current department-wide initiatives, including its new *Arborescences* journal, will be further developed. Prof. Steele has assured me that it is one of his highest priorities to enhance communication and transparency in the immediate future.

The review report provides a thoughtful analysis of the department and its programs, noting specific areas for improvement and consideration. As outlined above, the Department has already begun moving forward with plans to address the key issues and recommendations highlighted by the reviewers.

Sincerely,



Meric Gertler
Dean, Faculty of Arts and Science

cc. Jeffrey Steele, Chair and Graduate Chair, Department of French
Amrita Danieri, Vice-Dean, Graduate, UTM
William Gough, Vice-Dean Graduate Education and Program Development, UTSC

REVIEW SUMMARY

DIVISION/UNIT: Faculty of Medicine
Institute of Medical Science

DATE: November 4, 2010

COMMISSIONING OFFICER: Dean, Faculty of Medicine

PROGRAMS OFFERED:
Undergraduate n/a

Graduate: Medical Science, MSc and PhD

The following programs that IMS offers jointly with other units will be reviewed with those units:
Bioethics, MHSc (with the Joint Centre for Bioethics)
Biomedical Communications, MScBMC (at the University of Toronto Mississauga)
Medical Radiation Science, MHSc (with the Dept. of Radiation Oncology)

EXTERNAL REVIEWERS

D. Lorne Tyrrell, Director, Li Ka Shing Institute of Virology, University of Alberta
Bert Shapiro, Program Director, Medical Sciences Training Program, National Institutes of General Medicine

PREVIOUS REVIEW DATE: The last external review of IMS was the OCGS review of the MSc/PhD in 2003/04. This along with an updated self-study was the basis for the last five-year review in 2006.

SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS OCGS REVIEW OF THE MSc/PhD PROGRAM:

- IMS is an internationally respected program that plays an essential role for the translational aspects of medical research.
- The program is creative and flexible with an impressive scope, allowing a great variety of medical researchers to conduct medical research in a multidisciplinary way.
- Teaching is high quality with a highly favourable faculty:student ratio.
- Times to completion and attrition rates compare favourably to other graduate programs.
- Admission standards are high.
- The student evaluation process works extremely well.
- Students are very successful in getting published in quality journals and securing external awards.
- Faculty are highly productive and successful in getting research funding.
- The program is well managed and the staff is highly capable.
- Excellent library resources and information technologies.
- IMS could improve its visibility within the University by initiating its own seminar program with prestigious guest speakers.

RECENT OCGS REVIEW(s) DATE: 2003/04 – MSc, PhD

DOCUMENTATION PROVIDED TO REVIEWERS: Institute of Medical Science Self-study, 2005-2010
Terms of Reference
Review Schedule

CONSULTATION PROCESS: The reviewers met with the Dean, Faculty of Medicine; Dean of Graduate Studies and Vice-Provost, Graduate Education; Vice-Dean, Graduate Affairs, Faculty of Medicine; Director of the Institute of Medical Science; cognate chairs, junior and senior faculty members; and

graduate students.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

1. Graduate Programs

The reviewers observed the following strengths:

- Strength – “the strongest translational graduate training program in Canada and one of the larger and stronger programs internationally.”
- MSc – works well for those students who subsequently enter a PhD or MD program.
- Variety – tremendous variety of exciting programs are very attractive to students.
- Structures, curricula and length – appropriate for each of the programs.
- Modes of delivery – excellent with careful monitoring of student progress.
- Graduates – a high proportion (about 80%) from the MD/PhD program and the Clinical Investigator Program (CIP) enter academic positions.
- Student publications – a high percentage of MSc (63%) and PhD (92%) students have peer-reviewed publications.
- Time-to-completion – excellent for both the MSc and PhD.

The reviewers identified the following areas of concern:

- MSc –
 - Weakest of the programs.
 - Works less well for the roughly 50% of students who enter the program with the intention of doing a PhD or entering Medicine but are not accepted into either after completing the MSc.
- Student funding –
 - Not sufficient for the cost of living in Toronto.
 - Not competitive – could make it difficult to recruit the very best students.
- Access to courses – students often excluded from courses in other programs in the Faculty and the University.
- Accurate tracking of graduates – not available.
- Time from thesis completion to defense – too long: six weeks for MSc and nine weeks for PhD.

The reviewers made the following recommendations:

- MSc – program objectives need to be clarified.
- Student funding – needs to be more regularized and sufficient.
- IMS should be more active in recruiting students from outside the University of Toronto.
- Access to courses in other programs – a long-standing issue that needs to be addressed.
- Career counselling – students in the MSc program would benefit from clearer information on possible career trajectories.
- Tracking of graduates – better tracking of alumni is needed to better evaluate long-term outcomes.
- Transfers from MSc to PhD – consider lengthening the time for the decision to transfer students from 21 to 24 months.

2. Faculty/Research

The reviewers observed the following strengths:

- Research – a tremendous scope and variety of research activities, many in well funded, high quality laboratories, with excellent graduate supervisors.

The reviewers identified the following areas of concern:

- Supervision – the bar for newer faculty to become supervisors is set rather high.
- Evaluation of faculty – faculty do not always feel that their teaching and supervision of graduate students is adequately evaluated for promotion or merits.

The reviewers made the following recommendations:

- Supervision – new faculty should be encouraged to become supervisors earlier in their careers.
- Evaluation of faculty – evaluation for promotion or merits should include graduate student supervision.

3. Administration

The reviewers observed the following strengths:

- Leadership – the Director has provided excellent leadership.
- Organization and management – very appropriate for the broad range of programs offered.
- Administrative staff – very knowledgeable and helpful.
- Collaboration - very good relationship with other units at the University as well as the affiliated hospitals and research institutes.

ADMINISTRATIVE RESPONSE - Appended

Dean's Administrative Response to the External Reviewers of the Institute of Medical Sciences

Overview

The Faculty of Medicine is most grateful to the External Reviewers, Professors Lorne Tyrrell and Bert Shapiro for their insightful and expert analysis of the Institute of Medical Sciences (IMS). I join them in congratulating Professor Ori Rotstein for his many years of outstanding leadership of the IMS during which this graduate unit, serving the Clinical Departments, has grown considerably in response to graduate enrolment expansion mandated by the University. Further, the Reviewers recognize the success of the translational research theme of the IMS – a deliberate strategic direction instituted by Professor Rotstein and his Executive. The Reviewers have identified a critically important challenge for the IMS – to become one of the top-ranked internationally recognized translational graduate units. They have highlighted the potential for this future achievement and provide important recommendations for the IMS that align with the overall future directions of the Faculty of Medicine.

Specific Comments

The External Reviewers claim that the time to completion of both the MSc and PhD programs is excellent. The number of publications produced by both MSc and PhD students is also quite impressive. These are certainly measures of overall academic success of the IMS programs. The Reviewers correctly indicate that accurate tracking of the outcomes of the IMS graduates, particularly the MSc students who do not enter an MD or PhD program, falls short. The Faculty of Medicine recognizes the importance of tracking the career trajectories of our graduates and will assist the IMS, along with all of our graduate Departments, to establish this measurement of graduate program outcomes.

On an initiative from the Vice Dean Graduate Affairs the level of graduate student funding across the Basic Science departments and IMS has been harmonized.. Interestingly, the recent review of another large basic science graduate department also indicated that our graduate student stipends are less than competitive. I have asked the Vice Dean Graduate Affairs in our Faculty to address this matter and to continue to work with our Graduate Departments to increase the required stipend to include an annual cost of living accelerator. This direction will require increased research funding, another strategic direction that must be implemented by our Vice Dean Research and the Vice Presidents Research in our affiliated hospitals.

The Reviewers comment on the lack of diversity among the IMS graduate student population as the vast majority are U of T or local Toronto students. This is reflective of the enrolment in the Faculty of Medicine graduate programs. The IMS could improve marketing of their graduate program opportunities across Canada. With respect to international students, increased financial support for international fees will require strategic planning for fund-raising and the development of specific partnerships with select Universities that wish to establish academic financial partnerships, e.g., joint doctoral degrees.

The recognition that clinical faculty member graduate supervision is a significant contribution to education activity is clearly delineated in the Faculty of Medicine Faculty Promotions Manual. The Chairs of Clinical Departments must be reminded that researchers engaged in graduate supervision and teaching should be given full recognition for these activities during their annual performance reviews and promotion through the professorial ranks.

The cross program access to graduate courses in the Faculty of Medicine including the Dalla Lana School of Public Health is a long standing issue. Cooperation and coordination across graduate units requires attention by the Graduate Department Chairs, the course Directors and the Vice Dean Graduate Affairs. The specific issue of access to statistics and related methods courses requires investment in TAs and the dedication of faculty who are willing to engage in the challenge of providing graduate level teaching to a large number of graduate students in the Faculty of Medicine.

The opportunities for the graduates of IMS are diverse and the Faculty of Medicine must work closely with all of its graduate units to ensure that the students are fully informed about options in both public and private sectors.

The IMS has invested successfully in expansion of administrative and academic leadership support for its large number of students and faculty members. I congratulate the staff and graduate coordinators on their commitment and excellent contributions to achieving a supportive and very well run graduate environment for the IMS students.

I look forward to the next phase of strategic planning in the IMS that will be informed by the important recommendations of the External Reviewers and the new directions that emerge within the Faculty of Medicine in close collaboration with our affiliated hospitals and research institutes.



C. Whiteside,
Dean of Medicine
February 2011

REVIEW SUMMARY

DIVISION/UNIT:	Faculty of Medicine Dalla Lana School of Public Health
DATE:	February 28 and March 1, 2011
COMMISSIONING OFFICER:	Dean, Faculty of Medicine
PROGRAMS OFFERED:	
Undergraduate	n/a
Graduate:	Public Health, MPH, MSc, PhD Community Health, MScCH Diploma in Community Health
EXTERNAL REVIEWERS	Robert E. McKeown, Chair, Department of Epidemiology & Biostatistics, Arnold School of Public Health, University of South Carolina Richard S. Kurz, Dean and Professor, School of Public Health, University of North Texas
PREVIOUS REVIEW DATE:	2003 (Department of Public Health Sciences)
SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:	<u>Graduate Programs</u> • Organization – overly complex and unwieldy – integration and simplification are needed. • Course offerings – uneven quality and some redundancy. • One-year MSc – reviewers do not support the Department's plan to convert the MSc to a one-year program. • Student funding – inequities between MHSc and MSc students. <u>Faculty</u> • Off-campus instructors – increasing use of off-campus faculty may not be sustainable. • Morale – good, despite frustrations with space and support staff shortages. <u>Research</u> • Breadth – diverse and impressive, with the strong links to partner institutions. • Benchmarking – needs to be undertaken to document scholarly activity. <u>External Relationships</u> • Partnerships: - o Rich and diverse – a major strength of the Department. - o Regular meetings with external partners should be held annually. • Service activities – commendable, but could benefit from a communications strategy to raise their public profile. <u>Administration</u> • Advisory committee – a positive structural element that fosters input on governance issues and familiarity within the Department. • Name change – reviewers are not enthusiastic about renaming the Department as a School of Public Health, as this would require a health policy and management component and would most likely need to be a stand-alone school, administered by a Dean. • Leadership – the current Chair should be re-appointed for another term. <u>Future Challenges</u> • Departmental involvement – on-campus faculty expressed frustration about the proportion of time that they spend in teaching and research as compared to off-campus faculty. • Departmental integration – the three units brought together in the 1997

- merger need to be further integrated.
 - Space – is grossly inadequate and needs to be addressed.
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**RECENT OCGS REVIEW(s)
DATE:**

2005/06 – MHSc, MSc, PhD
2006/07 – MScCH

**DOCUMENTATION PROVIDED
TO REVIEWERS:**

Self-study
Terms of Reference

CONSULTATION PROCESS:

The reviewers met with the Vice-President and Provost; Dean of the Faculty of Medicine; Interim Director, Dalla Lana School of Public Health; Program leads; research groups; cognate chairs and directors; cognate deans and vice deans; junior and senior faculty members; administrative staff; graduate students; and public health and research stakeholders.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

1. MPH Programs

The reviewers observed the following strengths:

- Students – excellent.
- Teaching – high quality, according to students.
- Admission standards – appropriate.
- Withdrawal rates – appropriate.
- Time-to-degree – excellent.
- MPH in Community Nutrition – unique in Canada and will be in demand as the problem of obesity increases.

The reviewers identified the following areas of concern:

- Objectives/mission statement – lack of clarity and consistency of stated goals, particularly with regard to the preparation of students for leadership roles.
- Curriculum –
 - o Competencies – well stated and appropriate, but are not the driving force behind three of the five programs: epidemiology, family and community medicine, and health promotion.
 - o Research based practica for research oriented students – may not be consistent with the CEPH (Council on Education for Public Health) requirements for practice experience.
 - o Core content –
 - Lacking in environmental health sciences, social and behavioral science, and health services administration.
 - May be too variable among the different programs.

The reviewers made the following recommendations:

- Objectives/mission statement – a clearer mission statement should developed, indentifying to whom the program is directed, its core approach, and mode of delivery.
- Curriculum:
 - o Competencies –
 - Should be more explicitly used to develop the curricula of each program.
 - Health services management should be added to the core competencies.
 - o Research based practica – for research oriented students must be clearly justified with regard to CPEH accreditation requirements.
 - o Curricular change – competencies in biostatistics and health services management need to be developed to meet CPEH accreditation requirements.
 - o Preparation for research and practice –
 - Practice implications and applications should be integrated into on-campus coursework.
 - Students would like more preparation for applying what they are learning in class to real-world settings.
 - o Canadian context – consider emphasizing the uniqueness of the programs in relation to Canadian

- values on public health.
- Teaching – address the following student concerns:
 - o faculty need training in teaching methods, including the use of instructional technology.
 - o Students need more preparation for applying what they are learning in class to real-world problems and settings.
- Enrolment – investigate the declining numbers of part-time and visa students and respond as appropriate.
- Student evaluation:
 - o Ensure that all practicum preceptors are aware of the competencies and learning expectations of the programs when evaluating students.
 - o Competencies for each program should be explicitly linked to assessment methods.
- Contact with graduates – procedures should be developed for soliciting feedback on the program from graduates, and possibly generating support for the School.
- Opportunities –
 - o Global health – continuing development can result in MPH and PhD programs in this area.
 - o Health policy – expanded curriculum and research development.
 - o Biostatistics – develop an MPH program in this area.
 - o Collaboration –
 - Greater collaboration with cognate units, especially kinesiology and social work.
 - Expansion of faculty and expertise through relationships with external partners.
 - Ties to other institutions can be leveraged for increased visibility, enhanced research opportunities and valuable guidance.
 - o Faculty structure – flexibility allows for rapid redevelopment of faculty resources.
 - o Curricular development – through the extensive network of placement settings for students and strong, dedicated faculty and mentors.

2. Other Programs

The reviewers observed the following strengths:

- MSc in Biostatistics –
 - o A strong and useful program.
 - o Students – high quality and in demand from employers.
- PhD –
 - o An excellent program.
 - o Competencies – well stated and appropriate.
 - o Quality of students – appears to be strong based on offer and acceptance rates.

The reviewers identified the following areas of concern:

- MSc in Biostatistics –
 - o Declining number of full-time students.
 - o Core areas – CPEH may have concerns about adequate coverage.

The reviewers made the following recommendations:

- MSc in Biostatistics – consider alternate modes of delivery (evening or weekend courses) to assist working students.
- MScCH – review the curriculum to be sure that it provides the grounding in basic public health knowledge according to CPEH requirements.
- PhD –
 - o Review the policy which prohibits supervisors from funding their students.
 - o Explore teacher training and apprenticeship models to provide teaching experience for students.
 - o Explore opportunities for the placement of students in affiliated research settings.
- Resources – consider reallocating resources from the PhD to other areas in greater need, such as MPH financial aid.

3. Faculty/Research

The reviewers observed the following strengths:

- Faculty – strong, diverse and willing to mentor students.
- Research – an outstanding record of high quality research.

The reviewers identified the following areas of concern:

- Heavy dependence on status faculty – may be of concern to the CPEH, especially with regard to the teaching of required courses.

The reviewers made the following recommendations:

- Research activity – could be increased for tenured or tenure-stream faculty.
- Research Services Unit – review its role and functions.

4. Administration

The reviewers observed the following strengths:

- Relations with cognate units – extensive collaboration with other health related units at the University.
- Relations with external units – external stakeholders are committed to and supportive of the School.

The reviewers identified the following areas of concern:

- Governance – students feel that their input into the programs is ignored.

The reviewers made the following recommendations:

- Collaboration –
 - o With cognate units – opportunities for expansion of relationships, especially with the Department of Health Policy, Management and Evaluation.
 - o With external units –
 - Should be closely monitored and managed because of their importance to the School.
 - Review how the cost-benefit balance could be adjusted so as to not disadvantage external stakeholders.
- Student funding – consider guaranteed funding of one year for master's and four years for doctoral students.

ADMINISTRATIVE RESPONSE - Appended

Administrative Response to the External Review of The Dalla Lana School of Public Health and Next Steps

The Provost and the Dean of Medicine commissioned an external academic review of the Dalla Lana School of Public Health (DLSPH) with particular emphasis on the Master of Public Health degree program and the current status of the DLSPH with respect to accreditation standards set out by the Council on Education for Public Health (CEPH) in the United States. The reviewers were asked to assess specifically the readiness of the DLSPH, in the long term, for CEPH accreditation. We are most grateful to the reviewers, Professor Richard S. Kurz, Dean of the School of Public Health, University of North Texas Health Science Center, and Professor Robert E. McKeown, Chair of Epidemiology and Biostatistics, University of South Carolina. They have provided a comprehensive and expert analysis that identifies the challenges and opportunities for the DLSPH across all of its academic programs. The following is our administrative response focusing on the recommendations and advising about next steps for the strategic planning of the DLSPH.

THE MPH PROGRAMS

A. Consistency of Programs with Standards, Educational Goals and Learning Expectations

The current MPH programs were not specifically designed around the CEPH competencies. Originally established 30 years ago (as the MHSc), this program was discipline-focused and designed to meet discipline-specific learning objectives, with a small core learning domain, common to all MPH programs.

Though the reviewers recognized that the competencies for each program within the MPH are well stated and appropriate, further documentation of a clear mission statement and the core goals and objectives for the MPH and articulation of outcome-based specific learning goals and objectives for each program should also be more explicitly in place. This will be a focus of the upcoming curriculum renewal exercise.

B. Assessment of Indicators

The demand for the part time MPH program has been relatively constant across the fields of study, with generally less than 25% of the students being enrolled part time. The major exception is the Family and Community Medicine field in the MPH, in which over 60% of the students are enrolled part time. With the introduction of the MScCH the majority of these part time students transferred to this new, shorter degree program, resulting in an apparent decline of part time students in the MPH.

The ongoing evaluation of a professional curriculum requires explicit measures of competencies and iterative feedback for continual quality improvement. The MPH program must continue to develop effective evaluation procedures that are focused on the acquisition of knowledge and practical competencies by the MPH students.

C. Appropriateness of Program Structure, Mode of Delivery, Curriculum and Length

The reviewers recognized that there was appropriate variability between the MPH programs. However the total number of FCE (full course equivalent) required for the degree is identical at 10.0, of which typically 2.0 to 3.5 FCE are practicum credits. Many students in Community Nutrition, Epidemiology and Health Promotion take 3 to 3.5 FCE as practica.

Once outcomes-based learning goals and objectives are more clearly articulated, it follows that the learning activities required for MPH students to achieve these core competencies will be equally clear and feasible. The successful delivery of the curriculum through student engagement in self-directed learning and research-based practica will be readily justified as long as the documentation and evaluation processes are in place with an evaluation feedback. A common curriculum for the public health core is evolving and in a more developed format would provide the consistency across programs described by the reviewers. It is essential that case-based learning and other practical and integrating learning methods continue to be applied to on-campus coursework to prepare students for their future careers in public-health related fields.

All the programs include 'skills development' courses, in which learning takes place in real-world settings and conditions, allowing for the integration of practice-based skills and knowledge. For example, community nutrition students work with local agencies to develop proposals for new programs. The on-campus coursework is a mixture of theoretical and practical application, which evolves as the program progresses.

D. Appropriateness of Student Evaluation Methods

Practicum preceptors are currently provided with program-specific learning objectives and most are quite familiar with the program focus. The recent hiring of a Practicum & Alumni Relations Coordinator will facilitate this. It should be noted that some of the placements are based on individual, learner-centered objectives, given that our students come with very diverse backgrounds and therefore have individual needs.

The DLSPH will continue to ensure that all teachers, including practicum preceptors, are provided with timely communication with respect to core curricula and outcomes-based goals and objectives. Further, all faculty who teach must be familiar with student assessment methods and measures and engage in both formative and summative evaluation in keeping with accepted standards for health professions education.

E. Quality of Teaching and Relationship to Research

Students are asked to complete course evaluations for each of the over 70 courses offered by the School. The vast majority of the courses are rated very highly. There have recently been issues with one or two courses. The School leadership is currently taking specific action to resolve these issues. The DLSPH will continue to provide the highest quality of instruction. As the outcomes-based specific learning goals and objectives are more clearly articulated, curricular changes and new learning experiences will be developed, managed and evaluated by the program leaders.

F. Contributions of Graduates

Although general surveys are conducted of all graduate students at the University of Toronto that do provide useful information overall, the reviewers are referring to specific feedback about their experience in the MPH program. Several of the programs do this in both formal and informal processes. Regular contact with the graduates of all the programs across the DLSPH is highly recommended both to understand the outcomes and impact of the education programs and to stay in touch with alumni. As mentioned above, this will be facilitated by the recently hired Practicum and Alumni Relations Coordinator. Offerings of continuing education and professional development for alumni would provide updates on new developments in public health disciplines and may provide a route for recruitment of practicum preceptors. We will continue to seek advice from practicing alumni regarding curriculum development.

G. CEPH Competency Requirements

We are in agreement with the recommendation that health service administration competency or competencies should be added to the core competency set. The Department of Health Policy, Management and Evaluation will work in partnership with the DLSPH to ensure the necessary courses are developed, and provided as soon as possible. An appropriate financial arrangement between the two graduate departments may be required to enable this shared teaching.

THE MScCH PROGRAM

The MScCH program is a set of inter-disciplinary program offerings that serve the needs of practicing health professionals related to public and community health including education. These offerings have evolved previously in the Department of Public Health Sciences, in part because there was no other logical graduate unit home for them. Nevertheless, basic public health knowledge in each of these disciplines should be considered if they remain in the DLSPH. These are highly valued programs and integrate continuing education within primary care, occupational health and mental health to name a few, that serve the graduates very well in their advanced practice and education career settings.

THE PHD PROGRAM

We are gratified to learn that the reviewers consider the PhD program as a strength of the DLSPH and this is a credit to the excellent research offerings and graduate supervision now in place. Our faculty members are expected to contribute to the required graduate student stipend from their research funding, but are discouraged from employing their own students to work on research projects that are not part of the student's doctoral research. The DLSPH has recently established a working group to review and make recommendations regarding doctoral stream student funding policies and practices.

The Faculty of Medicine currently has approximately 60% of its doctoral (MSc/PhD) students off campus in affiliated sites, mostly hospitals/research institutes. PhD students in the DLSPH are located off campus if their research is undertaken, and their supervisor is located, within an affiliated institution. As more strategic partnerships are developed with affiliated institutions, it is likely that more PhD students will be supported within these off-campus locations.

We are gratified to learn that the DLSPH is already in compliance with many of the CEPH accreditation standards. Careful examination of those in which the DLSPH does not currently comply will be undertaken through the strategic planning process. Some issues, e.g., monitoring diversity of students and faculty, are recognized as requiring attention across the Faculty of Medicine and policies and procedures that will be adopted over the next year will apply to the DLSPH.

NEXT STEPS

1. Strategic Planning – Next 3 Years

The Interim Director of the DLSPH and the Dean of Medicine will co-chair a Strategic Planning exercise over the next 4 months to articulate the academic goal and objectives for the DLSPH for the next 3 years. They will strike a Strategic Planning Committee composed of faculty, staff and students of the DLSPH along with representatives of cognate academic units and institutions. This plan will be in place by the fall of 2011. It will give direction in transition while a new Director is recruited and establishes new leadership for the DLSPH.

2. Graduate Program Curriculum Renewal and Coordination

As of July 1, 2011, the Vice Dean Graduate Affairs, Professor Andrea Sass-Kortsak will be seconded to the DLSPH for one year as the Associate Director and Graduate Coordinator and will report to the Interim Director. She will chair the graduate curriculum committee and lead a renewal process informed by the external review. This process will need to consider CEPH accreditation requirements, but in a Canadian context. For example, the Pan-Canadian Public Health Network's Guidelines for MPH programs in Canada (2007) will also be considered. Ultimately, in addition

to curriculum renewal, to address accreditation of the DLSPH by CEPH, it will be necessary to examine carefully the resources required. The reviewers have identified several CEPH accreditation requirements that are currently not being met by the MPH Degree program. These will be considered in the strategic planning and curriculum renewal process that has begun.

The Associate Director will oversee all education programs in the DLSPH. The graduate program administrative staff will report to the Graduate Coordinator and this position will be redefined to be filled by a permanent senior academic faculty member by July 1, 2012.

3. Establish New and Renewed Partnership with External Stakeholders

The graduates of the MPH and other graduate programs in the DLSPH and the research conducted by the DLSPH should effectively serve the public health needs of Canada. An external advisory committee of major stakeholders including senior leaders from the Ontario Ministry of Health, the Ontario Agency for Health Protection and Promotion, the fully affiliated hospitals has been struck by the Interim Director and the Dean of Medicine. The intent is to provide guidance with respect to strategic planning and partnerships for the DLSPH. It is important that future directions for the education and research programs of the DLSPH lead new developments in public health service delivery including disease prevention and health promotion. These directions will be incorporated into the Strategic Planning process and implemented expeditiously.

4. Establish Fiscal Balance and Sustainability

The fiscal management of the DLSPH is under review by the Interim Director and the Dean of Medicine. The role and function of all specific infrastructure and administrative expenses are being analyzed. It will be necessary to ensure that the top priority for the DLSPH will continue to be the recruitment and retention of outstanding tenure and tenure-stream faculty who are exceptionally productive both as individual researchers and in inter-disciplinary research teams.

The financial contributions from partner institutions and agencies are of strategic importance for the DLSPH to achieve its mission. However, all tenured and tenure-track positions must be completely backed up by base operational revenues within the DLSPH independent of agreements about shared expensing of these positions.



Catharine Whiteside
Dean, Faculty of Medicine
Vice Provost, Relations with Health Care Institutions
University of Toronto

REVIEW SUMMARY

DIVISION/UNIT:	Faculty of Medicine Department of Speech-Language Pathology
DATE:	April 8, 2011
COMMISSIONING OFFICER:	Dean, Faculty of Medicine
PROGRAMS OFFERED:	
Undergraduate	n/a
Graduate:	Speech-Language Pathology, MHSc, MSc, PhD
EXTERNAL REVIEWERS	Shari Baum, Associate Dean (Graduate & Postdoctoral Studies) and James McGill Professor, School of Communication Sciences & Disorders, McGill University Robert E. Novak, Head, Department of Speech, Language, & Hearing Sciences, Purdue University Faye Mishna, Dean, Factor-Inwentash Faculty of Social Work, University of Toronto

PREVIOUS REVIEW DATE: 2006.

SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS OCGS REVIEW OF THE MSc/PhD PROGRAM: The Department compares favorably to other programs of similar size, and is particularly noteworthy in the way it coordinates academic curriculum with clinical practicum.

Programs

- Professional stream (MHSc):
 - o Supervisory capacity:
 - Increasing difficulty for external supervisors to take on students due to increased enrollment.
 - External clinical educators should be provided with some modest stipend and/or release time from their clinical caseload to insure their continued cooperation.
 - o Curriculum and admissions – should be reviewed in light of increased enrolment.
 - o Financial support – has increased over the last five years.
 - o MHSc graduates are in high demand.
- Research Stream (M.Sc-PhD):
 - o Enrolment – the suggested increase in PhD enrollment might be ambitious given the current size of the faculty.
- Students – high quality and morale appears to be quite high.
- Continuing/postgraduate programs – may want to explore offering such programs if resources are available.

Faculty/Research

- Research – breadth and depth is impressive.
- Productivity – remains high but could be impacted by increased enrolment.
- Recruitment – consider hiring a PhD-level teacher-scholar with a proven track record in behavioral randomized controlled trials In order to improve research at the hospital level.

Administration

- Associate Chair – position should be formalized to enable the training of prospective future Chairs to handle matters when the Chair is not available and to distribute the work load.
- Space - the new facilities are quite adequate.
- Collaboration – good relations with the Occupational Therapy and Physical Therapy Departments and units external to the University.

- Fundraising – is needed, preferably a dedicated fundraiser in the Advancement Office.

RECENT OCGS REVIEW(s) DATE:	2005/06
DOCUMENTATION PROVIDED TO REVIEWERS:	Self-study (which included the previous external review and responses, previous OCGS review) Terms of Reference Review Schedule
CONSULTATION PROCESS:	The reviewers met with the Dean, Faculty of Medicine; Chair, Department of Speech-Language Pathology; junior and senior faculty members; Graduate Coordinator and Associate Chair; clinical educators; course instructors,; cognate chairs and deans, and graduate students.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

1. Graduate Programs

The reviewers observed the following strengths:

- MSc –
 - o Admissions – highly selective.
 - o Students – high quality.
 - Entering averages are in the A range.
 - High percentage are awarded OGS scholarships.
 - o Curriculum –
 - Adequately reflects program goals and core competencies required for professional training.
 - Innovative components –
 - Over 50% of learning occurs in student placements.
 - Block curriculum ensures that clinical courses are integrated with clinical placements.
 - Students are exposed to guided interprofessional learning experiences with students in other health disciplines.
 - o Attrition rate – very low.
- PhD –
 - o Students – graduates are successful in securing post-doctoral research and faculty positions.
 - o Supervision – a very effective apprenticeship model is in place.
 - o Guaranteed funding – a significant advantage over similar programs in North America.
 - o Resources – excellent faculty and laboratory resources.
- Objectives – consistent with the University's mission.
- Admissions – requirements are appropriate.
- Morale – students are positive about the programs.

The reviewers identified the following areas of concern:

- MSc –
 - o Curriculum –

- The amount of time spent by students on the Inter-professional Education component of the curriculum may be excessive, especially when compared to students in the other health disciplines.
 - Securing a sufficient number of clinical placements remains a challenge (typical of all such programs).
 - The three research projects may be excessive and impact the ability to cover the assessment/intervention didactic course content.
 - o Enrolment – perhaps too large at this point in time, given the current market saturation for SLP graduates.
 - o Student funding – has not kept up to the cost of living.
- MSc –
 - o Learning outcomes and degree expectations – not well defined.
 - o Objectives – the majority of students in this program do not go on to complete the PhD and there is no obvious job market for students graduating with the MSc as their terminal degree.
 - o Enrolment – numbers and application rates are low.
 - o Administration – not clear who is responsible for this program.
- PhD –
 - o Curriculum – lack of consistency regarding core expectations of all students in the program.
 - o Enrolment – numbers and application rates are low.
 - o Student funding – insufficient for international doctoral students.
 - o Time-to-completion – long (6.5 years) but comparable to peer institutions in Canada.

The reviewers made the following recommendations:

- MHSc –
 - o Curriculum – ensure compliance with CASLPA (Canadian Association of Speech-Language Pathologists and Audiologists) standards, which are currently being revised.
 - o Enrolment – should be reduced.
 - o Remediation – students should be made aware that remediation is available to them if they are struggling in the program.
- MSc – the Department should consider whether the resources required to run this program might better serve another purpose (e.g., the development of an audiology program).
- PhD –
 - o Curriculum – core requirements should be consistent across labs and codified in the student handbook.
 - o Enrolment – should be slightly increased.
 - o Recruitment –
 - Efforts should be increased to recruit highly-qualified students.
 - Direct-entry from bachelor's should be considered as an option.
 - Funding – new sources of revenue generation should be explored.
 - o Supervision – an impartial committee should provide annual oversight of each student's progress with respect to their plan of study and achievement of target milestones.
- Student evaluation – all rubrics and criteria for achievement of learning outcomes at each stage of the program and for each of the clinical externship rotations should be clearly defined in writing and accessible to all students and off-site clinical educators.
- New program development– consider developing a clinically-focused PhD track in audiology/hearing science in collaboration with the Department of Otolaryngology Head and Neck Surgery.

2. Faculty/Research

The reviewers observed the following strengths:

- Research –
 - o Impressive in both its breadth and depth.
 - o Funding has increased substantially, by approximately 22% since the last review.
- Reputation of faculty – frequently invited to contribute book chapters and attend conferences.

The reviewers made the following recommendations:

- Research strength – consider expanding in the areas of acquired language disorders and neurolinguistics, perhaps through increased collaboration with other areas of neuroscience at the University.

3. Administration

The reviewers observed the following strengths:

- Leadership – the Chair been an effective and productive leader over his ten year tenure.
- Morale – faculty and students all describe the Department as collegial and cohesive.
- Collaboration –
 - o No structured barriers to collaboration among the departments.
 - o Numerous and various activities with the other departments in the Rehabilitation Sciences and external organizations.

The reviewers identified the following areas of concern:

- Clinical educators –
 - o Morale – clinical educators are burdened with excessive paperwork and insufficient remuneration, and report feelings of burnout and lack of connection with the Department.
 - o Status-only appointments – difficult to obtain, especially in comparison with MD clinical educators.
- Personnel transitions - upcoming sabbaticals, loss of faculty to long-term research and administrative release, a long standing faculty position vacancy, and the search for a Chair will significantly impact the immediate future operation of the Department.
- Resources – some instructors have to bring their own equipment to support the teaching of their classes.

The reviewers made the following recommendations:

- Development/fundraising – a top priority in the future.
- Future Chair –
 - o Must bring the skills and passion for development/fundraising to the position.
 - o Should have experience with audiology education programs (if a new audiology program is to be developed).
 - o Ideally will have experience with the development of collaborative programs.
- Clinical educators –
 - o Morale – steps should be taken to ensure that the contributions of clinical educators are more recognized and appreciated and that they feel more connected with the Department.
 - o Status-only appointments – should be made in a way that is consistent with the process currently in place for physicians participating in the MD programs.
 - o Effective oversight – of the large cadre of clinical educators is a daunting task and deserves priority in personnel resource allocations.
- Collaboration –
 - o Explore opportunities for more collaboration and synergies with cognate departments, especially those in the Rehabilitation Sciences Sector.
 - o There are opportunities to develop more strategic partnerships with affiliated hospitals, particularly in the area of audiology.
- MHSc student/faculty liaison – consider moving responsibility for this role from the Chair to the Coordinator of Clinical Education.
- Expansion of the on-campus clinic – could provide a more structured and consistent environment for the initial learning of clinical skills, and potentially generate fee-for-service revenues.
- Doctoral funding – additional TA funding should be pursued to more fully support each PhD student in the teaching of at least one class during their program.

ADMINISTRATIVE RESPONSE - Appended

ADMINISTRATIVE RESPONSE TO THE EXTERNAL REVIEW OF THE DEPARTMENT OF SPEECH-LANGUAGE PATHOLOGY (April 8, 2011)

DEAN'S ADMINISTRATIVE RESPONSE

On behalf of the Faculty of Medicine, I wish to thank the external reviewers for their comprehensive and expert analysis of the Department of Speech-Language Pathology. Their comments and recommendations will be most useful as this Department enters a new 5-year academic term with its new Chair, Professor Luigi Girolametto. I take this opportunity to recognize and thank Professor Luc De Nil for his very successful two terms as Chair of Speech-Language Pathology. Under his leadership the Department has thrived academically and sustained a competitive reputation not only in Canada but also internationally, as recognized by the reviewers. I also thank the administrative staff, whose dedication and support enable the continued success of this Department.

I have reviewed the response provided by Professor De Nil and agree entirely with his comments. The following will highlight some of the issues that require attention in the near future by the Department and that should be under consideration as the new Chair undertakes a comprehensive strategic planning process.

1. Education Programs

1.1 *MSc/PhD Doctoral Program*

Although the enrolment in the MSc program is low, Professor De Nil has indicated that its value resides in the fact that the University of Toronto does not have an undergraduate program in this discipline. It also appears that MSc students either transfer into the PhD program, or graduate with a MSc and successfully seek careers in health (e.g., entry into a MD program). Direct entry into a PhD program would be feasible if specific criteria were created for this route. Since the MHSc program is research-intensive, perhaps students who have performed exceptionally well in this program could be considered for direct entry into the PhD program.

An important concern with respect to the PhD program is the current lengthy time to completion. This is not acceptable and every effort should be made to shorten this time, even for those students who have transferred from the MSc program. That said, this PhD program is highly successful with respect to the quality of research experience and the fact that the vast majority of graduates ultimately enter academic careers.

This doctoral program is the smallest among our graduate units in the Faculty of Medicine. Barriers to increased enrolment should be carefully analyzed and strategies to further integrate research collaborations with other university Departments, as well as affiliated hospital research institutes, must be sought. (See below.)

Partnering with the Graduate Department of Rehabilitation Science to serve the administrative and academic needs of the Department of Speech-Language Pathology must be considered in the near future. Careful analysis of economies of scale for administrative support and the alignment of research directions within the overall Faculty Strategic Academic Plan 2011-16 should be part of the upcoming strategic planning within the Department of Speech-Language Pathology.

I agree with Professor De Nil that more funding for graduate students is necessary and should be a top priority for fundraising by the Department, with the assistance of the Office of Advancement in the Faculty of Medicine.

1.2 *MHSc Program*

The professional master's preparation of speech-language pathologists has been fully accredited for many years and is recognized as an outstanding program. This thorough review has identified some areas of concern that are currently being addressed.

The students raised their concern about transparency with respect to the process of academic remediation and the importance of having up-to-date, accessible materials that provide descriptions of policies and procedures. The Department is addressing these important matters.

The excessive paperwork for clinical educators and their recognition as critically important and valued colleagues are recognized as issues requiring attention. The value of upgrading communication and documentation through information technology-based administrative tools should be evaluated.

The University of Toronto is not interested in housing clinical care on campus and the Faculty of Medicine is in agreement with the response provided by Professor De Nil.

The Department of Speech-Language Pathology should be regularly evaluating the job market and its professional program both in terms of curriculum content and the number of graduates entering the Canadian health care workforce. At this time, the Faculty of Medicine encourages the Department to continue to enroll its current numbers in the MHSc program and to adapt to health care needs with curriculum renewal and innovation. Career counseling and assistance in assessing the job market should be provided by the Department.

It appears that the Department has appropriately addressed the lack of equipment for teaching in the MHSc program and that clinical teachers no longer need to provide their own equipment.

1.3 *Audiology*

As indicated by the reviewers, most top-ranked departments of speech-language pathology in North America offer audiology professional education and research. The current program in Ontario is located at the University of Western Ontario (UWO). The Department of Otolaryngology and Head and Neck Surgery at the University of Toronto has established an effective collaborative relationship with the UWO program. In fact, The Hospital for Sick Children is a close collaborator of this audiology program and offers clinical placements to UWO audiology students. Therefore, it is very important that our Department of Speech-Language Pathology look carefully at the option for possible partnering at some level with the existing program at UWO.

2. **Research**

The Department must engage in focused strategic planning with respect to its future research endeavours. I am pleased that the recent hiring of new faculty members has increased the capacity in key areas that align with neurosciences, a major strength within our Faculty, as well as linguistics, a natural collaborative opportunity within the University. Enhanced research funding is necessary and the Faculty of Medicine will expect the Department to engage in benchmarking its success with respect to acquisition of external research grants and contracts with defined targets. This process is being undertaken across the Faculty of Medicine as part of the implementation of the Strategic Plan 2011-16.

The Department is encouraged to look for new opportunities to integrate research endeavours in the context of interdisciplinary teams that span Departments, Faculties, and institutions. Opportunities for new funding, team grants, and expansion of the current research programs within the Department will enable more graduate student enrolment and productivity.

In sum, the Department of Speech Language Pathology has been very successful and leads Canada with respect to its academic achievements. Over the next 5 years, this Department should grow and prosper as it seeks opportunities for new collaborative relationships.



Catharine Whiteside
Dean, Faculty of Medicine
Vice-Provost, Relations with Health Care Institutions, University of Toronto
(August 8, 2011)

REVIEW SUMMARY

DIVISION/UNIT:	University of Toronto Mississauga Department of Biology
DATE:	November 9-10, 2010
COMMISSIONING OFFICER:	Vice-Principal Academic and Dean, UTM
PROGRAMS OFFERED: Undergraduate	Biology, BSc: Specialist, Major, Minor Biology for Health Sciences, BSc: Major Biomedical Communications, BSc: Minor Biotechnology, BSc: Specialist Comparative Physiology, BSc: Specialist Ecology and Evolution, BSc: Specialist Molecular Biology, BSc: Specialist Paleontology, BSc: Minor
Graduate:	N/A
EXTERNAL REVIEWERS	Jean-Guy Godin, Professor, Department of Biology, Carleton University Deborah Gumucio, Professor, Department of Cell and Developmental Biology, University of Michigan
PREVIOUS REVIEW DATE:	N/A – Department formed in 2003
SUMMARY FINDINGS AND RECOMMENDATIONS OF PREVIOUS REVIEW:	N/A
DOCUMENTATION PROVIDED TO REVIEWERS:	Department of Biology Self-study Terms of Reference UTM Degree Level Expectations Tri-Campus Framework Enrolment Report 2010 – Office of the Registrar NSSE 2008 Results Facts & Figures 2009 Departmental Summary of Research Performance Indicators UTM Academic Calendar 2010-2011 U of T Viewbook 2011-2012 UTM Viewbook 2010
CONSULTATION PROCESS:	The reviewers met with the Vice-Principal Academic and Dean; Vice-Dean Undergraduate, Teaching and Learning; Vice-Principal Research; Vice-Dean Graduate; Chair of the Department of Biology; Associate Chair of the Department of Biology; junior and senior faculty members; administrative staff; laboratory technicians; undergraduate and graduate students.

FINDINGS AND RECOMMENDATIONS - OVERALL ASSESSMENT AND SPECIFIC ISSUES IDENTIFIED IN REVIEW REPORT

The Department plays a very important role in undergraduate education, as well as contributing significantly to graduate education and research, at UTM. However, “the Department is experiencing significant challenges in being able to continue offering high-quality programs, growing its graduate student enrolments and research programs, maintaining collegiality and interactions among its members, and engaging faculty and staff in departmental affairs...The Department can do better, but, to do so, a number of major issues need to be addressed urgently.”

1. Undergraduate Programs

The reviewers observed the following strengths:

- Curriculum –
 - Research – brought to bear in teaching to a significant extent.
 - Educational experiences beyond the classroom – good quality.
- Collaboration – courses offered by the Department are important components of other specialist programs at UTM.
- Professional development – two positive initiatives: the *C3 Biology Program* (The Professional Development in Biology Program) and an online biology community on the U of T Portal.
- Entering students – high school grades above the UTM and provincial averages.

The reviewers identified the following areas of concern:

- Learning objectives and degree-level expectations – not being fully met for most students.
- Faculty:student ratio – increased from 96.1 in 2004-05 to 156 in 2009-10, a 62.3% increase.
- Curriculum –
 - Standards – some faculty and TAs feel they are being lowered in the first two years –
 - Students are mastering details by rote memory and not applying concepts in a way that involves critical thinking.
 - Large class sizes – tests are necessarily multiple choice and there are limited opportunities for writing exercises.
 - Experiential learning – limited opportunities for students in their first two years, likely due to lab space and equipment limitations.
 - Independent research experience – limited to a small number of students.
- Students –
 - According to some faculty, in general demonstrate limited intellectual curiosity, weak critical thinking and analytical abilities, and limited numeracy and communication skills.
 - Understanding of scientific methods of enquiry and technical methodologies is uneven.
- Space – insufficient for teaching, research and socializing.
- Teaching equipment – mostly outdated and of modest quality.
- Enrolment – an imbalance among the five specialist programs, with enrolment in the Ecology & Evolution specialist particularly low (<10 per year).
- Course enrolment – students can drop a course up to the last day of the semester without penalty.
- Library orientation courses – are poorly attended.

The reviewers made the following recommendations:

- Learning objectives and degree-level expectations – a comprehensive review and revision of the undergraduate programs is needed to better meet learning objectives and expected outcomes.
- Faculty:student ratio –
 - Further growth should be limited and/or additional faculty hired.
 - Teaching – needs to be more effective in large class settings.
- Curriculum –
 - Enhance the breadth and depth of coverage of certain major subdisciplines, including Ecology & Evolution, Virology and Immunology.
 - Improve integration between courses.
 - BIO 208 (*Communication in Biology*) – should be offered every year and made a requirement for specialist students.
 - Review how core courses are taught and the possibility of sectioning the largest courses and/or streaming specialist and major/minor students.
 - Consolidate courses where there are goals and potentially content that overlaps.
 - Monitor and standardize training in Ethics and Health and Safety.
- Students –
 - Understanding of scientific methods of enquiry and technical methodologies should be improved upon, with greater opportunities for hands-on research and better information about research programs.
 - Weaker students – should be identified early in their first year and offered remedial measures.

- Ecology & Evolution specialist – enrolment should be increased by offering more courses in this field, replacing retired faculty and promoting the field more effectively in the first and second years.
- Space – additional or renovated teaching lab space should be made available.
- Teaching equipment – should be replaced with more modern and appropriate equipment.

2. Graduate Programs¹

The reviewers observed the following strengths:

- Biotechnology program –
 - o Has an excellent reputation
 - o All students have been successful in gaining related post-graduate employment.

The reviewers identified the following areas of concern:

- Graduate students expressed a number of concerns –
 - o Too few graduate courses are offered at the UTM campus.
 - o Wireless capability is insufficient.
 - o Lab and desk space is insufficient.
 - o Experiments have been ruined by the failure of facilities management to communicate pending power outages.
 - o Students feel that they are treated as “children playing in the lab” and are not respected by administrative plans to shuffle space.
- Seminars –
 - o The Friday seminar series is not well attended by Biology faculty.
 - o No opportunities for graduate students, postdoctoral fellows or faculty to give more informal seminars.

3. Faculty

The reviewers observed the following strengths:

- Faculty –
 - o high quality, well funded, and highly invested in both undergraduate and graduate education.
 - o Many are active in professional organizations and have made an important impact locally and nationally.

The reviewers identified the following areas of concern:

- Mentoring of junior faculty – no standard departmental plan in place.

The reviewers made the following recommendations:

- Capacity – additional faculty are urgently needed, given the large enrolment, growing student interest in the biological sciences, and the demographics of the Department.
- Stipend lecturers – deserve more continuity, as there is great uncertainty term-to-term because they don't know if they will get a teaching appointment.

4. Administration

The reviewers observed the following strengths:

- Staff – are excellent and interact well with faculty and students.
- Collaboration – succesful efforts to link the Department to other units at UTM and UofT as whole, most notably the GENAB (Genes, Environment, Nervous System and Behavior Cluster), the Biotechnology program and the Biomedical Communications program.

The reviewers identified the following areas of concern:

- Planning – the Department does not have a long-range, comprehensive, strategic plan.
- Governance – a widespread feeling that decision-making is opaque and that faculty have little opportunity for discussion or input on important issues.
- Space – a desperate need for office space for faculty and graduate students.

¹ The graduate programs associated with the Department (Master of Science in Biomedical Communications, Master of Biotechnology and the tri-campus graduate programs in biology) are not within the scope of this review; however, the reviewers did address issues related to graduate students and programs.

- Building renovations – poor planning appears to be negatively affecting some junior faculty.
- Number of staff – insufficient for the Department's needs, especially with regard to counseling services.

The reviewers made the following recommendations:

- Planning – a comprehensive, long-range, strategic plan should be developed in consultation with faculty and staff and ratified by the faculty.
- Governance – should be reviewed to ensure that effective leadership is in place and members of the department are engaged.
- Resources – UTM should invest additional resources (human, infrastructure, space, teaching equipment, operating budget) into the Department, commensurate with enrolments.
- Biomedical Communications and Biotechnology programs – need to be better integrated into the Department.
- Number of staff – one additional administrative staff person should be hired..
- Lab equipment – efforts are needed to consolidate, plan for, staff and house multi-user lab equipment.
- Endowment funds – the Department should explore possibilities with the UTM/UT development office.
- External grant funding – faculty should not be penalized for gaining funding by having some of their start-up money rescinded.

ADMINISTRATIVE RESPONSE - Appended



June 16, 2011

OFFICE OF THE DEAN

Professor Cheryl Regehr
Vice-Provost, Academic Programs
Office of the Vice-President and Provost
Simcoe Hall, University of Toronto

Dear Cheryl,

Administrative Response to the Review of the Department of Biology, UTM

I am writing in response to the Review of the Department of Biology, UTM. I will direct this response in the first instance to the questions raised in your memorandum, focusing on the key issues raised in the review. On a general note, I am very pleased with the positive observations made by reviewers: the quality of the department's faculty, the important role it plays in undergraduate and graduate education at UTM. Nonetheless, the review highlights some areas for improvement. This is one of UTM's largest departments and is a complex unit that is home to a wide range of programs, research clusters, and laboratory needs.

1. Curriculum and Resources

The reviewers are correct in highlighting the enormous growth in the program. Between 2003 and 2010, Biology enrolment increased by 105%, the highest percentage increase at UTM: the UTM overall rate of growth in undergraduate enrolment was 37%. The complement has grown, but not at nearly the same rate. While space for research laboratories currently corresponds with COU standards, there will be little room to accommodate future hires. Finally, the undergraduate labs, while posing no acute risks, have out-of-date equipment and are generally not the most appealing place for undergraduate students to learn biology. There are however no immediate plans to renovate them. So space remains an issue that will be difficult to address in the short term. On the bright side, an addition has been built as an annex to the Davis Building. This will provide some attractive office space for graduate students and faculty in Biology.

The reviewers highlight the relatively small number of undergraduate lab sections, particularly at the first and second year level and the limited opportunities for experiential learning in the lab or the field. There is one correction to be made in the report: in BIO 153, labs meet once a week (not every two weeks, as stated in the review). In addition, labs for the other introductory course, BIO 152, are being completely redesigned to focus more on hypothesis testing and also to broaden the number of techniques students are made aware of in first year. In addition, approximately 20 students participate each year in the Research Opportunity Program second and third year courses.

The departmental strategy has been to channel students through lab-specific courses at the second year level, rather than have a lab associated with individual courses. This was a decision taken several years ago due to budget pressures and in order to avoid redundancy between lab components. So, even though the department only has two courses at the 200 level with labs, BIO 204 serves 480 students and BIO 215 serves 288 students. Both of these courses are required in the Biology, Molecular Biology, and Comparative Physiology Specialist programs and of course count towards our Major programs. Nonetheless, if resources become available, the department would certainly wish to revisit re-inserting labs in second year Ecology and the incoming chair is in discussions with the Dean about this possibility.

The reviewers comment on the relatively low enrolment in the Specialist in Ecology. Relative to other specialist programs offered in the department, the enrolment is low, but it is important to note that the overwhelming majority of students in the department are enrolled in major programs. The largest

specialist program is the biology specialist, which encompasses ecology as well as cell and molecular biology; the Chair speculates that most students enroll in this specialist rather than the others to keep their career and study options open. As well, the enrolment in the ecology specialist has not declined; historically its numbers have always been modest. Finally, all of the *courses* in Ecology are heavily subscribed, so students are gaining exposure to this area of Biology. For all of these reasons, the low enrolment in the Ecology specialist is not a concern to the department or to me.

This year the department, under the direction of the Associate Chair, undertook an informal curriculum review, with the goal of determining whether current programming corresponds with what comparable institutions offer and, more important, what might make our current programs better. As UTM will embark on a campus-wide strategic planning exercise in the fall, these findings will influence the Biology plan. More immediately, some of the issues raised in the review, such as written communication and numeracy, are being addressed through discrete initiatives such as the Scientific Literacy Project in BIO 152. This project has a number of purposes, including teaching students how to: i) ask scientific questions; search for peer-reviewed journal articles; complete a significant writing assignment; and how to paraphrase and reference properly. With funding from the Dean's office, the project will be implemented again in 2011-12. Though these types of initiatives are important, I am encouraging the department to offer learning opportunities across the curriculum that improve students' critical thinking skills, writing and reading skills, and, in general address our degree learning expectations. I will continue to work with the department to ensure that a generalized and effective approach is being used to develop such skills.

2. Collaboration

The reviewers note a wide range of collaborations with other units in the University but also note that, within the department, two of its programs, Biotechnology and Biomedical Communications, could be better integrated. Both of these are professional master's program and so have a different focus from most other programs in the department. In addition, the Biomedical Communications group only joined the department in 2010 following the dissolution of the Institute for Communication and Culture, its former home, so it is not surprising that it is still finding its place within the department, though clearly much more needs to be done.

The incoming chair has taken some formal steps towards better integration of these units, putting members of both units on key committees in the new governance structure. Opportunities for creating synergies with the Biotechnology program will be explored by the incoming chair and will be encouraged by my office. Discussions began earlier this year to explore how to exploit existing synergies between Biology and biomedical communications, particularly in terms of undergraduate course content. Based on recent upswings in enrolment numbers for 2011-12, we are already seeing signs that more students are gravitating towards courses in biomedical communications as a result of its integration into the biology department. Both the director of biomedical communications and the incoming chair of the department plan to work together to build a strong working relationship that will address some of the issues raised in the review.

3. Departmental Governance

The reviewers comment on the lack of transparency in decision-making in the department and the lack of opportunities for faculty to have discussion and input on important issues. The current chair addressed this immediately by introducing informal lunch meetings to discuss the activities of the department and by increasing the number of departmental meetings to at least 4 per year.

The incoming chair has established a more clearly consultative governance structure that will rationalize the decision-making process and promote inclusion of members of the department in the decision-making process. The new structure will include an executive committee and committees to oversee, respectively, curriculum, research and infrastructure, biosafety and emergency preparedness and community issues, as well as short-term *ad hoc* committees. Further, he has increased the number of senior executive posts

in the department by one: to include both an associate chair, undergraduate (which currently exists) and a director of research.

4. Academic Direction

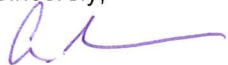
The reviewers comment on the need for a collegial vision for the department's future. Academic departments at UTM are currently reaching the end of the Stepping Up plan to 2010 and will engage in a campus-wide planning exercise to begin in the fall of 2011. As highlighted in the review, the department has a number of priorities that require action (and its members recognize this) but, in the absence of an updated plan, have not articulated a coherent strategy for achieving these goals. The upcoming planning process will enable it to approach this priority-setting exercise more selectively, determining which goals rise to the top as the key priorities for the department. The incoming chair has already begun discussions with the Dean about this process.

5. Other Issues to Highlight

A review of a large, complex department inevitably unearths areas for improvement and, in this case, areas where the strains of dramatic enrolment growth and the concomitant resource challenges have taxed the delivery of the undergraduate program in some regards, such as lab space and availability, and options for course delivery. At the same time, I think it is important to reinforce the successes of this department: its ability to attract large number of students to its programs, its commitment to providing students with exposure to advanced research, and the quality of its faculty and staff. As well, the department has made significant efforts to enrich the student experience through programs such as the C3 biology Program (Professional Development in Biology Program), a program that offers a series of workshops, events, and activities, aimed at improving the professional and career development of students in the biological sciences. This program was the first of its kind at UTM (and possibly U of T), providing students with a notation of completion of the certificate that appears on their transcripts. In its first 2 years it awarded 53 certificates. The department also established a Portal Biology Community for all Biology undergraduate students, highlighting co-curricular activities in Biology at UTM, including information about seminars, other departmental events and volunteering opportunities.

In short, although the department faces (and has faced) many challenges, it has a great deal to celebrate. I am confident that it will build on its considerable strengths to build an ever stronger department in the years ahead.

Sincerely,



Amy Mullin
Vice-Principal, Academic and Dean

APPENDIX 1

Externally commissioned reviews of academic programs, completed March – August 2011

Additional reviews of programs are conducted by organizations external to the University most commonly for accreditation purposes. These reviews form part of collegial self-regulatory systems to ensure that mutually agreed-upon threshold standards of quality are maintained in new and existing programs. Such reviews may serve different purposes than those commissioned by the University. A summary listing of these reviews is presented below.

Traditionally, these reviews have been reported annually to AP&P each March as an appendix to the compendium of external reviews. Now that external reviews are presented biannually rather than annually to AP&P, this report is presented in two parts: in March and September.

Faculty of Medicine		
Master of Science in Occupational Therapy	Canadian Association of Occupational Therapists (CAOT)	Accredited (next review 2017)
PhD in Counselling Psychology	Canadian Psychological Association	Accredited (next review 2016)
Bachelor of Science in Nursing	Canadian Association of Schools of Nursing	Accredited (next review 2018)

School of Graduate Studies – OCGS Appraisals		
Collaborative Program in Resuscitation Science	Faculty of Medicine	APPROVED TO COMMENCE
Joint Master of Engineering in Design and Manufacturing	Faculty of Applied Science and Engineering	GOOD QUALITY
MEnvSc in Environmental Science	University of Toronto Scarborough	GOOD QUALITY AFTER REPORT
MA/PhD in History	Faculty of Arts and Science	GOOD QUALITY AFTER REPORT
MA/PhD in Near and Middle Eastern Civilizations	Faculty of Arts and Science	GOOD QUALITY AFTER REPORT
MUDS in Urban Design Studies	Faculty of Arts and Science	GOOD QUALITY AFTER REPORT