

**UNIVERSITY OF TORONTO**  
**THE GOVERNING COUNCIL**  
**REPORT NUMBER 83 OF THE COMMITTEE ON**  
**ACADEMIC POLICY AND PROGRAMS**

**October 4, 2000**

To the Academic Board,  
University of Toronto.

Your Committee reports that it held a special meeting on Wednesday, October 4, 2000 at 4:10 p.m. in the Council Chamber, Simcoe Hall, at which the following were present:

Professor Ruth Gallop (In the Chair)  
Professor Derek Allen (Vice-Chair)  
Professor Carolyn Tuohy, Deputy Provost  
Professor Paul Gooch, Vice-Provost  
Professor Raisa Deber  
Ms Joy Fitzgibbon  
Mr. Rob Foote  
Mr. David Kaplan  
Professor Angela Lange  
Professor Michael R. Marrus  
Professor Ian McDonald  
Ms Vera Melnyk  
Professor V. Kumar Murty  
Professor Keren Rice  
Professor Emmet Robbins

Ms Catherine Seymour  
Professor J.J. Berry Smith  
Ms Adelene Tan  
Professor Donna Wells  
Professor Linda Wilson-Pauwels

Non-Voting Assessors:

Professor Ian Orchard, Vice-Provost,  
Students

Secretariat:

Ms Susan Girard

Regrets:

Professor Francois Casas  
Professor James Donaldson  
Mr. Arvin Hariri

Professor Lynne C. Howarth  
Professor Alexander R. Jones

In Attendance:

Professor Carl Amrhein, Dean, Faculty of Arts and Science  
Professor Michael Charles, Dean, Faculty of Applied Science and Engineering  
Mr. Louis Charpentier, Secretary of the Governing Council  
Ms Cristina Oke, Assistant Vice-Provost  
Ms Lynn Snowden, Assistant Vice-Provost

THE ITEM IS REPORTED FOR INFORMATION.

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**Chair's Remarks**

The Chair thanked members for attending this special meeting.

**1. Reviews of Academic Units and Programs - Annual Reports**

The Chair noted that the document, *Reviews of Academic Programs and Units, 1998-99 - 1999-2000, Volume I*, (referred to as the Report) was presented for information and discussion. Two additional documents, one giving the dates of the most recent reviews of interdisciplinary undergraduate programs in the Faculty of Arts and Science and the other giving the names of the external peer reviewers in the Faculty of Applied Science and Engineering, had been placed on the table.

Professor Tuohy said that although the academic reviews were presented for information, the Committee had an important role to play. This Committee was the point of entry into governance for the reviews and it was here that the reviews would be under the closest scrutiny. It was not the Committee's mandate to redo the reviews but rather to ensure that they had been done, that they had been conducted using an appropriate process and full documentation, and that issues that were identified by the reviewers were addressed by the administration. This was the first set of reviews conducted under the new process which was described in the Guidelines appended to the Report. They provided a framework for consistency in the review process while allowing discretion to conduct reviews in the cluster format as used by the Faculty of Arts and Science. She explained that the review summaries had also been drafted in a consistent format.

Professor Tuohy indicated that the past two years had been very busy ones, completing tasks generated by the *Raising Our Sights* planning exercise. Every unit of the University had been involved and the tasks had been daunting given the comprehensiveness of the process. The reviews and the academic planning process have been closely linked, and the academic plans and the resulting allocations for funding showed how seriously the reviews were being taken and any identified issues were being dealt with.

A number of general questions about reviews were asked and Professor Tuohy responded.

- The preparation of the review summaries was the responsibility of the commissioning officer, that is, the deans. There was considerable iteration in the drafting stage between the faculties and the Provost's Office. The summaries of the Provost's reviews were prepared by the Provost's Office.
- In response to a question about a study of the job prospects of the students, Professor Tuohy said that this was undertaken only at the graduate level and would be part of the self-study done by each unit. She noted that in the review of the Department of Philosophy, the reviewers expressed concern about the placement of graduates.
- With respect to determining time to degree for graduate students, Professor Tuohy agreed that this was an issue. Data were being collected in the preparation of the performance indicators report which showed some improvement over time. The University was looking into the factors that affected time to completion and the issue remained a concern. Dean Marrus noted that the issue of graduate supervision was one that constantly arose in discussions with the Graduate Students' Union. Questions about the effectiveness of the supervision, how to assess the quality of the supervision,

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

and what could be done to improve supervision were raised. He explained that the new Repository of Student Information (ROSI) would have a module that would be able to track annual meetings of supervisory committees. These committees were required to meet on an annual basis, although some did not, and there was a remarkable improvement in the supervision of those that met. He said that best practice for each division would be tailored to that unit. The whole issue of supervision was open to assessment and evaluation.

**A. Faculty of Arts and Science**

Professor Tuohy gave a brief introduction to the reviews undertaken in the Faculty of Arts and Science. The Faculty had used innovative cluster reviews to look at groupings of inter-related units and programs. Several departments had been reviewed individually and as part of a cluster. Most reviewers had commended the cluster methodology, noting that it allowed recognition of complementarities and interdisciplinary potential. A few suggested that it made the review daunting. There were a number of common themes in the reviews including the inadequacy of support for graduate students and teaching assistantships. Professor Tuohy noted that graduate student support had been increased in the recent Budget Report as a result of recommendations arising from the Orchard Task Force on Graduate Student Financial Support. In the administrative response, the Provost highlighted the curriculum review underway in the Faculty and the introduction of the concept of “collateral” appointments whereby appointments would be made to departments on the understanding that a fixed number of courses were “owed” to programs. The Faculty had received an allocation from the Academic Priorities Fund to support 90 teaching staff positions or 80 percent of the positions requested by the Faculty.

A number of general questions about reviews in the Faculty were asked.

- A member asked whether there had been any attempt to standardize a teaching load across departments or the Faculty to ensure time for research. Dean Amrhein said that there had been no effort to set a standard teaching load. He commented that teaching was only one component of workload. Teaching was heavier in the humanities than the sciences, for example, but the science faculty spent more time with the graduate students in the laboratories. He expected the chairs of each department to achieve overall equity in workload. Factored into the above was the position in the career - the early years were lighter in teaching while research activities were being established. The core expectation was that there would be no distinction between teaching and research; research was expected to inform teaching. Professor Tuohy concurred with Dean Amrhein’s remarks, noting that each faculty member was expected to be fully functioning in teaching, scholarship, and service in programs at both the undergraduate and graduate levels. There were differences in the proportion of the three areas by discipline but this was true across North America. Departments should strive for equity.
- A member noted the limitations on interdisciplinary studies at the University. Many upper level courses were only available to students who had taken a course in that discipline at the 100 level. When a student took only six 100 level courses, there were many fields that could not be explored. She suggested that philosophy and history courses, for example, were important for all students. Dean Amrhein said that the

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

undergraduate arts and science courses at this University were the most wide open in North America. In order to specialize in certain courses at the 300 level it was necessary to have a grounding in that discipline. There was a necessary cascading effect. The most popular programs were those in which the students took two majors and sometimes three. He believed that there was unlimited choice and noted, for example, a double major in French and Human Biology. The curriculum was wide open but he believed it was necessary to protect disciplinary prerequisites. Six 100 level courses were all that could be used for graduation purposes but a student could take more if he or she wished. The Faculty had been criticized for being too wide open and also for being too specialized. Another member noted that the course requirements for her double major left no room at the 100 level to branch out.

- Asked to expand on the curriculum review, Dean Amrhein explained that it would be very comprehensive. A committee under the leadership of Professor Rolph had already completed an overall undergraduate curriculum review which had focused on the core skills graduates of all undergraduate programs such as reasoning, writing, numerical skills, and had led to the recommendation to disestablish the 15-credit degree. A spin-off committee had been established under the leadership of Professor Hildyard to study access issues with respect to the undergraduate programs. Another committee was studying the acquisition of writing skills. In response to a question, he said that these initiatives would not apply to the programs at UTSc and it was not clear to what extent they would affect UTM although that College had agreed to suspend the 15-credit degree on a timetable agreed with the Provost's Office.
- A member noted that funding was provided for new faculty and she asked about the source. Professor Tuohy explained that the Academic Priorities Fund (A.P.F.) was created from an annual levy on all academic divisions of 1.5 percent or 6 percent over the four-year period. This funding was pooled and then redistributed to support the divisions' academic plans.
- A member asked Dean Amrhein to explain the complement planning. Dean Amrhein said that the Faculty had lost 135 positions through retirements in the planning period. He had given up 30 positions for the budget cuts under the Common Sense Revolution. He had asked for 115 new positions and the Provost had recommended that he receive a \$7 million salary budget envelope from the Academic Priorities Fund (A.P.F.) for 90 new positions. Only the departments of Computer Science and Electrical Engineering were adding to complement because of ATOP. Professor Tuohy said that this was referred to in the introduction section to the Faculty in the Report but that she would make a clarification. Dean Amrhein agreed that he had received more from the A.P.F. than the Faculty had contributed.

Professor Tuohy suggested that the Committee consider each review.

Department of English

A member noted that the Department was directed "to rethink its curriculum...in such a way that it will retain its traditional strengths yet also reflect its new strengths." He said that the response indicated that there were periodic reviews of the Department's offerings. Dean Amrhein commented that there were a number of ways of dividing the discipline. The traditional way focused on periods such as 17th century or cultures such as North American.

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

New approaches included critical theory and structuralism. He said that the Department had managed the shift across cultural domains very successfully.

Department of History - no comments

Department of Philosophy

A member noted the reviewers' comment about the optimum size of the doctoral program in relation to market forces. The reviewers were not impressed with the types of academic appointments accepted by recent graduates.

A member noted that the last review had been 11 years ago. Could this be the reason for some of the problems not being dealt with earlier? Professor Tuohy noted that some reviews had been waived. In this case there had been a review conducted by the Ontario Council on Graduate Studies (OCGS) in 1995. That review would not have been very different from the one proposed for the regular cycle of reviews. The current guidelines stated that only for very good reasons would a review be waived. The OCGS review had been good but it had concentrated on the graduate programs.

Department of Political Science

A member who was a student in the Department of Political Science was pleased about the positive points made in the review. She wondered whether there were plans to enter new fields of methodology. Dean Amrhein noted that the University of Michigan placed greater emphasis on the rational choice methodology. Some members of the Department were not as supportive of this methodology as were the reviewers. He said that the Department was more European in its style than Michigan. The member was also excited about the School of Graduate Studies fellowships that could be awarded to graduate students to design and teach their own course in the Department. Dean Marrus was supportive of the program but noted that it could result in slowing down the time to degree.

Cluster 1

Undergraduate Programs: Aboriginal Studies; Criminology; Equity Studies; Ethics, Society and Law; Sexual Diversity; Social and Cultural Anthropology; and Women's Studies  
Graduate Programs: Aging and the Life Course; Criminology; Ethnic and Pluralism Studies; Museum Studies; Women's Studies; and Urban and Community Studies.  
All Programs in the Departments of: Anthropology; Sociology; and Philosophy

A member commented that those faculty and students in small programs had been concerned that they would not receive appropriate attention in the review process. However, she reported that they had and that they were pleased with both the review and with the administrative response. These programs were the means of building interdisciplinarity. The program she was most concerned with, the Aboriginal Studies program, would benefit from new appointments. She re-iterated that skepticism had been dispelled and she was very pleased that there would be an opportunity to strengthen these programs.

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

Cluster 2

Undergraduate Programs: African Studies; American Studies; Asia-Pacific Studies (Chu Program); Canadian Studies; Caribbean Studies; Celtic Studies; European Studies; Ibero-American Studies; International Relations; Peace and Conflict Studies; and South Asian Studies. Graduate Programs: IHPST; International Studies (CIS); Joint Centre for Asia-Pacific Studies; Museum Studies; Russian and East European Studies (CREES); South Asian Studies; and Urban and Community Studies.

All programs in the Departments of: East Asian Studies; History; Philosophy; and Political Science

A member referred to the perception of the reviewer of “an over-administration of programs..., in part resulting from a proliferation of often very small programs, each of which has imperial tendencies....” Dean Amrhein said that there were a number of small programs, often interdisciplinary, sponsored by a College. They would reside within the College structure and then within the Faculty’s administrative structure. The goal was to make the specific programs broadly based. Some were created on the basis of one individual’s expertise and student interest. He has sent a clear message that when the individuals retire, the programs would be discontinued. Departments were broadening their offerings and the reason for small programs was not so compelling, particularly when the small programs asked for support at large program rates. He suggested that the overlap between small programs and departmental coverage should be re-examined. Of course, every small program would probably resist change.

Cluster 3

Undergraduate Programs: Archaeology; Christianity and Culture; Hebrew Language and Literature; History and Philosophy of Science and Technology; Jewish Studies; Medieval Studies (St. Michael’s College); Middle East and Islamic Studies; and Religion: Christian Origins

Graduate Programs: Ancient Studies; Ancient and Medieval Philosophy; IHPST; Medieval Studies; and Study of Religion

All programs in the Departments of: Classics; Philosophy; East Asian Studies; History; Near and Middle Eastern Civilizations; and Study of Religion

A member expressed a concern about the programs in cluster 3. He understood that the University had in the past taught programs that were not taught elsewhere in Canada and needed to be maintained for that reason. Would this be reflected in the faculty complement in these areas? Dean Amrhein suggested that the Faculty should resist that reasoning. The University offered programs using provincial funding. Those rare programs might not be taught here either.

A member asked about support for graduate students in interdisciplinary areas. He suggested that it would be difficult for students in these areas to have access to teaching assistantships (TAs) which were usually assigned by departments. Professor Orchard noted that the University was proposing four-year guaranteed funding packages for graduate students, of which TAs would be only one source.

In response to a question, Professor Tuohy said that the only professional graduate program in the Faculty was the master’s degree in planning offered through the Department of Geography.

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

Cluster 4

Undergraduate programs in: Cinema Studies; Drama; Fine Art History; and Visual Studies  
Graduate programs in: Drama; History of Art; and Museum Studies  
All programs in the Departments of: Fine Art and East Asian Studies

A member noted the lapse of time since the last reviews in Fine Art and East Asian Studies .

Cluster 5

Undergraduate programs in: Cinema Studies; Drama; Humanism; Literary Studies;  
Linguistics; Anthropology; Psychoanalytic Thought; Semiotics; and World Literatures  
Graduate programs in: Comparative Literature; and Drama  
All programs in the Departments of: English; French; and Linguistics

In response to a question, Dean Amrhein spoke about the Literary Studies program. A number of the programs in this cluster were situated in the federated universities and, as such, until the recent renewal of the Memorandum of Agreement with the federated universities, were not required to undergo a review. The Faculty has decided not to add new funding to the Literary Studies program. Although it had a rich history, the program was too narrow and he has urged the Principal to look at this and other programs in view of the broadening fields of study in the Department of English.

Cluster 6 - no comments

Undergraduate programs: Ibero-American Studies; Renaissance Studies; and Yiddish  
Graduate programs: Comparative Literature; Medieval Studies; and CREES  
All programs in the Departments of: French; German; Italian; Spanish and Portuguese; and Slavic

Cluster 7

Undergraduate programs: Actuarial Science; Mathematics and Applications; Mathematics and Computer Science  
Graduate programs: Mathematical Finance  
All programs in the Department of: Computer Science; Mathematics; and Statistics

Professor Tuohy noted that comprehensive reviews of the individual units in this cluster had recently been completed. Further reviews, were, therefore, not warranted. Instead, the reviewers were asked to read the departmental draft plans and provide an addenda to the previous reviews.

A member referred to the concern over time to completion for graduate students in computer science. Dean Amrhein explained that the students get massive job offers and leave the program. They returned at a later date to complete their studies. The Department had difficulties keeping the students in the face of such competition but it was not a problem of inadequate student support.

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Cluster 8 - no comments

Undergraduate programs: Chemical Physics

Graduate programs: Theoretical Astrophysics (CITA)

All programs in the Department of: Astronomy; Chemistry; Physics; Geology; Mathematics (secondary); Computer Science (secondary); Botany/Zoology (secondary); and Anthropology (secondary)

Cluster 9 - no comments

Undergraduate programs: Behaviour; Biology; Development Biology; Evolutionary Biology; Human Biology; and Palaeontology

All programs in the Department of: Botany; Zoology; Anthropology; Psychology (secondary); Mathematics (secondary); Computer Science (secondary); Statistics (secondary); Geology (secondary); Geography (secondary); Physics (secondary); and Chemistry (secondary)

Cluster 10 - no comments

Undergraduate programs: Earth Science: Physics and Environment; Environment and Resource Management; Environment and Society; Environmental Chemistry; Environmental Geosciences; Environmental Studies; Past Environments; Physical and Environmental Geography; Science and Environment; and Urban Studies

Graduate programs: Environmental Studies (IES); Knowledge Media Design (KMDI); Planning; and Urban and Community Studies (CUCS)

All programs in the Department of: Division of Environment; Geography; Political Science; Sociology; Physics (secondary); Chemistry (secondary); Geology (secondary); Botany/Zoology (secondary); and Anthropology (secondary)

Cluster 11

Undergraduate programs: Artificial Intelligence; Cognitive Science; Cognitive Science and Artificial Intelligence; and Human-Computer Interaction

Graduate programs: Knowledge Media Design; and Neuroscience

All programs in the Department of: Psychology; Computer Science; and Philosophy (secondary)

A member noted that the Department of Psychology was described as a department “in transition.” She asked how this was being addressed by the administration. Dean Amrhein explained that there were three parts to psychology, two of which were in the Faculty and the third, clinical psychology, was housed at OISE/UT. One group in the Faculty was very strong in the area of social cognitive behaviour as evidenced by its success in attracting support from the Social Sciences and Humanities Research Council. The second group, neurosciences, drew its research support from the Medical Research Council and the Natural Sciences and Engineering Research Council. In the second group, two internationally renowned faculty members have recently retired and new faculty were taking their places. He said that the Department had mortgaged all its retirements. It would only be able to receive one position but it had added four or five appointments bridged to retirements of key people.

A member asked about the reviewers’ reservations concerning the Department’s moving to comprehensive exams. Dean Amrhein noted that at the doctoral level, at the end of the second

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year, students took a series of examinations before moving on to the dissertation. There were a number of traditions concerning these exams but in psychology, breadth was a concern, with students being expected to be knowledgeable about everything from sociology to anatomy. Dean Marrus agreed that this issue was a classic battleground. There was a drive to lower the time to degree but comprehensives certainly increased it. It was easier to decrease the time in the sciences than in the humanities and social sciences. He believed comprehensives were a distinctive part of the North American doctoral degree and while he supported them it did prolong the time to degree. There was a tendency to require ever more of students and this must receive careful scrutiny. Dean Amrhein suggested the comment should refer to the move to standardized comprehensives and the member said the report should be amended accordingly.

Cluster 12

Undergraduate programs: Employment Relations; Industrial Relations; and Management and Economics

Graduate programs: Policy Analysis (IPA)

All programs in the Department of: Commerce and Finance; and Economics

A member noted that the reviewers, with respect to the undergraduate commerce program, referred to the “variance in the quality of teaching arising from staffing priorities in the Rotman School.” He asked what steps had been taken to address this problem. Dean Amrhein said that he could not speak for the Rotman School of Management. He understood that the program needed substantial new financial support. Professor Rotenberg had done a superb job in expanding course offerings. He believed that the number of complaints about the program had been declining. In response to a question about placement of graduates, Dean Amrhein noted that the students did well. Most were heavily into accounting courses and when they graduated they were hired by large accounting firms and went on to achieve the Chartered Accountant accreditation. He had been discussing these matters with alumni who now themselves hire new graduates. Professor Tuohy noted that the School of Management’s academic plan was under consideration by the Provost’s Office.

Other Reviews

There were a number of other reviews undertaken in the Faculty of Arts and Science. The programs and departments reviewed included the Aboriginal Studies Program, the Department of Astronomy, the Drama Program and the Department of Mathematics.

A member noted that the names of the reviewers were not given. Dean Amrhein said that these reviewers, unlike those for the cluster reviews, were not told that their names would be made public. Professor Tuohy noted that on an on-going basis, names of reviewers would be public.

A member suggested that the Aboriginal Studies Program appeared to be a language education program and could be thought a “Mickey Mouse” program. Dean Amrhein said that he would be concerned if that tag applied. He said that there had been a substantial response to the reviewers’ concerns. It was impossible to separate the language and culture components of the Program since most of the history and culture was passed on in the oral tradition. Another member confirmed that students must have language skills to take a major in this field. Language could not be separated from studies of the culture. Professor Tuohy agreed to consult the reviewers’ report to ensure that the summary accurately reflect their comments.

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The Chair thanked Dean Amrhein for attending and participating in the discussion.

**B. Faculty of Applied Science and Engineering**

Professor Tuohy gave a brief introduction to the reviews undertaken in the Faculty of Applied Science and Engineering. The Faculty had undertaken a comprehensive review of all its departments and divisions as part of the *Raising Our Sights* process. These were external reviews and the units were assessed against international standards, not those of Canadian institutions. There were also two horizontal reviews, one relating to the quality of the undergraduate education and the other relating to women in engineering. While these reviews had been commissioned by the Dean, Professor Sedra had also commissioned a “meta-review” of the whole Faculty. External reviewers commented on the *Raising Our Sights* reviews and the Faculty’s academic plan. She assured the Committee that the Faculty had been thoroughly reviewed. The assessments were very strong as shown in the introduction to the reviews.

Professor Tuohy referred to three recurring points in the reviews: retirements leading to faculty renewal; graduate student recruitment; and flexibility in the undergraduate program. In the administrative response, it was noted that the first two points would be dealt with through the academic planning process. With reference to the last point, Professor Tuohy said that the Faculty had established a task force which was expected to report by the end of this calendar year.

Dean Charles commented on the point that the reviewers were all chosen from outside Canada. He recalled that the 1994 review of the Faculty had been undertaken by reviewers mostly from Canada. As a part of raising the Faculty’s sights, he had decided to use international reviewers, mostly from the United States but also one from Britain and another from Australia. The Faculty had been measured against the best in the world and he was pleased with the results. In response to a member’s comment, he did not feel that the Faculty had lost the Canadian perspective in the reviews. This input had been given in 1994.

A member noted the variability in the ranking schemes. For example, one department was in the top 5, another in the top 15 and still another was ranked in the top 15 percent. Since he did not know how many departments or programs there were in each group, he found it difficult to assess the information given. Dean Charles explained that there were about 400 engineering schools in North America and about 33 in Canada. To be in the top 10 in Electrical Engineering was to keep company with such prestigious schools as Michigan, Illinois, Stanford, Berkley and the Massachusetts Institute of Technology. Every school offered Civil Engineering, for example, but not every one offered Aerospace Engineering. Professor Tuohy noted that the administration wrestled with the question of how directive it should be to the reviewers on the subject of ranking, taking into account disciplinary differences. In the end, it decided to leave the matter to the reviewers’ best judgement.

Institute for Aerospace Studies

Option for Engineering Science, M.A.Sc., M.Eng., Ph.D.

Dean Charles explained that the Faculty delivered its programs through a number of academic units including five departments, two institutes and three divisions. The two institutes - Institute for Aerospace Studies and the Institute of Biomaterials and Biomedical Engineering - operated principally at the graduate level but were both responsible for an option

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in the Engineering Science program. The three divisions – Engineering Science, Environmental Engineering, and Mineral Engineering – did not have resources directly assigned to them. Rather it was the chairs' job to seek the resources from the departments in Engineering and from other academic divisions in the University to mount their programs.

Institute of Biomaterials and Biomedical Engineering

Option for Engineering Science, M.A.Sc., M.Eng., Ph.D.

Dean Charles commented that this Institute was in transition, broadening its programs. It was a subsidiary of the faculties of Medicine, Applied Science and Engineering, and Dentistry. The Institute had recently received approval from the School of Graduate Studies to offer an M.Sc. and Ph.D. in Biomedical Engineering. These programs had been reviewed by the Committee on Academic Policy and Programs and were awaiting further approvals. This Institute also was responsible for an option in the Engineering Science program.

A member noted the comment about strengthening the M.H.Sc. program in clinical engineering by placing more emphasis on, among other things, the delivery of health care in the community. The member asked if there might be an opportunity for interaction with the not-for-profit sector. Dean Charles explained that the program was small and focused on master's level training for hospital settings. He suggested that the program could benefit from any appropriate advice.

Another member asked about the industrial component of the M.H.Sc. program. Dean Charles explained that industrial engineering was one of nine undergraduate four-year programs where a central theme was the design and management of an organization as an integrated system. A number of the graduates of this program study the systems approach in health care centres. He suggested that the health care focus of the industrial engineering program might have overlapping interests in the clinical engineering program.

Department of Chemical Engineering and Applied Chemistry

B.A.Sc., M.A.Sc., M. Eng., Ph.D.

A member noted that the Department would receive base funding for two academic positions. She asked the Dean to comment. Dean Charles referred to one of the principles articulated on page 4 of the Report which stated that "none of the requests for restoration of positions lost to budget cuts have been funded; requests for restoration *per se* were considered antithetical to strategic planning." He had taken his budget cuts by giving up faculty positions and had then, as part of the academic planning process, asked to have them restored. The answer had been no. He had lost a significant number of positions and had received a positions from the A.P.F. on a selective basis.

A member asked why the number of students was declining. Dean Charles said that student interest in various fields varied from time to time. Demand for chemical and civil engineering was declining while demand for electrical and computer engineering was on the increase. He assured the Committee that only the best students were accepted. A member commented that chemical engineering at the Massachusetts Institute of Technology (M.I.T.) was booming. Dean Charles could not comment on that observation.

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Department of Civil Engineering

B.A.Sc., M.A.Sc., M. Eng., Ph.D.

There were no comments.

Department of Electrical and Computer Engineering

B.A.Sc., M.A.Sc., M. Eng., Ph.D.

Dean Charles said that this was the largest department and students could enrol in either the electrical engineering or the computer engineering programs. Because of the Access to Opportunities Program (ATOP), the number of students would increase significantly.

A member noted that the reviewers referred to future difficulties in the area of faculty acquisition and retention. Dean Charles said that the Faculty was recruiting internationally and was in global competition with other schools. They were in a perpetual search mode.

A member referred to the suggestion to experiment with various teaching models. Dean Charles explained that the classes received primary lectures and then auxiliary instruction in recitation sections where smaller groups engaged in interactive discussions. This was a model used at M.I.T.

Department of Mechanical and Industrial Engineering

B.A.Sc., M.A.Sc., M. Eng., Ph.D.

There were no comments.

Department of Metallurgy and Materials Science

B.A.Sc., M.A.Sc., M. Eng., Ph.D.

A member referred to the reviewers' comment that the department was "too small to teach the breadth of its current curriculum." He asked if there were plans to change the program requirements to lighten the teaching loads. Dean Charles commented that metallurgy and material science was currently an exciting field, particularly in the area of understanding materials and their properties. The Department was small but so was the number of students. He was working with the Chair of the Department to raise more funds and the Provost, using flexibility in ATOP, has recommended two more faculty positions.

Division of Engineering Science

B.A.Sc.

Dean Charles recalled that this program had originated as a program in Engineering Physics but had changed to Engineering Science in the 1960s. It had broadened its base and now offered seven options, combining science and mathematics. One-quarter of the intake of new students entered this program. It attracted students from coast to coast and the entering

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average was about 90 percent. He was happy to have an external endorsement of this excellent program.

A member asked the Dean to comment on the reviewers' recommendation to review all options to improve their cohesiveness. Dean Charles explained that it was the cohesiveness within an option that was in question. There was a sense that the courses within a given option needed more coordination. The courses have been pulled from a number of departments and it was important that they not contain repeat material and that they build on material already presented.

Division of Environmental Engineering

B.A.Sc., Interdepartmental collaborative program offering M.A.Sc., M.Eng., Ph.D.

Dean Charles explained that there was not a fully-fledged undergraduate program in environmental engineering. Rather, there was a collaborative program involving the departments of Chemical, Civil and Mechanical engineering. The Division promoted and facilitated the program. There was a similar collaborative program at the graduate level.

Division of Mineral Engineering

B.A.Sc., Interdepartmental collaborative program offering M.A.Sc., M.Eng., Ph.D.

Dean Charles noted that the specialized core of geological study was provided by the Department of Geology, Faculty of Arts and Science, with instruction in engineering subjects provided by several departments including Civil, Chemical, and Metallurgy and Materials Science.

A member asked the Dean to comment on the program's goal to attract a specific percentage of international students. Dean Charles said that there was a conscious effort to attract international students. Mining was an international business and the program offered opportunities for students from developing countries to obtain a first-class education and to return home to become leaders in the field.

Faculty-wide Horizontal Review of Undergraduate Education

Dean Charles commented that the feedback from this review plus that from the vertical reviews provided confirmation of the Faculty's view that the undergraduate programs were rather inflexible. A decision taken several years ago to reduce the number of courses per term from six to five made the programs more inflexible because of the need to take a required set of courses. It was felt that the students should be well rounded and possess technical competence, good communications skills, an awareness of cultural differences and business skills. As a result of these reviews, the Faculty had established a Task Force on Curriculum Change. It was looking at a number of ways to introduce more flexibility into the programs, including the possibility of taking dual bachelor's programs. He noted that a number of Engineering Science students were gifted in music. He was expecting innovative recommendations from this Task Force.

A member noted the comment about the first-year course, Engineering, Society and the Environment. Dean Charles noted that originally this course had been a compulsory one.

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

The Faculty was questioning whether this course was best suited to all students or whether there should be a choice. This question would be part of the curriculum change process.

Women in Engineering

A member noted that there was no response from the Provost to this review. Professor Tuohy said that it would be addressed in the response to the Faculty's academic plan. There would be, however, be no resources associated with this review. She undertook to amend this section accordingly.

Dean Charles said that the Faculty must facilitate the movement of women between the various levels from undergraduate to graduate to faculty. One-third of the undergraduate students were women; women formed 16-17 percent of graduate student body. At the faculty level, only six or seven percent were women. The Faculty was engaged in finding ways to encourage women to see graduate studies as part of their career and then to consider a faculty position. A member congratulated the Faculty in taking a proactive role in this area.

The Chair thanked Dean Charles for attending the meeting.

**C. Provost's Reviews**

Professor Tuohy explained that the Provost had commissioned four reviews - one regular cyclical review coincident with the end of the Dean's term in the Faculty of Applied Science and Engineering, and three others specifically for the *Raising Our Sights* process in single-departmental faculties. With respect to the Faculty of Architecture, Landscape, and Design the Provost had waived an external review because it had recently been subject to several accreditation and OCGS reviews.

Faculty of Applied Science and Engineering

Given the extensive reviews of the departments and divisions and the two horizontal reviews, a different process was designed for the Faculty of Applied Science and Engineering. Three external reviewers were asked to read the reviews and the Faculty's academic plan. Recurring themes included faculty renewal, the student experience and issues of "climate" that were the downside of school spirit. Dean Charles said that the external reviewers were the Deans from Michigan, Ohio State and Pennsylvania State.

Faculty of Forestry

Professor Tuohy recalled that the Faculty had gone through a difficult time when its undergraduate program had been closed and the Faculty had moved to concentrate on graduate programs. The reviewers comments had been very encouraging about the current state of the Faculty. The Faculty has developed an important niche with its Master of Forest Conservation program. The mood and morale were good. The Faculty was pursuing a collaborative program with the Faculty of Arts and Science at the undergraduate level. Overall, the review was very positive. The reviewers commended the Faculty for concentrating its resources in the forest policy area

A member asked about the increased TA support in the absence of an undergraduate program. Professor Tuohy explained that doctoral students were provided modest support for

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**1. Reviews of Academic Units and Programs - Annual Reports** (cont'd)

TA duties in the master's programs. In response to a question, Professor Tuohy noted that there were about 12 faculty members in Forestry.

Faculty of Music

Professor Tuohy said that the reviewers were very positive about the Faculty and in particular praised the leadership of the dean. The reviewers suggested that the program emphasis be shifted to the graduate level. They also raised concerns about the adequacy of the infrastructure.

A member asked about the certificate and diploma programs. Professor Tuohy indicated that these programs were the subject of ongoing discussion. The Diploma in Operatic Performance was very good. A watching brief was being maintained on the other programs. In response to a question, Ms Oke said that there were 29 tenure/tenure-stream faculty and nine non-tenure-stream.

Faculty of Social Work

Professor Tuohy said that while the review of the Faculty was generally positive, the reviewers did express some concern about the individualized nature of the Master of Social Work curriculum. The Faculty has responded by proposing a number of revisions which this Committee approved at its meeting in September. The Provost has provided funding for two new faculty positions in support of the new master's curriculum.

Professor Tuohy thanked the members for their thoughtful consideration and discussion of these reviews. She undertook to make the changes suggested by the members.

**2. Date of Next Meeting**

The Chair noted that the date of the next meeting was Wednesday, October 25, 2000.

The meeting was adjourned at 6:55 p.m.

Secretary  
October 19, 2000

Chair