

Internal Academic Review 2004-2005
Department of Geological Sciences and Geological Engineering
Internal Academic Review Committee Report to Senate

Department of Geological Sciences and Geological Engineering

The Department of Geological Sciences and Geological Engineering has earned a national and international reputation for its impressive research output and for offering high quality geological education for scientists and engineers that features a commitment to fieldwork. Faculty members have distinguished themselves in a number of areas of specialization and students spoke enthusiastically of their supervisory and teaching skills. The research profile of the Department is outstanding, both in terms of external funding and publication record. The overall collegial and supportive nature of this unit was highly evident to all reviewers.

In general, the Department of Geological Sciences and Geological Engineering has been extremely effective in meeting its goals in teaching, research and service. The Internal Academic Review Committee (IARC) suggests that in order for the Department to build on its academic achievements to date, it is time for the unit to revisit its overall plans and to address the various issues identified by reviewers.

Major Recommendation

1. DEPARTMENTAL REVIEW: The reviewers' reports point to the Department's many areas of strength in teaching and research, and the IARC commends the Department for responding promptly to issues revealed during preparation of the Unit Self Study and subsequently identified in reviewers' reports. Nonetheless, the IARC agrees with the reviewers' recommendation that the unit engage in a departmental review that would focus on its future direction and also consider such issues as rebuilding areas of strength in the undergraduate program and adding breadth and depth to graduate course offerings. The IARC concurs with the External Consultants' view that the poor physical state of the facilities that house the Department may be one factor contributing to some of the academic concerns identified in the review. While the IARC

acknowledges the difficulties faced by departments located in older buildings on campus, it nonetheless suggests that one goal of the Departmental review could be to develop a multi-year plan to address the deterioration of graduate offices, lecture halls and teaching laboratories. Such a plan could include developing a strategy to mitigate the financial burden in consultation with the Faculties of Arts and Science and Applied Science and other relevant departments.

The IARC recommends that the Department of Geological Sciences and Geological Engineering engage in a process to refine the future direction of the department and to address the issues identified in reviewers' reports.

Outcomes of the Internal Academic Review of the Department of Geological Sciences and Geological Engineering

*Joint response submitted by the Dean of the Faculty of Arts and Science and
the Head of the Geological Sciences and Geological Engineering*

Recommendation 1: Departmental Review

The Department of Geological Sciences and Geological Engineering is gratified that the IARC recognizes the excellence of our teaching and research activities.

This continuing excellence stems in part from the Department's clear understanding of what it aspires to be: a Department with a national and international reputation for teaching and research in crustal processes, mineral-deposits geology, sedimentary geology, geotechnical engineering and environmental geology, all supported by expertise in geophysics, geochemistry and geochronology. We aspire to have a carefully integrated set of teaching and research programs that are based on close collaboration amongst faculty members with complementary expertise, so that the whole is greater than the sum of the parts. In this way, we are able to offer outstanding undergraduate and graduate programs that provide the highly qualified personnel that are in demand by the mineral-deposits, petroleum and environmental industries, by government agencies and by academe.

In order to build on this vision, the Department has had a carefully formulated understanding of what it needs in order to offer world-class teaching programs at the undergraduate and graduate levels, and has been working over the course of several years to fill identified gaps in faculty expertise. The most urgent need will be filled in the coming weeks by the hiring of a new faculty member in the areas of igneous petrology and mineral-deposits geology. The Department has also identified fieldwork as being at

the core of a first-rate education in the earth sciences and has embarked on a fund-raising program that aims to create an endowed fund of \$2M to fund field education. This initiative is already one-third of the way to realization.

Given that some of our most pressing needs are well on their way to being met, the IARC's recommendation that we revisit our Strategic Plan is timely, as we need to ensure that we have a clear and common view of the next steps in our ongoing drive to create a Department that will be the envy of the earth-science community. The first of these steps has already been taken in the form of a proposal from us to undertake a joint Advancement effort with the Department of Mining Engineering. Together, our two departments contain expertise in almost all facets of the finding, development and closure of a mine. Preliminary and ongoing discussions have begun to identify the most pressing needs, including faculty in targeted areas, scholarships for international students, renovation of space and strategic pieces of research equipment.

With regard to the upgrading of its space, the most pressing needs have already been identified and important steps have been taken using funds obtained from the Faculty of Arts and Science. We have identified new sample-storage facilities as a major need and are in the process of researching options for these facilities and for their funding. We are eager to work with all relevant players, including external agencies and industry, to fund this initiative.

Follow-up on these recommendations and issues will take place in the annual budget and staffing strategy meetings between the Dean of the Faculty of Arts and Science and the Vice-Principal (Academic)