



# University of Toronto Quality Assurance Process (UTQAP) Cyclical Review: Final Assessment Report & Implementation Plan

<b>Program(s):</b>	Geology, B.Sc., Hons.: Specialist Geophysics, B.Sc., Hons.: Specialist Geoscience, B.Sc., Hons.: Major, Minor Environmental Geosciences, B.Sc., Hons.: Specialist, Major Geology, M.Sc., Ph.D.
<b>Division/Unit:</b>	Department of Earth Sciences (Undergraduate and Tri-campus Graduate Program)
<b>Commissioning Officer:</b>	Dean, Faculty of Arts & Science
<b>Reviewers (Name, Affiliation):</b>	1. Dr. David Eaton, Professor of Geophysics, Department of Geoscience, University of Calgary 2. Dr. Lee Kump, Professor of Geosciences, Department of Geosciences, Pennsylvania State University 3. Dr. Roberta Rudnick, Distinguished Professor and Chair, Department of Geology, University of Maryland
<b>Date of review visit:</b>	February 7-8, 2013
<b>Date reported to AP&amp;P:</b>	April 1, 2014

## 1 Outcome

The Committee on Academic Policy and Programs (AP&P) concluded that the Decanal response adequately addressed the review recommendations.

## 2 Significant Program Strengths

- Leading programs with broad research strengths
- Strong student satisfaction and positive faculty morale
- Numerous student research opportunities and notable accomplishments of graduates

- Excellent outreach to external stakeholders, resulting in successful fundraising and development of valuable relationships

### **3 Opportunities for Program Improvement and Enhancement**

The reviewers recommended that the following be considered:

- Addressing undergraduate curriculum and program delivery challenges, including expanding senior undergraduate course offerings
- Reducing doctoral time-to-completion and increasing enrolment
- Increasing international student enrolment by removing barriers
- Increasing transparency of decision-making processes
- Strengthening relationships with cognate units
- Examining plans for the Jack Satterly Geochronology Laboratory (JSGL)
- Further developing scholarship and research in Geophysics and other areas
- Reviewing the departmental workload policy, faculty teaching loads and research productivity

### **4 Implementation Plan**

The Dean undertook in consultation with the Department to support the following changes:

- Immediate Term (6 months)
  - Addressing undergraduate curriculum challenges
    - The Department has revised the undergraduate curriculum, adding a capstone field course and ensuring consistent delivery of upper-year courses which include diverse topics presented by rotating faculty.
    - The Department has arranged for its students to access upper-year courses in the Faculty of Applied Science and Engineering and the Department of Physics.
  - Reducing doctoral time-to-completion and enrolment
    - The Vice-Dean, Graduate Education and Program Reviews, Faculty of Arts and Science, is compiling a document outlining best practices with respect to time to completion.
    - The Earth Sciences Graduate Affairs Committee is considering requiring closer supervision of PhD students to support them in completing their program in a timely manner.
    - The Department has been expanding its faculty complement, resulting in increased graduate student enrolment over the past two years.
  - Increasing international student enrolment
    - The Department is establishing funds to support international students.
  - Increasing transparency of decision-making processes
    - The Graduate Affairs Officer will continue to explain funding packages to individual students, and the Chair and Associate Chair will strive to better communicate funding decisions to each cohort.

- Strengthening relationships with cognate units
  - The Department will continue to collaborate with cognate units on initiatives such as curriculum development for the new Environmental Sciences major program.
- Examining plans for the JSGL
  - The Department has acquired equipment that will significantly increase JSGL's research capacity.
- Further developing scholarship and research in Geophysics
  - The Department will submit a request to the Arts and Science Appointment Committee in the Spring 2014 to hire a faculty member in Applied Geophysics.
- Reviewing faculty workload
  - The Department will monitor the effect of the revised curriculum on faculty workload and will maintain consistent course assignments for faculty whenever possible.
  - The Department has implemented a peer-review system for Natural Sciences and Engineering Research Council of Canada Discovery Grant (NSERC DG) applications to increase research funding results.
  - The Department will review its technical staff allocations, especially with respect to providing support to pre-tenure faculty. It will also strive to enhance financial support of graduate students as a means of increasing faculty research productivity.
- Medium Term (1-2 years)
  - Addressing undergraduate curriculum challenges
    - The Department will reinstate the thesis requirement, striving to distribute supervision evenly among faculty.
  - Reducing doctoral time-to-completion and enrolment
    - The recently appointed Associate Chair for Graduate Studies will provide guidance on graduate supervision best practices to decrease time to completion.
  - Increasing international student enrolment by removing barriers
    - The Faculty and Department will continue to raise funds for graduate fellowships that can be used as recruitment tools.
  - Increasing transparency of decision-making processes
    - The Graduate Associate Chair and Graduate Affairs Committee will review funding policies for graduate students.
    - The Department will hold a retreat in April, 2014, during which communication and governance matters will be discussed.
  - Strengthening relationships with cognate units
    - The Faculty is considering developing a new faculty position together with the School of the Environment in 2014-15.
  - Examining plans for the JSGL
    - The JSGL and the Department will host a symposium on Geochronology in the Spring, 2014 that will help to increase the profile of the JSGL's work and help the Department make a decision about the JSGL's future.
  - Reviewing faculty workload
    - The Earth Sciences Undergraduate Affairs Committee will continue to review and adjust teaching assistant hours for courses as needed.

- Longer Term (3-5 years)
  - Reducing doctoral time-to-completion and enrolment
    - Faculty have begun to encourage new graduate students to start field or experimental work in the summer prior to their nominal September program enrolment date.
  - Examining plans for the JSGL
    - The Department will identify its long-term goals and determine whether it will fund a directorship of the JSGL.
  - Reviewing faculty research productivity
    - The Department will examine its hiring practices, mentoring and course assignments of pre-tenure faculty.

The Dean's Office will follow up annually with the unit to assess progress.

## 5 Executive Summary

The reviewers identified the programs' strengths as having leading programs with broad research strengths; strong student satisfaction and positive faculty morale; numerous student research opportunities; notable accomplishments of graduates; and excellent outreach to external stakeholders. The reviewers recommended that the following issues be addressed: enhancing the undergraduate curriculum; reducing doctoral time-to-completion; increasing international student enrolment; increasing communication about graduate funding packages; strengthening relationships with cognate units; examining plans for the Jack Satterly Geochronology Laboratory (JSGL); further developing scholarship and research in Geophysics; and reviewing faculty workloads. To address undergraduate curriculum challenges, the Department has increased student access to upper-year courses and will reinstate the thesis requirement in the medium term. The Department will follow best practices in order to reduce doctoral time-to-completion and increase enrolment. To increase international student enrolment, the Faculty of Arts and Science and the Department will continue to raise funds for graduate fellowships. By reviewing graduate student funding policies and discussing communication issues, the Department will increase transparency of its decision-making processes over the medium term. The Department will strengthen its relationships with cognate units through collaboration on initiatives and funding proposals. Through upcoming events (symposium and faculty retreat), the Department will examine its future plans for the JSGL. The Department will seek to hire a faculty member in Applied Geophysics as a step towards developing scholarship within that field. The Department has identified a number of strategies it will use to equalize faculty teaching load and increase faculty research productivity immediately as well as in the medium and long term. The Committee on Academic Policy and Programs concluded that the Decanal response adequately addressed the review recommendations.