

FINAL SUMMARY REPORT OF PROGRAM REVIEW

Undergraduate Program	Earth Sciences
New or Cyclical Program Review (please indicate)	Cyclical
Degree(s) Offered	BSc, Geology (Professional Registration, Hons Spec, Spec) BSc, Environmental Geoscience (Professional Registration, Hons Spec, Spec) BSc, Geophysics (Professional Registration, Hons Spec, Spec, Minor) BSc, Geology and Biology (Honors Specialization, Specialization) BSc, Earth and Planetary Sciences (Major, Minor)
Date of Site Visit	March 20, 2012
Evaluation	Good Quality

Summary:

The Earth Sciences program was reviewed by Dr. Carolyn Eyles (McMaster University) and Dr. Ian Ferguson (University of Manitoba), assisted by Dr. Derek McLachlin (Western, Biochemistry). No student reviewer participated. During their visit, the reviewers met with the department Chair and Undergraduate Chair, many faculty members and instructors from the department, a selected group of graduate TAs and undergraduate students, and representatives of other constituencies of the university. The meetings were cordial, and participants exchanged ideas and information freely and often with enthusiasm.

Overall, the reviewers were complimentary, stating:

The undergraduate programs offered by the Department of Earth Sciences at Western University are modern geoscience programs meeting the educational and training requirements of the geoscience profession and graduate studies in geoscience. Students receive a quality education in their field, and with the completion of the appropriate program they will meet professional registration requirements and they will be very employable in the geoscience profession.

In particular the reviewers noted the strong experiential learning components incorporated into the program. The reviewers applauded the department for being able to implement the Honors Programs for Professional Registration, which are outside of the norm of the module system at Western and yet are vital to the professional success of Earth Sciences graduates. The reviewers stated that the wide variety of courses available at the third- and fourth-year levels set Western's program apart from programs at other institutions, and also lauded the "exciting, and in some cases innovative, first year courses".

The reviewers commented favourably on the high completion rates for Earth Sciences students, high student satisfaction as reported on exit surveys and communicated directly by the students, the engagement of the faculty and TAs with the undergraduate education mission, and the strong alumni support for the undergraduate program. The department has adequate resources to sustain the program, although imminent faculty departures will have to be replaced, and technical support for the program relies heavily on staff supported by research funds.

The main challenge to the undergraduate program identified by the reviewers is the difficulty in attracting first-year students in Science and the Biological and Medical Sciences to Earth Sciences courses, and therefore to the program as a whole. This difficulty is an unfortunate consequence of the entry requirements of modules in the Bachelor of Medical Sciences program. The department is keenly aware of this challenge and has adjusted its modules to allow students to enter into second year without first-year Earth Sciences courses. In addition to making their first-year course offerings as attractive as

possible, the department has engaged in a variety of outreach activities aimed at high school students and BMSc students.

In addition to several recommendations relating to attracting students and understanding where students in the program come from, to enhance the department's undergraduate enrolment the reviewers recommended exploring greater involvement of the department in Planetary Science and Environmental Science modules, and in interdisciplinary teaching. The department is in fact planning to offer modules in Planetary Science to replace modules being withdrawn by the Department of Physics & Astronomy.

Other challenges identified by the reviewers include teaching "soft" skills and written communication, and the lack of a resource handbook for first-year students. In their response the department expressed a willingness to examine these aspects of their program.

Recommendation	Responsibility
Map the curriculum to ensure students are appropriately instructed in terms of knowledge, technique, and "soft" skills, particularly written communication.	Department
Pursue additional opportunities for interdisciplinary collaboration and teaching.	Department, in cooperation with other departments
Explore ways to attract more students to Earth Science courses and develop outreach materials that promote career options.	Department, Faculty
Consider assuming administration of Planetary Science programs from Physics and Astronomy Dept.	Department, Faculty