
Final Assessment Report: External Program Review – Biology
Academic Planning and Priorities Committee of Senate – June 2014
Algoma University

Algoma University's Institutional Quality Assurance Process [IQAP] on Program Reviews requires an objective, comprehensive, and constructive evaluation of all academic programs. The central objective of program review is to assess how current offerings could better serve students (within the available resources), and provide specific recommendations for improving program quality.

The Department of Biology delivers three programs: (i) Bachelor of Science, Biology (3 years), (ii) Bachelor of Science, Biology, Honours (4 years), and (iii) Minor concentration in Biology.

The strengths of the program include: considerable individual attention from the faculty; a student-centred, hands-on approach to teaching; an active and engaged capstone experience; an integrated curriculum across years-of-study; full-time faculty with PhDs, ambitious research programs and external sources of research funding; committed faculty with sound teaching records; and both teaching and research laboratories to support both faculty and students.

Within the context of the external review of these programs, the Academic Planning and Priorities Committee (AppCom) of Senate has reviewed the program self-study, the External Review Committee (ERC) Report, the Program Response to the ERC Report and the Decadal Response to all the materials above. In its synthesis, review and response to these materials, AppCom is called upon to identify opportunities for program improvement and enhancement. As such, the Committee recommends the following actions for implementation:

Recommendation #1 – Program Revisions

- a. reduction from two-to-one 3000-level required ecology (*Population and Community*) courses whilst maintaining learning outcomes OR relegation to elective offerings;
- b. consider reducing the number of 3000- and 4000-level required courses to allow greater program flexibility, including college transfer options;
- c. course revisions to BIOL 1506 (*Intro to Biology*) and BIOL 2126 (*Cell Biology*) to enable more thorough coverage of cell and molecular biology. Add more microbiology to BIOL 2126;
- d. course revisions to BIOL 2016 (*Microbiology*) and BIOL 3017 (*Genetics*) to enable their sequence to be reversed (i.e., genetics during 2nd year and microbiology during 3rd year);
- e. replace 3rd year methods course (BIOL 2996) with a new biostatistics course;
- f. reconsider roster cycling of BIOL 2127 (*Plant Form & Function*) and 2716 (*Invertebrate Form & Function*);

- g. revise human (i.e., anatomy, physiology, nutrition, disease) biology courses to provide regional appeal and post-graduate opportunities for BIOL program majors. Consider making *Nutritional Science and Disease Biology* and the second half of *Human Form and Function* full courses rather than topics-courses as they currently are, and introducing them into the regular elective cycle;
- h. develop more advanced topics in molecular biology, biotechnology, and genomics with an eye toward program appeal and retention. Begin with recent introduction of *Advanced Biotechnology* (BIOL/ENVS 4XXX) and begin cycling this course (if and) when the Environmental Science program is approved;
- i. consider internship/placement elective, health/medical sciences related thesis supervision, and/or non-thesis option for non-hours program majors;
- j. increase program flexibility at the 3000- and 4000-level, with an eye toward (1) fewer required courses, (2) student opportunities for earning a minor in another discipline;
- k. alter degree regulations for B.Sc. programs with an eye toward reducing the 12-credit Humanities and/or Social Sciences requirement thereby enabling ADMN minors.

Recommendation #2 – Admissions

- a. change required high school prerequisite from “any” U/M Sciences to Grade 12 Biology [SBI4U], though make exceptions for “other” evidence of course master (e.g., work experience, college diploma, BIOL 1506/1507 success);
- b. do not alter other high school prerequisites (i.e., 4U mathematics required and 4U Chemistry recommended);
- c. broaden the scope of high school prerequisites for admission from advanced functions only [MHF4U] to calculus and vectors [MCV4U] and mathematics of data management [MDM4U].

Recommendation #3 – Partnerships

That Academic Administration and the Department of Biology work together to advance partnerships with an eye towards increasing program appeal, growth and opportunities by

- a. establishing stronger inter-program cooperation with LSSU's B.Sc. BIOL program;
- b. establishing a sound and flexible diploma-to-degree articulation agreement with SCAAT's Environmental Technician/Technologist diploma program.

The Committee recommends that, within one month, the Department prepare a work plan based on the aforementioned recommended actions for implementation. This work plan will be assessed by the Committee, and approved. The Department shall prepare a report of the status of the agreed implementation plan eighteen months following completion of the review. This report shall be submitted to the Committee for follow-up.

Respectfully submitted:

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