Implementation Plan: Department of Biology

The Department of Biology offers undergraduate (Minor, Major, Specialization and Honours) and graduate (Diploma in Genomics and Biotechnology, MSc and PhD) programs and fosters research across a wide range of sub-specializations in the Biological Sciences, from molecules to ecosystems. The complement of faculty and staff responsible for delivering these academic and research programs includes 20 tenure-track faculty members (including four Canada Research Chairs and one Concordia Research Chair), four full-time lecturers (2 ETAs, 2 LTAs), five technical staff members, and three departmental secretaries (when the appraisal was initiated). In addition to classrooms, undergraduate teaching laboratories, and individual research laboratories, the Department also is affiliated with the Centre for Structural and Functional Genomics (CSFG) housed in the recently completed (2011) Genomic Sciences Building, the Centre for Biological Applications of Mass Spectrometry (CBAMS) and two Faculty of Arts and Science research centers, the Centre for Microscopy at Concordia (CMAC) and the Centre for Applied Synthetic Biology (CASB).

The Mission Statement for the Department of Biology declares "*The Department of Biology is committed to carrying out internationally competitive research, training biologists, and providing high quality education to undergraduate and graduate students in the Biological Sciences."* That the Department is addressing these goals is evidenced in the fact that students are provided with the opportunity to develop a strong foundation in Biology or more specifically in Ecology or Cell and Molecular Biology through their undergraduate education. Students acquire a comprehensive grounding in modern biology through classroom study as well as extensive hands-on training in research methodology. Moreover, both undergraduate and graduate students are exposed to research expertise on topics as diverse as Cell Biology, Genomics, Behavioral Ecology, Fish Ecology, Conservation Biology, Fungal Biology, and Plant Biology. Students are being trained in cutting-edge research techniques by professors with a high international reputation for their work. They have access to infrastructure, which in the Genomics Building and Science Pavilion is as good as or better than any similar equipment in academic institutions elsewhere. Furthermore, the department is cultivating an international reputation in biotechnology in such areas as biofuel production, wood processing, and environmental monitoring.

That the Department of Biology is meeting its commitment to carrying out internationally competitive research is reflected in its ability to continue to hire outstanding faculty including Canada Research Chairs and Concordia University Research Chairs. The quality of the research being conducted in the Department of Biology is reflected further in the success rate in provincial and national funding competitions and in the acceptance rate for publications in international peer-reviewed journals. Furthermore, the Department is recognized for both fundamental and applied research.

To continue to achieve the aims outlined in the Mission Statement and to advance and improve the Department of Biology, a number of suggestions have been put forward as part of this appraisal process. These suggestions are grouped in four equally important areas: courses, student writing skills, departmental governance and student awareness and involvement. With this in mind, the Faculty of Arts and Science has reviewed the DAC, EE and UAC Reports and our comments on the recommendations from the reports follow.

1) **Courses**

Standardized grading – immediate implementation with ongoing assessment

a. The Chair has provided instructors with a standardized grading scheme and historical grade distributions for 200, 300 and 400-level courses.
b. All instructors have been made aware of the need for maintaining standardized grading across course sections and throughout the department.
c. This process will be continued and should address variation in grading standards.
d. Graduate supervisors have been encouraged to have regularly scheduled advisory committee meetings with graduate students.

Course offerings – immediate implementation with ongoing assessment

e. The Biology Department will implement a course rotation system for some of its 300 and 400-level courses. This will increase the available courses for students over the course of their degree.
f. In addition, the department is cross-listing upper level and graduate (e.g., Diploma) courses to increase the course options for advanced undergraduate students.
g. The department has offered courses in conjunction with other departments/faculties and will continue to explore these possibilities although these courses have proven difficult to maintain.
h. The department will monitor class sizes at the 400-level to see the effect that these changes make and further assess which courses may require defined lower enrolments.
i. The minimum CRC score for undergraduate admission to Biology has been increased and the department is monitoring the effect of this change on enrolments in 200 and 300-level courses. Thus far, enrolments have been increasing.
j. The department also is exploring the possibility of online course delivery for its non-program courses.
k. The department continues to evaluate how many and what type of graduate courses to deliver.
l. The department still is interested in a Co-op program and in the coming years will explore this option. Proposed for 2016-2017 addition.

2) **Student writing skills – immediate implementation and ongoing assessment**

a. The Chair of the department has impressed upon all instructors the need to integrate writing skills into all courses.
b. The graduate writing course BIOL 670 *Scientific Communication* has been opened to some advanced undergraduate students by being cross-listed at the 400-level.
c. In the current environment, discussions are continuing as to how best to provide writing opportunities to students (*e.g.*, through Student Academic Services or other University services, further modifications to existing courses, adding new courses, working with other departments, etc.).

3) **Departmental governance – immediate implementation and ongoing assessment**
    a. The Department Administrator position has been filled leading to more efficient running of the department.
    b. A system of meetings including regularly-scheduled Departmental Meetings involving Faculty, Part-time Faculty, Staff, Undergraduate and Graduate students has been instituted.
    c. Faculty meetings also will continue to be held as needed.
    d. Staff and student representation will be included on committees as appropriate.
    e. The Chair has initiated meetings with the teaching laboratory technical staff and instructors for laboratory courses on a biannual basis to facilitate communication on the management of these courses.

4) **Student awareness and involvement – immediate implementation and ongoing assessment**
    a. Faculty members have been encouraged to informally mentor students and to create an inviting environment for students in the department.
    b. The departmental website is being updated to provide more information to students and potential students at both the undergraduate and graduate levels.
    c. The department will make an effort to contact students directly and regularly (for example, via email) to make them aware of departmental events and to encourage them to take advantage of the assistance that is available to them.
    d. The department will advertise its departmental undergraduate research day more widely and explore the possibility of expanding this within the Faculty and in the context of any University Undergraduate Research events.
    e. The department will explore the possibility of a Biology Student Career Day either on its own or with other Science or University departments.
    f. The department will publicize more strongly its research expertise to increase its visibility, student recruitment and community outreach.