

Implementation Plan

1 - Cover memo

Department of	<u>Biology</u>	Year of program re- view	<u>2024</u>
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To: Deputy Provost and Vice-Provost, Student Life and Experience
From: Faculty Dean
Faculty of: Arts and Science
Date:

Please find enclosed the finalized Implementation Plan for the Department cited above as part of the academic program reviews process. This Plan was duly discussed with:

- ☒ The Department Chair
- ☒ The Dean of Graduate Studies (if applicable)

As mentioned in the Concordia University Academic Program Review Manual, 6th edition, September 2024, the Faculty and Department will follow-up on this Plan in two years, when prompted by your office.

Sincerely,

Faculty Dean's name Pascale Sicotte

Faculty Dean's signature *Pascale Sicotte*

PROGRAM REVIEW DOSSIER

DEPARTMENT OF BIOLOGY

The review was initiated in 2024.

The dossier contains the following:

Document	Finalized on:
1. Department Program Review Committee (DPRC) Reports	August 2025
2. Report from External Evaluators	November 13, 2025
3. University Program Review Committee (UPRC) Report	April 27, 2026
4. Summary chart	June 4, 2026
5. Dean's Implementation Plan	September 15, 2026
6. Progress Report	To be initiated Fall 2028

Note:

- *The External Evaluators' visit was held from October 15 to 17, 2025.*

Implementation Plan

The mission of the Department of Biology is to provide innovative, research-based education across the life sciences to prepare students to address emerging challenges in health, biotechnology, and the environment. Faculty members have expertise in the areas of molecular and cell biology; genomics, biotechnology, and synthetic biology; and ecology, evolution, and conservation biology. At the undergraduate level, the Department offers BSc degrees in Biology, Cell and Molecular Biology, Ecology, and Systems and Information Biology with Honours and Specialization options. At the graduate level, the Department offers a MSc and a PhD in Biology. The Department is also part of the Environmental and Sustainability Science BSc. The Department of Biology participates in the Kaié:ri Nikawerá:kel Indigenous Bridging Program which provides alternative entry to eligible Indigenous students with non-traditional academic backgrounds to transition to the program of their choice. The Department also offers students the opportunity to join the Institute for Co-operative Education. As of January 1, 2025, the Department has 27 tenured or tenure-track faculty (2 jointly appointed with another unit) and 2 Teaching Professors (Senior Lecturers). There are 2 Tier 1 CRCs, 2 Tier 2 CRCs, and 3 CURCs. The Department staff consists of 6 technical staff members and 4 administrative staff (Department Administrator, Undergraduate Program Assistant, Graduate Program Assistant, and Technical Officer). Faculty members are associated with Concordia Centre for Structural and Functional Genomics (CSFG), the Centre for Applied Synthetic Biology (CASB), the Centre for Biological Applications of Mass Spectrometry (CBAMS), and the Centre for Microscopy and Cellular Imaging at Concordia (CMCI). Approximately 44% of Biology courses are taught by part-time faculty members (31 of 71 sections in 2023).

Department strengths were noted by the UPRC and external evaluators as the ability of faculty members to train large number students while maintaining a high level of research activities. Opportunities exist to increase integration within the Department and its programs, as well as to build more connections to other units. Exceptional facilities in Biology include the specialized cutting-edge research labs although these also create challenges for maintenance and upgrading.

The Faculty of Arts and Science has reviewed the Department Program Review Committee, External Evaluator, and University Program Review Committee reports and provides the following recommendations for implementation. Joint solutions to shared issues among Science units are encouraged wherever possible. A recommendation to standardize lab credits and hours which emerged from the Program Reviews in Physics and Chemistry should be examined across all Science units where feasible as a strategy to improve student experience and success in introductory lab courses.

Implementation Plan

3 - Recommendations

The Faculty Dean is invited to include a numbered list of recommendations for improvement, as well as a rationale and implementation schedule (an Excel spreadsheet is also available by request to the Program Review Lead).

Recommendations	Prioritized time-line for completion	Responsibility	Dean's comments and resource implications
1. Engage in curriculum review and development to refresh programs including streamlining and integrating core courses across ecology and cell and molecular biology groups, adding research methods (particularly quantitative and computational skills), removing bottlenecks, and expanding the diversity of lab courses.	Short- to mid-term (1-3 years)	Department, FAS, CTLS, SGS	Careful analysis of the use of resources will be reviewed by the Dean to see if redistribution is possible for additional lab support. Noted that the Department has a curriculum proposal to add a mandatory quantitative methods course to the undergraduate programs is in process.
Rationale: UPRC-1, UPRC-2, UPRC-6, EE-1, EE-3, DPRC-7.10, DPRC-7.11-13, DPRC-9.4, 9.8, DPRC-10.9, DPRC-7.13, 7.15. External evaluators suggest co-teaching, and the use of specialized courses from other units (e.g. quantitative computational methods from Mathematics and Statistics), as other means to increase the dynamism and relevance of the curriculum with limited resources (section count). Curriculum review provides an opportunity for faculty members to discuss how current and new courses address key learning objectives and courses' assessment activities.			

2. Recruitment including active communication plan for interdisciplinary programs and consideration of Integrated Pathways and direct entry from the BSc.	Short- to mid-term (1-3 years)	Department, FAS, UCS, SGS	
Rationale: UPRC-4, EE-4, DPRC-7.6, DPRC-10.1, 10.2, 10.3, 10.5, 10.6, 10.8., 10.12. EEs identify the Department's interdisciplinary programs (Systems and Information Biology, Environmental and Sustainability Science) as the flagship programs likely to attract new students while clarifying program streams and providing more information at the recruitment and admissions stage will help improve students' ability to progress through their degrees (e.g. Honours) more easily.			
3. Build structures to increase student awareness of and involvement in research to improve student experience in Honours and the Masters and to build collegiality and a sense of belonging in the Department.	Short- to mid-term (1-3 years)	Department, FAS, UCS, OVPRII	
Rationale: UPRC-3, UPRC-5, EE-5, EE-6, EE-7, DPRC. Increasing students' involvement in the full research process will also help with professional development and career training.			
4. Develop more explicit governance principles and practices and the vision for the Department. A Department retreat is suggested by the EEs and a common practice of many Science units.	Short- to mid-term (1-3 years)	Department	
Rationale: EE-6.3, EE-9, EE-10. To build cohesion and connections between Departmental groups, consider longer term goals and joint development of programs.			
5. Engage in creative thinking about how to better utilize cutting-edge facilities in student training (Genome Foundry, Microscopy Centre, Greenhouse, Fish Facilities) as another means of support for the management and operation of these facilities beyond external grants.	Mid- to long-term (3-5 years)	Department, FAS, Facilities, OVPRII	The use of facilities for student training may open new sources of funds for infrastructure maintenance and upkeep. Teaching labs can be optimized more generally and increase student accessibility with use in the evenings.

Rationale: EE-13, EE-14. EEs note the high cost in terms of time and money to develop world class facilities that are then underused if PIs leave or change research interests. These spaces can be used more optimally to increase research as part of student training and thus increase recruitment of new students.			
6. Promote professional development of students with programming for career readiness and transitioning to the workforce (or next career steps) drawing on University resources and alumni.	Short-term (1-3 years)	Department, CAPS, Student Success Centre, GradProSkills, Advancement	
Rationale: EE-7, UPRC-5, DPRC- 8.1, 8.2, DPRC-8.3, 8.5, DPRC-9.1, 9.2, 9.3, 9.7. Professional development activities can address recommendations that the Department increase information about alternative career pathways. Alumni could provide an excellent resource as guest speakers.			