



Senate Committee on University Planning

Academic Unit Review Summary: DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Site Visit	November 15-16, 2017
Informal Response to Planning	March 26, 2018
Formal Response to Planning	May 7, 2018
Implementation Update	March 4, 2019
Midterm Review	2021-22

Review Team Members:

- Dr. David Pike, Mathematics and Computer Science, Memorial University (Chair, Review Team)
- Dr. Kenneth Kent, Computer Science, University of new Brunswick
- Dr. Vicki Meli, Chemistry and Biochemistry, Mount Allison University

Note: The following recommendations are taken verbatim from the external review. For context they should be read in conjunction with the department’s formal response, particularly with respect to recommendations.

Recommendations of the Academic Program Review

We found a department that is eager to fulfill its mission regarding teaching and research, and has been creatively responding to the pressures placed upon it. However, instabilities in faculty complement have taken a toll, not just on the faculty and their ability to focus on teaching and research, but also on students who expressed concerns about course scheduling and the availability of faculty with particular areas of expertise. That several students desiring to pursue CS majors/honours are abandoning the program on account of issues of course scheduling is particularly troubling.

Below are listed recommendations which we feel will strengthen the department and the long-term viability of its academic programs. For the purposes of cross-referencing, we have enumerated the recommendations as R1, R2, etc.

R1. Add the course “Computer Networks” (CS 4911) to the core curriculum of the CS major.

R2. Undertake a review of the course offerings in Statistics across Mount Allison. In so doing, streamline and modernise the curriculum within the Statistics courses that are offered by the department.

R3. We recommend getting some unit on campus (perhaps with the Library as a partner) [to] perform a needs assessment across the university to determine what “software literacy” skills are widely required/desired and then design and offer workshops or other forms of training to help provide those skills. This should help to address some of the distinctions between “computer skills” and “computer science” that are causing some friction.

R4. Assess the effectiveness of the recent changes to CS 1631 to see if they effectively address some of the issues that had been raised. If the issues are not satisfactorily resolved, then consider performing a

needs assessment with Commerce and other departments that make use of “applied computing” (e.g.,

Classics, the Library, applied sciences) and potentially develop a distinct service course. If such a course is developed, consider whether a team-taught cross-disciplinary course is feasible.

R5. We suggest focussing on a single “CS Plus X” program at first and then using it as a model for further joint programs.

R6. Consideration should be given to revising the academic regulations within Science so that a CS course is included in one of the lists that require students to “take one of the following courses”.

R7. Consider adding Discrete Math as a prerequisite for additional courses. Likewise, consider whether Linear Algebra should be a prerequisite for Vector Calculus.

R8. The department should maintain the practice of having an annual information session with students.

R9. Consider methods to reduce the reliance upon correspondence courses.

R10. Consider allowing students to challenge for credit, even for courses that students have already taken.

R11. Consider allowing students to take supplementary exams.

R12. Assess the various ways in which students obtain academic advising and consider ways in which they can be enhanced and/or improved.

R13. Seek more feedback from students, and do so more frequently. Within the department, consider striking a committee to liaise with students and/or inviting student representatives to come to department meetings. At the university level, perhaps solicit student feedback at the time that students apply to graduate.

R14. The department and also higher levels within the university should strive to make and maintain connections with local industry.

R15. When seeking to hire interdisciplinary faculty, strive to ensure that the individual hired is able to teach upper level courses in both disciplines.

R16. Seek to hire a CS faculty member with expertise in the area of Applied CS.

R17. Seek to hire a faculty member with expertise in Statistics.

R18. Bring the departmental complement up to 5 Math and 4 Computer Science faculty members as soon as possible, ultimately striving towards either 6+4 or 5.5+4.5 for greater stability in program and service course offerings.

R19. Consider all faculty members equally eligible to take on administrative roles, regardless of their academic specialty and implications on course offerings.

R20. The department should hold a faculty retreat every two or three years.

R21. The department should maintain its practice of engaging undergraduate students in research projects, and the university should encourage such student involvement.

R22. The department should be provided with improved access to computer labs.

R23. The computer labs used by the department should have their equipment regularly upgraded (ideally at least once every five years) and the administrator(s) who carry the budgetary responsibility need to be aware of their responsibility.

R24. Maintain the operation of the Math Help Centre.

R25. The department should explore additional ways in which to engage with the Library.