External Review of the Department of Biochemistry and Microbiology

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External Review Committee

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Executive Summary

The Committee tasked with surveying the Department of Biochemistry & Microbiology reviewed survey documents submitted by the Department and met for a series of in-person interviews with interested parties on November 18th and 19th, 2024. Over the course of these meetings, the committee received input from regular faculty, affiliated and adjunct faculty, laboratory instructors, technical staff, office staff, and trainees (undergraduate students, graduate students, and alumni). Meetings were also held with a variety of senior administrators including the Dean of Graduate Studies, the Dean and Associate Dean Academic of Science, the Associate Vice-President of Research, and the Associate Vice-President of Academic Programs.

The Department of Biochemistry & Microbiology is a collaborative, research-intensive, basic science department with popular and well-respected teaching programs at the undergraduate and graduate levels. Faculty, staff, and students take enormous pride in these programs and there is a palpable sense of collegiality within the group. The Department's administrative offices, teaching labs, and many of the research labs are located in the Petch Building. Additional regular, affiliate and adjunct members are located off-campus at the Deeley Research Centre (BC Cancer) and UVic Proteomics Centre (Genome BC). The remote location of the Proteomics Centre is perceived as a barrier to an integrated research and training environment and more extensive collaborative use of the facility. It is noted that the previous academic program review recommended relocating the Proteomics Centre to the main campus. This should be addressed in the current term in the context of a broader space evaluation for the department.

Some productive lab groups are constrained by physical space limitations and require additional research space to accommodate current and future projects. Lack of sufficient and appropriate (i.e. BSL2 or higher) space is limiting productivity and the potential to grow the Honours and graduate programs. Space constraints also represent a retention risk for some well-funded faculty members who are unable to expand their operations. There are also underlying issues related to biosafety standards, seismic safety, and temperature control in the Petch Building that negatively impact staff and trainee morale and productivity. A retrofit plan with a reasonable time frame needs to be established and/or exploration of alternate spaces should be initiated.

The Department is currently operating in crisis mode due to the unexpected loss of several senior faculty members over a short timeframe. The Committee applauds Dr. Cobb for stepping forward to help guide the Department as Chair. The unit has collectively pulled together to meet the

unanticipated loss in teaching capacity while largely sparing new faculty from increased workload. This is not sustainable, and plans for faculty renewal and considerations as to how to best deliver teaching programs are needed beyond the current hiring that is underway.

The undergraduate teaching program stands out due to its emphasis on hands-on laboratory experiences. The Honours program and co-operative placements are highly desired and competitive. The Department should review the curriculum in comparison with other programs and consider ways to restructure the labs to increase the number of students that can be accommodated without increasing costs, especially given constraints on teaching lab space/capacity. The Department should also continue to explore the introduction of a first-year course to enhance recruitment into the program and increase EETS. It is unclear whether the current model for use of Teaching Assistants (TAs) is benefiting the professional development of graduate students in the department and whether students could be better deployed to support teaching deliverables.

There needs to be fiscal sustainability that allows the department to meet its teaching responsibilities and other goals, such as providing competitive recruitment packages and replacing equipment. This will require a discussion around priorities, reallocation of costs associated with program delivery, and appropriate departmental funding models. There may be opportunities to explore some cost sharing and revenue generation through partnerships with associated centres and interactions with the new Faculty of Health.

The Department has made good progress addressing historical gender inequalities. The Department will need to consider further EDIA strategies in their recruitment plans and be prepared to take advantage of hiring opportunities and resources within the University to enhance diversity of the faculty complement. A strategic plan outlining hiring priorities and a succession strategy would help solidify the collective vision and research direction for the department, reflecting its strengths and the importance of emerging disciplines.

List of Recommendations:

- 1. Develop and implement a strategic plan that establishes collective research and academic goals for the next 7 years. This should include a hiring plan and succession strategies.
- 2. Review the undergraduate curriculum and the roles of Instructors and graduate TAs with consideration of pedagogy, effective personnel deployment, and mechanisms to accommodate increased enrollment under new budgetary models. This would include assessing the need for current program elements (including those delivered through other units) and identifying those that could be removed/restructured to allow space for emerging areas of training. The Department should prioritize their vision to offer a first-year course (e.g. Foundations in Molecular Biology or Bioinformatics for Life Sciences) that would act as an entry to BCMB and appeal broadly to students in other programs.
- 3. Review the allocation of resources to the undergraduate program, given the need for additional resources for new faculty start-ups and equipment replacement. Consider changing the number, scope, and requirements for laboratory courses. To be effective, savings would need to stay within the Department to support recruitment, equipment replacement, and new initiatives.

- 4. Review the graduate curriculum and survey graduate students on program stressors and career development needs (e.g. TA and course requirements). Consider a more discipline-specific learning component in the graduate program (e.g. separate journal clubs for biochemistry and microbiology streams) and methods training that would benefit students (e.g. statistics for life science).
- 5. Strengthen interactions with BC Cancer, the UVic Genome BC Proteomics Centre, and other partners to enhance recognition, privileges, and participation of Affiliate and Adjunct faculty members. This should include supports for navigation of UVic's pre- and post-award services and processes for both Affiliate and Adjunct faculty members.
- 6. Prioritize existing and future space needs for the Department and establish concrete plans within the institution to relocate the Proteomics Centre and rehabilitate or replace space in the Petch Building.
- 7. Enhance professional development and training opportunities for Instructors and Technical staff and establish a budget mechanism to ensure renewal of tools and equipment.
- 8. Identify synergies and opportunities within the new Faculty of Health, including new academic programming, research collaboration, and space planning.
- 9. Work with the institution to further embed Indigenization, equity, diversity, inclusion, and accommodation principles in hiring and teaching practices, and ensure that appropriate resources are available to meet the needs of students with academic accommodations.
- 10. Secure a fair contract for centralized IT support to ensure an adequate level of service is available to the unit, while maintaining technical computing supports in-house for research equipment.