

FINAL ASSESSMENT REPORT

Institutional Quality Assurance Program (IQAP) Review

Chemical Biology – M.Sc., Ph.D.

Date of Review: April 23rd and 24th

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate programs delivered by Chemical Biology. This report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the Final Assessment Report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

Executive Summary of the Review

In accordance with the Institutional Quality Assurance Process (IQAP), the Chemical Biology program submitted a self-study in March 2014 to the Vice-Provost and Dean of Graduate Studies to initiate the cyclical program review of its graduate programs. The approved self-study presented program descriptions, learning outcomes, and analyses of data provided by the Office of Institutional Research and Analysis. Appendices to the self-study contained the CVs for each full-time member in the department.

Two arm's length external reviewers and one internal reviewer were endorsed by the Deans, Faculty of Science and Health Sciences, and selected by the Vice-Provost and Dean of Graduate Studies. The review team reviewed the self-study documentation and then conducted a site visit to McMaster University on April 23rd and 24th 2014. The visit included interviews with the Provost and Vice-President (Academic); Associate Vice-President, Faculty, Associate Vice-President and Dean of Graduate Studies, Associate Dean, Grad Studies and Research, Director of the program and meetings with groups of current students, full-time faculty and support staff.

The Director of the program and the Dean of the Faculty of Health Sciences and Science submitted responses to the Reviewers' Report (July 2014). Specific recommendations were discussed and clarifications and corrections were presented. Follow-up actions and timelines were included.

- **Strengths**
 - Generally a strong interdisciplinary program and that graduate enrollment and support should be expanded
 - Students were enthusiastic about the program, its structure and its requirements

- **Areas for Enhancement or Improvement**
 - Additional backup support for the single key administrative assistant is highly desirable, and essential if the program is to be expanded.
 - about two thirds of the 31 faculty formally listed as members of the CB program do not supervise a graduate student in this program at present, and many have not ever supervised a CB graduate student.
 - Website renewal project could be accelerated
 - Clarity on funding arrangements and MOU
 - Faculty alignment with specialization areas

Summary of the Reviewers' Recommendations with the Department's and Dean's Responses

Recommendations

1. Additional backup support for the single key administrative assistant is highly desirable, and essential if the program is to be expanded.

The program noted that the administrator will be transitioning into a full-time Chemical Biology administrative assistant and also noted that as the program grows they would need to revisit the staffing issues.

Responsibility for Leading Follow Up: Department/Department Chair

2. About two thirds of the 31 faculty formally listed as members of the CB program do not supervise a graduate student in this program at present, and many have not ever supervised a CB graduate student. The reviews noted this might be the result of a lack of successful recruitment of more qualified students to the program and that a secondary issue may be the differential in cost for a supervisor in the Department of Chemistry & Chemical Biology due to reduced TA load.

The program responded that as part of the IQAP exercise all faculty were asked if they wanted to continue participating in the program. Some declined and some new faculty were identified and asked to join the program.

They noted that increased recruitment of qualified students to the program is desirable and that they thought the launch of their new website would help in recruitment efforts. They also discussed the development of a Chemical Biology recruitment committee with a mandate to identify and implement new recruiting strategies.

With respect to the differential cost for graduate students in the Chemical Biology and Chemistry graduate programs, the CB Steering Committee felt that the increased time graduate students spend in the lab as a result of the extra cost was well worth the expense. Research intensity is a hallmark of the CB program and the CB Steering Committee strongly recommends continuing with this approach.

Responsibility for Leading Follow Up: Department/Department Chair

2. Accelerate the website renewal

The program planned to have their new and improved website up and running by September 2014.

Responsibility for Leading Follow Up: Department/Department Chair

3. Additional documentation and transparency about funding mechanisms (and levels) for this CB program provided by the Deans to the Chairs of the participating departments and the development of an MOU between involved faculties.

The program responded that in speaking with Drs. Baker, Milliken, Hayward and Sekular, the MOU is clearly a priority and will be available soon.

Responsibility for Leading Follow Up: Department/Department Chair

4. The re-organization of specialization areas (Imaging, Interfaces and Infections) allows for focused growth, but the program must be careful not to disenfranchise active faculty that may not fit cleanly into the 3 I's.

The program responded that the 3I areas will be used largely a means of differentiating CB from other graduate programs and, hopefully, increase the recruitment of qualified students. The program will continue to advertise and promote the research programs of all our participating faculty.

Responsibility for Leading Follow Up: Department/Department Chair

Deans' Response

Overall, the review was quite informative and it indicates that the Chemical Biology program is of high quality. Students are productive in research, and faculty are productive both in research and in securing funds to support cutting edge research infrastructure. The two CREATE grants are a strong sign of commitment to graduate training in the program, and there are signs that the program has room to grow in the near future.

One area of concern that stems from the interdisciplinary nature of the program, and that must be addressed in anticipation of program growth, is the establishment of a memorandum of understanding (MOU) among the participating Faculties that clarifies financial and reporting responsibilities related to the program. The Deans were committed to having a workable MOU in place for the Chemical Biology in the near future. With the MOU in place, they trusted that other minor concerns raised by the review

team, such as the financial details of the staff position currently funded in part by the Biointerfaces CREATE grant, will gain clarity.

In closing, the Deans noted that clearly, this was an excellent program that is poised to grow, and noted that they are committed to putting in place the MOU that will facilitate that growth and sustain excellence. They suggested that the Chemical Biology program be scheduled for its next review at the usual interval, given that this review was so favorable.

Quality Assurance Committee Recommendation

McMaster's Quality Assurance Committee (QAC) reviewed the above documentation and the committee recommends that the program should follow the regular course of action with an 18-month progress report and a subsequent full external cyclical review to be conducted no later than 8 years after the start of the last review.