



Medical Biophysics Final Assessment Report

Faculty / Affiliated University College	Schulich School of Medicine & Dentistry – Medical Biophysics (MBP)
Degrees Offered	Bachelor of Medical Sciences
Modules Reviewed	HSP in Medical Biophysics (Clinical Physics Concentration), HSP in MPB (Medical Sciences Concentration), HSP in MBP and Biochemistry, Specialization in Medical Biophysics, Major in Medical Biophysics
External Consultants	Dr. David Chettle, Professor, Department of Physics and Astronomy, Faculty of Science, McMaster University Dr. Craig Simmons, Distinguished Professor of Mechanobiology, Institute of Biomaterials and Biomedical Engineering, Faculty of Engineering, University of Toronto
Internal Reviewers	Susan Knabe, Associate Dean Undergraduate Faculty of Information and Media Studies
Date of Site Visit	March 23, 2018
Evaluation	Good Quality
Approval Dates	SUPR-U: SCAPA: Senate:

Executive Summary

The site visit took place on March 23, 2018 and consisted of a series of meetings in the department with administrative members of the University, Faculty, and Department, faculty members from Medical Biophysics, including members who are cross-appointed with Biomedical Engineering, undergraduate students, many of whom were members of BONEs, graduate TAs, staff members who service the undergraduate program, and members of Western Libraries who support the department of Medical Biophysics. The reviewers also visited several research labs, including research space in the basement of Natural Sciences and in the Robarts Research Institute.

The consensus of the reviewers is that the undergraduate program is well aligned with the Western Degree Outcome expectations, and that the undergraduate curriculum is both innovative and meets the current state of the discipline, preparing students for further study in the area of Medical Biophysics or for professional health programs, like medicine. The reviewers conclude that the program is excellent, and that the department “clearly values undergraduate teaching and research, exceeding most degree level expectations.” Their primary concern is that “too few students are currently taking advantage of this excellent opportunity” and conclude that the department appears to be resourced in a way that would support an increase in students taking undergraduate modules in Medical Biophysics, with the possible exception of TA support. A second concern is the tendency for graduates of the undergraduate program to remain within the department for their graduate work, with the suggestion that students be encouraged to think more expansively about the kinds of graduate and other careers that they may pursue. They indicate some areas for improvement, specifically in terms of reducing the number of modules being offered, and identify recruitment as a primary focus for the department. Recruitment, they note, is given additional salience and urgency, given the presence of Medical Physics in the Physics Department, and the introduction of an undergraduate module in Biomedical Engineering, and suggest that attention to the way in which these programs might collaborate or compete need to be considered.

Significant Strengths of the Program

1. Innovative assessments which map onto and support the development of essential research, laboratory, technical and scientific communication skills
2. Exposure of students to cutting edge areas of research through placement in faculty PI research laboratories for MBP 4970E and 4971E
3. High level of student satisfaction and engagement with the program, especially through undergraduate organization (BONeS)
4. High level of buy-in from faculty in terms of fostering undergraduate research opportunities
5. Program is adequately resourced to support significant growth in undergraduate module numbers
6. Current second year course on Medical Imaging serves as an important introduction to MBP for many BMSC students

Suggestions for Improvement & Enhancement

1. Reduce the number of undergraduate modules, especially HSPs, and provide a clear rationale for how these modules relate, through activating an undergraduate curriculum committee
2. Review the weighting of MBP 3970Z, which is currently a 0.5 course
3. Provide increased program level information and program counselling support for students considering, or currently enrolled in, the MBP program, either through offering in-house faculty advising or offering additional information for academic counsellors to assist students in navigating the different modules
4. Increase number of students within the program by seeking out opportunities to make students aware of the scope of MBP during the first two years of the BMSC program and during the final year of high school
5. Increase opportunities for students to have international experience by leveraging existing research partnerships
6. Common space for undergraduate students to meet and collaborate – the lab-centric experience in 4th year has students dispersed in labs across the campus and city
7. Explore implications (risks and synergies) for program of newly launched Biomedical Engineering undergraduate program and extant Medical Physics program in the Department of Physics
8. Review TA support for the program, particularly should enrolment increase

Recommendations Required for Program Sustainability

Recommendation	Responsibility
Reduce and rationalize number of modules offered and explore synergies with BME and Medical Physics (involves reviewing curriculum, courses)	Undergraduate Chair, Curriculum Committee, Chair, Assistant and Vice Dean
Work on growing enrollment in undergraduate Medical Biophysics modules <ol style="list-style-type: none"> 1. Recruitment activities (second year course, guest lectures, OUF) 2. Improved information provided to academic counsellors and faculty advisors in MBP 	Undergraduate Chair, Chair, Assistant Dean, Vice Dean,
Enhance and expand student experiences through research exchanges with existing partnerships or study abroad opportunities (both nationally and internationally)	Undergraduate Chair, Curriculum Committee, Faculty Members, Chair