Western UNIVERSITY · CANADA

Microbiology and Immunology
Final Assessment Report & Implementation Plan
August 2026

Faculty / Affiliated University College	Schulich School of Medicine & Dentistry	
Degrees Offered	Master of Science (MSc), Doctor of Philosophy (PhD)	
Date of Last Review	2017-2018	
Fields of Study	Cellular and Molecular Biology of Microorganisms Cellular and Molecular Biology of the Immune System	
External Reviewers	Dr. Lori Frappier Professor, University of Toronto	Dr. Craig McCormick Professor, Dalhousie University
Internal Reviewers	Dr. Terry Peters Professor, Department of Medical Biophysics	Reforce Okwei PhD Student
Date of Site Visit	April 7-8, 2026	
Date Review Report Received	April 21, 2026	
Date Program/Faculty Response Received	Program Response: July 9, 2026 Faculty Response: July 23, 2026	
Evaluation	Good Quality	
Approval Dates	SUPR-G: September 21, 2026 ACA: October 6, 2026 Senate (for information): October 23, 2026	
Year of Next Review	2033-2034	
Progress Report	June 2029	

Overview of Western's Cyclical Review Assessment Reporting Process

In accordance with Western's Institutional Quality Assurance Process (IQAP), the Final Assessment Report (FAR) provides a summary of the cyclical review, internal responses, and assessment and evaluation of the Graduate Microbiology and Immunology Program, delivered by the Schulich School of Medicine & Dentistry.

This FAR considers the following documents:
- the program's self-study brief;
- the external reviewers' report;
- the response from the Program; and
- the response from the Dean, Schulich School of Medicine & Dentistry.

This FAR identifies the strengths of the program and opportunities for program enhancement and improvement, and details the recommendations of the external reviewers – noting those recommendations to be prioritized for implementation.

The Implementation Plan details the recommendations from the FAR that have been selected for implementation, identifies who is responsible for approving and acting on the recommendations, specifies any action or follow-up that is required, and defines the timeline for completion.

The FAR (including Implementation Plan) is sent for approval through the Subcommittee on Program Review - Graduate (SUPR-G) and the Senate Committee on Academic Curriculum and Awards (ACA), then for information to Senate and to the Ontario Universities' Council on Quality Assurance. Subsequently, it is publicly accessible on Western's IQAP website. The FAR is the only document from the cyclical review process that is made public; all other documents are confidential to the Department of Microbiology and Immunology, the Schulich School of Medicine & Dentistry, the School of Graduate and Postdoctoral Studies (SGPS) and SUPR-G.

Executive Summary

The Graduate program in Microbiology and Immunology enables students the opportunity to conduct cutting edge research while also developing important career skills and strong networking opportunities. The department places emphasis on biomedical research and teaching, with a focus on human disease, infection, and immunity. The program seeks to foster an environment where the next generation of scientists can be trained in infection and immunity – training scientists to combat present and future threats affecting human health, while mitigating the risk of future pandemic threats for both academic and non-academic futures. The graduate program offers a 1-year project-based Master of Science (MSc), a 2-Year thesis-based MSc, and a Doctor of Philosophy (PhD). At the Masters level, students will be expected to a) understand the field of Microbiology and Immunology, and to learn the theory behind

experimental techniques in these fields, and b) be able to describe and interpret the literature pertaining to their specific research project and sub-discipline within Microbiology and Immunology. At the Doctoral level, students are required to create original knowledge by performing research supervised by a Microbiology and Immunology program member. All students enroll in MIROIMM 9000: *Infection and Immunity* which provides a comprehensive introduction to infection and immunity and an exposure to cutting-edge technologies and their application in infection and immunity (e.g., bioinformatics, genomics, proteomics, imaging, statistics, microscopy, transgenics, animal gene knockouts, flow cytometry, quantitative PCR). Total enrolment in 2023-2024 was at 11 for the Course-based Master's, 45 for the Thesis-based Master's and 43 for the PhD.

The self-study was informed by a student focus group, student surveys and several town hall meetings. Additionally, insights were drawn from a dedicated retreat in 2022 shortly after the appointment of a new department chair.

The external reviewers shared a positive assessment of the graduate Microbiology and Immunology Program. They offer seven recommendations with considerations for further enhancement.

Strengths and Innovative Features Identified by the Program

- The ImPaKT CL2+/CL3 facility supports real-time imaging of infectious agents and immune responses, enabling advanced biocontainment research, industry collaboration, and specialized trainee experiences.
- Recent faculty recruitments have expanded research expertise in neuroimmunology, pathogen genomics, bioinformatics, HIV and global health, bacteriology, and host-pathogen research.
- A new course, MICROMM 9329: *Introduction to R for Microbiology and Immunology*, introduces students to advanced bioinformatic techniques.
- Students participate in departmental governance and organize the annual Infection and Immunity Research Forum.
- The RGE Murray Seminar series takes place throughout the year on a weekly basis. External speakers are invited to speak on cutting-edge research topics and problems.
- Departmental fellowships, scholarships, publication awards, travel support, teaching assistantships, and entrance awards provide financial assistance and recognize research excellence.

Concerns and Areas of Improvement Identified and Discussed by the Program

- Rapid program growth has intensified administrative workloads, while reliance on a single graduate administrator and repeated staff turnover creates retraining demands and concerns about long-term sustainability.

- The undergraduate program cannot accommodate all graduate students in departmental TA roles, requiring some to teach elsewhere and contributing to scheduling conflicts and a sense of disconnection from the program.
- Students report difficulty balancing coursework, laboratory responsibilities, and thesis preparation.
- Lengthy animal-protocol reviews can impede research progress, while delays in accessing accommodation, medical, mental-health, and integration supports present challenges for students requiring timely assistance.
- Inflation and housing costs continue to challenge student financial viability.

Review Process

As part of the external review, the review committee, comprising two external reviewers, one internal reviewer and a graduate student reviewer, were provided with Volume I and II of the self-study brief in advance of the scheduled review and then met in-person over two days with the:

- Associate Vice-Provosts, Graduate and Postdoctoral Studies
- Vice-Provost, Academic Planning, Policy and Faculty
- Director of Academic Quality and Enhancement
- Administrative Coordinator, School of Graduate and Postdoctoral Studies
- Western LibrariesTeam Members
- Associate Dean, Graduate and Postdoctoral Studies, Schulich School of Medicine & Dentistry
- Department Chair
- Graduate Chair
- Graduate Program Committee Members
- Program Faculty Members
- Graduate Program and Departmental Staff
- Graduate Students

Following the site visit, the external reviewers submitted a comprehensive report of their findings which was sent to the Program and Decanal Office for review and response. Formative documents, including Volumes I and II of the Self-Study, the External Report, and the Program and Decanal responses form the basis of this FAR. The FAR is collated and submitted to SUPR-G by the Internal Reviewer with the support of the Office of Academic Quality and Enhancement.

Summative Assessment – External Reviewers' Report

External reviewers shared that "*Overall, we consider the MICROIMM Graduate Program a very successful program, with each degree-granting program serving a useful purpose and accomplishing its learning objectives. The transfer rate from MSc to PhD program is excellent, as is the time to completion of both MSc and PhD degrees. Student morale is high and there are ample social activities that promote cohesion*."

Strengths of the Program:

- Strong faculty and research environment: The program benefits from accomplished, well-funded faculty with diverse expertise, strong publication records, international visibility, research awards, and sustained success in attracting grant funding.
    - Strong long standing research collaborations with institutions based in Uganda have provided unique training opportunities. The Uganda-Western Graduate Scholar Program facilitates recruitment of highly qualified future PhD students from five Ugandan institutions.
- Students reported high satisfaction with faculty supervision, teaching, mentoring, and the broader program environment; morale is high, and social activities help sustain cohesion.
- The one-year project-based MSc fills a useful niche – providing an opportunity for honours thesis students to continue their studies for another year.
- Research infrastructure available to students is outstanding, including the ImPaKT Facility which provides advanced *in vivo* imaging modalities under CL2+ and CL3 containment.
- The student-led annual Infection and Immunity Research Forum (IIRF).

Prospective Areas of Improvement for the Program to Consider

- Strengthen administrative capacity and continuity.
- Despite progress in hiring female faculty, the reviewers identified continuing gender and racial imbalances and encouraged sustained efforts to recruit more female and BIPOC faculty.
- Presentation topics and brief RStudio module in MICROIMM 9000 were viewed as less useful by students.
- Need to identify, or build out, quiet work and meeting space for students.
- Ability for students to address their advisory committee members in their advisory committee meetings without their supervisor present.
- Formalize graduate-student representation, perhaps via a structured student organization.

Summary of the Reviewers' Recommendations and Program/Faculty Responses

The following are the reviewers' recommendations in the order listed by the external reviewers.

Reviewers' Recommendation	Program/Faculty Response
Recommendation #1: Administration It is essential to the success of the program to maintain the Graduate Program Coordinator role at 1.0 FTE, not shared with other departments.	**Program:** Continuity in this role is essential, and we agree that the department must maintain the current 1.0 FTE for this position to support a large graduate program such as Microbiology and Immunology. All staff positions in the Department undergo reviews to ensure roles and tasks match with the Union mandated pay scales. These revisions are agreed upon by both the Manager of Administration of Finances and the Graduate Program Coordinator. **Faculty:** The decanal team supports the program's response but note that staff positions are under the purview of the Dean's office.
Recommendation #2: EDIA There is a considerable gender and race imbalance in the faculty that should continue to be adjusted. Despite progress in recruiting female faculty since the last review, the faculty complement remains overwhelmingly white and male, and BIPOC faculty remain underrepresented. This contrasts with the student population, who are mostly female.	**Program:** Since the last graduate IQAP review, the Department of Microbiology and Immunology has increased the female faculty complement from 5 members to a total of 13. However, we agree that this does not currently represent an adequate balance. The Department has three concurrent Assistant Professor job searches on the go, and we anticipate that with these three recruitments that diversity within the department will continue to increase. However, outside of recruitments for research chair positions tied to specific EDID mandates, Ontario bill 149 prevents hiring on the basis of self-identity. **Faculty:** The decanal team supports the program's response. Schulich has made meaningful efforts to diversify faculty members in terms of gender and racial background. There is increasing diversity in terms of faculty and leadership positions.
Recommendation #3: Space There is a need to identify quiet work and meeting spaces for students. While the research infrastructure for the graduate program is good, the students report a lack of space for both quiet work and meetings.	**Program:** The Department Chair is making changes to how space issues are discussed within the department for more transparency. As part of this process, graduate students' needs will be of central consideration. Still, there is no way around the fact that student offices will usually house multiple students, often from multiple research groups, which creates challenges for quiet workspace. The Department will consider identifying space that can be used more socially, so that office space is reserved for more quiet work. We

	will also work to identify spaces (in the library for example) that can be reserved for students in critical writing stages (thesis writing for example). **Faculty:** As indicated in the program's response, quiet space locations are available on campus. Meeting space is also available throughout the Medical and Dental Sciences Buildings that can be booked by students or with the assistance of administrative staff. Construction of the new Bioconvergence center will help relieve some of the space pressure but students' offices will likely always be shared.
Recommendation #4: Curriculum The Graduate Studies Committee should work with students to review and revise the MICROIMM 9000 syllabus to arrive at a solution that addresses critiques (about the group presentations and RStudio components) while maintaining the rigour of the program.	**Program:** The Graduate Chair will lead a review and discussion of the graduate level courses with the Graduate Education Committee, including course organizers and the student representative, to update course offerings at the graduate level. Of prime importance, this discussion will center around MICROIMM 9000 which will also benefit from a new Course Coordinator for Fall 2026. Possible changes will be discussed, including modifying certain topics such as RStudio from the 9000 course and expanding the offering of "topic expertise" courses (neuroimmunology, RStudio in data analysis, etc) that would allow for more expansive training in these subjects. The MICROIMM 9000 course could focus more on broadly relevant subjects, such as appropriate use of AI in scientific writing and data analysis, through partnerships with related departments facilitated through the SGPS Own Your Future program. **Faculty:** The decanal team supports the program's response.
Recommendation #5: Policy A policy on acceptable and unacceptable uses of AI in the graduate program should be created and implemented. This would likely include restrictions on using AI to generate committee reports, course assignments and candidacy proposals.	**Program:** There are extensive ongoing discussions at the SGPS and Schulich School of Medicine & Dentistry levels about the growing role of AI in academics and where its use is appropriate in graduate training and where it is not. As recommended by the reviewers, the Graduate Chair will take guidance from these discussions and work with the Graduate Education Committee to formulate and approve a Department AI policy for graduate training by the Winter term, 2027. **Faculty:** The decanal team supports the program's response. Discussions concerning AI are ongoing at Western at every level, and some policies have been developed. For example, SGPS has developed guidance for the use of generative AI in graduate

	studies: https://grad.uwo.ca/about_us/policies_procedures_regulations/ai.html; and offers an online workshop to support this guidance.
Recommendation #6: Committee Meetings Students should have the opportunity to address their advisory committee meeting members without their supervisor present. An opportunity to speak with the advisory committee without the supervisor provides an opportunity for the student to voice concerns about any aspect of their research training or conflicts with their supervisor and is a common part of committee meetings in many similar programs.	**Program:** The program recognizes the importance and value of advisory committees to student development, and our reliance on advisory committees to provide both support and guidance for both career and research development will increase as the program grows. The Reviewer's recommendation to formally reserve a period of time where the student meets with the committee in the absence of the supervisor could be a valuable tool for committees to fulfill this role. Based on this recommendation, the Graduate Chair with the Graduate Education Committee will initiate discussions on how best to implement this recommendation, with a goal to approve this change to the advisory committee meeting process or identifying an equivalent mechanism to achieve the same goal by the fall term, 2026. **Faculty:** The decanal team supports the program's response.
Recommendation #7: Student Organization There is a need for a better-organized student-led committee that plays an active role in identifying issues and gathering suggestions from other students in the program and provides these to the faculty.	**Program:** The Department does, in fact, have a long history of strong student leadership with students taking an active role in department and student life, perhaps best exemplified by the fully-student run Infection and Immunity Research Forum. However, as the reviewers identified, some continuity and structure of student leadership was lost over pandemic years and there is considerable room to strengthen student participation in department leadership. Renewing student leadership is a major short-term goal of the Graduate Chair. As part of a wider effort to promote professionalism and to develop professional skills and responsibilities, the Graduate Chair will work with students to formalize student participation in appropriate department level committees and to also more formalize student-centric committees. Terms will be set to match that of other department committees with turnover in July. There will be an expectation that graduate students will organize and host their own meetings to happen once per term, at minimum, with formal agendas and student committee reports. Necessary support will be provided by the Graduate Program Coordinator. This will be done both to formalize student leadership structure and processes, but also to develop professional skills in students applicable not just to academics but also other careers with more formalized information sharing and decision processes. **Faculty:** The decanal team supports the program's response.

Implementation Plan

The Implementation Plan provides a summary of the recommendations that require action and/or follow-up. In each case, the Graduate Program Chair, in consultation with the SGPS and the Dean of the Faculty are responsible for enacting and monitoring the actions noted in Implementation Plan. Recommendation #1 does not appear in the Implementation Plan as it has already been actioned, as per the program and faculty response above.

Recommendation	Proposed Action and Follow-up	Responsibility	Timeline
Recommendation #2 EDIDA Imbalance of gender and race among Faculty members.	• Continue to prioritize diversity in the faculty roster in upcoming faculty hires.	Department Chair, Dean's Office	Follow-up as part of the progress report in 2029.
Recommendation #3 Space Space for quiet work and meetings.	• Ensure greater transparency regarding space availability and ability to book. • Identify additional space that can be used more socially or for silent study - such as the library, that can be reserved for students in critical writing stages. • Consider forming a Space Committee to help maximize resources currently available to the program.	Department Chair; Graduate Chair	By January 2027
Recommendation #4: Curriculum Adjustment of the content of MICROIMM 9000, including revision of the syllabus with the import of students.	• Review and discuss graduate level courses with the Graduate Education Committee, including course organizers, and the student representative to update courses at the graduate level, with MICROIMM 9000 course at the centre of discussion. • Consider modifying certain topics such as RStudio from the MICROIMM 9000 course and expanding the offering of "topic expertise" courses (neuroimmunology, RStudio in data analysis, etc.) that would allow for more expansive training in these subjects.	Graduate Chair	By June 2027

Recommendation #5: Policy Creation and implementation of a policy on acceptable and unacceptable uses of AI within the program.	• Formulate and approve a Department AI policy for graduate training – guided by ongoing discussions at the Faculty and SGPS-levels. This policy will be regularly reviewed and revised as appropriate. • Disseminate existing resources provided by the SGPS and Centre for Teaching and Learning, as relevant.	Graduate Chair; Associate Dean Graduate; Education Committee	By June 2027
Recommendation #6: Committee Meetings Students should have the opportunity to address their advisory committee members during advisory committee meetings without their supervisor present.	• Initiate discussions with the Graduate Education Committee on how to best implement this recommendation with a goal to approve this type of change to the advisory committee meeting process or identify an equivalent mechanism to achieve the same goal.	Graduate Chair	By January 2027
Recommendation #7: Student Organization Support organized student-led committee(s).	• Work with students to formalize student participation in appropriate department level committees and formalize student-centric committees. • Support the crafting of terms of the committee(s) to match that of other department committees. • Support students in the organization of their own meetings once a term at minimum, with formal agendas and reports. Necessary support will be provided by the Graduate Program Coordinator.	Graduate Chair	By January 2027