



**Pathology and Laboratory Medicine  
Final Assessment Report**

<b>Faculty / Affiliated University College</b>	Schulich School of Medicine & Dentistry/Faculty of Science Department of Pathology and Laboratory Medicine
<b>Degrees Offered</b>	Honors Bachelor of Medical Sciences (BMSc)
<b>Modules Reviewed</b>	Honors Specialization in Pathology, Honors Specialization in One Health, Honors Specialization in Medical Health Informatics, Honors Specialization in Biochemistry and Pathology of Human Disease, Honors Specialization in Microbiology and Immunology with Pathology, Specialization in Pathology, Major in Pathology
<b>External Consultants</b>	Douglas M. Templeton, PhD, MD, Professor, Laboratory Medicine & Pathobiology, University of Toronto Christopher Nicol, PhD, Associate Professor, Undergraduate Program Director, Pathology and Molecular Medicine, Queen's University
<b>Internal Reviewer</b>	Margaret McNay, PhD, Associate Professor and Associate Dean of Teacher Education, Faculty of Education
<b>Date of Site Visit</b>	March 9, 2018
<b>Evaluation</b>	Good quality
<b>Approval Dates</b>	SUPR-U: April 25, 2018 SCAPA: May 2, 2018 Senate: May 11, 2018

**I EXECUTIVE SUMMARY**

**a) External Reviewers' Report**

The Reviewers were very positive about everything they observed and learned about the Department of Pathology and Laboratory Medicine (PLM) and its undergraduate programs.

**Objectives:** The Reviewers outline a brief history of the Department and its growth from 30 students in 2001 to 300 in 2010 and 500 in 2017. They found the PLM program to align with Western's mission, values, priorities, and academic plans, and to be appropriate in terms of requirements and outcomes.

**Program Structure and Curriculum:** The Reviewers recognized the modular structure of the PLM program to be "unique among Ontario undergraduate programs," and highlighted the internship at the end of Year 3 as "enabling application of skills into practice and [providing an opportunity to] contribute to [workplace] goals in meaningful ways." While 4th year Honors Specialization students recommended standardization of evaluation methods across all BMSc programs, the Reviewers cautioned against taking any steps that might "diminish the current high standards within the PLM program and modules."

**Assessment of Teaching and Learning:** The Reviewers noted that, notwithstanding a concern from graduate student TAs that some information presented in some courses is out of date, students in the Honors Specialization Program have by and large expressed "overwhelming appreciation . . . for the effectiveness and quality of program content." In terms of learning outcomes, most of the Honors Specialization students reach Mastery level while the remainder reach Reinforcement level. Student surveys rate the quality of instruction high and "uniformly praise the dedication of the session leaders, course instructors and thesis supervisors." Two suggestions for improvement have to do with ensuring that material presented in lectures is up-to-date, and minimizing reliance on multiple choice tests.

**Resources for All Programs:** The Basic Medical Sciences Undergraduate Education (BMSUE) office oversees delivery of modular programs within seven BMS departments as well as modules for the Faculty of Science and the SSMD, and an interfaculty Neuroscience program. The BMSUE office was acknowledged as very supportive of the PLM Program.

PLM comprises “a strong group” of Basic and Clinical Faculty members, cross-appointed members, and hospital-funded pathologists who are actively involved in the undergraduate programs. The Reviewers recommend that, going forward, “the University encourage the hospitals to support clinician scientists to ensure they remain a strong teaching force” in the program.

Library resources, information technology, and the presence of a full time media specialist to assist students are strengths. The Reviewers strongly recommended that course instructors be encouraged to take advantage of opportunities offered by the ITRC to enhance interactive engagements with their students in classes. The Reviewers also strongly recommended increased resources for students in the 4th year Honors Specialization research thesis course, with priority for supplies to alleviate the burden on supervisors, and for student travel to enhance student experiences.

**Resources for Undergraduate Programs:** Entering 4th year with prior experience in research would, the Reviewers suggest, enhance the quality of the students' final year. They recommend resources be allocated to facilitate expansion of the planned 3<sup>rd</sup> year lab course to include a “wet lab”. Resources should also be provided to defray the cost of summer student stipends in order to facilitate summer lab experience. As well, students in first and second year should be provided more information about research opportunities and potential supervisors. Seven new faculty members, increased interactions among basic and clinical members within PLM, and supervision of research students are additional factors that help to add strength for both transdisciplinary training of students and expansion of projects to achieve program goals.

**Quality and Other Indicators:** Many Faculty members have received awards for excellent teaching. Scores on student surveys indicate increasing “overall effectiveness” of instructors. PLM Faculty members have also excelled in research and scholarly activity. The diversity of PLM fields of research and collaborations with clinical colleagues and members of other basic science departments “continues to ensure the intellectual quality of the student experience.”

**Quality Enhancement:** The PLM Department has over the years addressed recommendations of previous reviewers' and made appropriate additions and changes to the program—moving entry to BMSc modules to 3<sup>rd</sup> year to better align with program changes, for example, and identifying degree outcomes. They have created a curricular map to guide course objectives across modules and ensure achievement of outcomes. Seven new Faculty members have been added to the Department, enhancing the diversity of research projects and research supervisors available. The Undergraduate Education Committee has added two new courses and has plans for adding more in the coming year. The Department recognizes the desirability of a laboratory course to introduce students to basic lab techniques prior to undertaking 4th year thesis projects, and for a writing course to develop students' writing and communication skills.

#### **b) Department's Response to External Reviewers' Major Recommendations**

The Department's response demonstrates serious attention to the Reviewers' recommendations.

**Succession Planning:** Of particular significance to the Department is the recommendation for a succession plan. Upcoming retirements will affect staffing of essential courses and resources for supervising students. The current hold on hiring at Western and forthcoming budget reductions threaten the continuation and sustainability of the program.

**Enhancing Student Research Experience:** The Department recognizes that 3<sup>rd</sup> year laboratory experiences are lacking and is seeking funding to develop a 3<sup>rd</sup> year course. Creatively, they identify other options for providing laboratory experiences such as sharing laboratory space with other departments or developing a course which could service more than one department. Steps are also being taken to provide more information about research opportunities to Year 2 students.

**Acknowledging Clinical Teaching Faculty:** The Department recognizes the contributions of clinical faculty in Departmental Annual Reports and Chairs' Bulletins, and through establishment of an undergraduate student award for collaborative basic and clinical research.

**Increased Resources For Research Supervisors:** Providing additional resources at the Departmental level to support the research of 4<sup>th</sup> year Honors Specialization students is not feasible, the Department writes, because of continued budget cuts.

### **c) Department's Response to External Reviewers' Minor Recommendations**

**Minimize reliance on multiple choice questions:** Only one of the six Pathology courses depends entirely upon multiple choice questions, although foundation and core courses taken in other departments do favour multiple choice. The Department is monitoring the situation.

**Provide students with opportunities to develop their writing skills.** The Department is devising a writing workshop for students which they aim to offer in year 3 in order to "ease students into writing short answers and essays/reports in year 4."

**Early opportunities to develop a sense of identity as a cohort:** The Department has introduced a Faculty/student event to connect with students as soon as they enter the Pathology modules. As well, they are planning student representation to the Western Pathology Association which includes holds academic and non-academic events every year and which may be the "perfect avenue to connect with students and provide a sense of identity."

**Ensure that course content is up to date:** Coordinators have already been "tasked with updating course slides, lecture notes, and exams."

## **II STRENGTHS OF THE PROGRAM**

### **Significant Strengths**

1. The quality of the students is excellent. In terms of Program learning outcomes, most of the Honors Specialization students reach Mastery level while others reach Reinforcement level.
2. There is a strong commitment to the Program by the core PLM faculty.
3. The Fourth Year research/seminar course (Path 4980E) is an excellent and unique learning experience that provides an encouraging environment to students.
4. General supports and resources are available, including excellent library services.

### **Additional Strengths**

5. Weekly seminar sessions in the 4th year Honors specialization course on non-discipline-specific topics such as career path advice and research ethics add value to the Program.
6. The expertise and dedication shared between basic and clinical scientists is an asset.
7. PLM students see the variety of courses available to them from other departments as a strength of the program.

## **III SUGGESTIONS FOR IMPROVEMENT & ENHANCEMENT**

### **External Reviewers' Major Recommendations**

1. The Department should develop a succession plan, and the University should be receptive to it.
2. Means should be found to encourage students to engage in faculty research at least from Year Two. As well, new resources should be invested in developing a Third Year hands-on laboratory course exclusively for Pathology students [in order to] partly alleviate the lack of laboratory experience of students entering the 4980E and at the same time providing a forum for developing a cohesive group of Pathology students in Third Year.
3. Encourage and recognize the involvement of clinical faculty in teaching in the Program.
4. New resources should be used [to cover] costs of supplies and student travel for the Path 4980E course, thus helping to encourage participation of potential research supervisors and greatly enhancing the student experience.

**External Reviewers' Minor Recommendations**

1. Minimize reliance on multiple choice questions, particularly at senior levels of the program and, where class sizes permit, utilize evaluation methods that would also give students a chance to improve their writing skills.
2. In a program that begins only in Third Year, students need early opportunities to develop a sense of identity as a cohort.
3. Course coordinators should ensure that course content is up to date.

**IV RECOMMENDATIONS REQUIRED FOR PROGRAM SUSTAINABILITY**

<b>Recommendation</b>	<b>Responsibility</b>
Develop a plan to sustain the teaching continuity in the program.	Department
Improve the modes of assessment at the senior levels of the program	Department
Consider opportunities for students to develop a sense of identity as a cohort	Department