



SAINT LOUIS
UNIVERSITY

Saint Louis University
Program Assessment Plan

Program (Major, Minor, Core): Molecular Microbiology and Immunology Ph.D. program

Department: Molecular Microbiology and Immunology

College/School: School of Medicine

Person(s) Responsible for Implementing the Plan: John Tavis, Ph.D.

Date Submitted: 12-23-15

Program Learning Outcomes	Curriculum Mapping	Assessment Methods	Use of Assessment Data
<p><i>What do you expect all students who complete the program to know, or be able to do?</i></p>	<p><i>Where is the outcome learned/assessed (courses, internships, student teaching, clinical, etc.)?</i></p>	<p><i>How do students demonstrate their performance of the program learning outcomes? How does the program measure student performance? Distinguish your direct measures from indirect measures.</i></p>	<p><i>How does the program use assessment results to recognize success and "close the loop" to inform additional program improvement? How/when is this data shared, and with whom?</i></p>
<p>Demonstrate sufficient knowledge of the biomedical sciences to support independent biomedical research</p>	<p>The outcome is learned throughout the students' training period. This includes traditional course work, independent reading of the scientific literature, discussions with senior scientists, seminar attendance, journal club participation, etc.</p>	<p>The outcomes are assessed by tests in classes, extensive and in-depth discussions with faculty members (particularly their research mentor), and by a formal preliminary degree examination examined after they have completed their coursework that is administered by a committee of 5 faculty.</p>	<p>This information is used to determine whether the student is ready to advance in the program, to identify weaknesses in their knowledge base that need to be remediated, to help design the remediation, and in periodic reviews of the curriculum to determine if we are meeting our goals and whether the goals themselves are still optimal.</p> <p>These data are shared with the Program Director (Dr. Tavis), the oversight committee (Drs. Tavis, Lynda Morrison, and Rich Dipalo), and the MMI Chair (Dr. William Wold). They are shared with the MMI faculty as needed for programmatic assessment.</p>

<p>Demonstrate the ability to formulate and test scientific hypotheses</p>	<p>The outcome is learned throughout the students' training period. This includes traditional course work, reading of the scientific literature, discussions with senior scientists, seminar attendance, journal club participation, etc. Mentorship discussions are by far the most important.</p>	<p>These outcomes are tested by requiring hypotheses statements and experimental design/interpretation in tests in classes, in great depth by discussions with the research mentor, by the full faculty following the students' annual research update seminar, and by a formal Ph.D. candidacy exam administered by a committee of at least 5 faculty members. It is also tested by having the students write and submit an external grant application, in which the external reviews provide outstanding feedback.</p>	<p>This information is used to determine whether the student is ready to advance in the program, to identify weaknesses in their knowledge base that need to be remediated, to help design the remediation, in periodic reviews of the curriculum to determine if we are meeting our goals, and to evaluate whether the goals themselves are still optimal.</p> <p>These data are shared with the Program Director (Dr. Tavis), the oversight committee (Drs. Tavis, Lynda Morrison, and Rich Dipalo), and the MMI Chair (Dr. William Wold). They are shared with the MMI faculty as needed for programmatic assessment.</p>

1. It is **not recommended** to try and assess (in depth) all of the program learning outcomes every semester. It is best practice to plan out when each outcome will be assessed and focus on 1 or 2 each semester/academic year. Describe the responsibilities, timeline, and the process for implementing this assessment plan.

Dr. Tavis and the rest of the MMI Graduate Oversight committee will conduct an internal review of these assessment procedures. This was just completed for all aspects of the MMI graduate program in July 2015. We will annually address one of the program learning outcomes each summer semester. We will alternate between the foundational knowledge outcome and the hypotheses testing outcome annually.

2. Please explain how these assessment efforts are coordinated with Madrid (courses and/or program)?

Not applicable. We have no interaction with the Madrid campus.

3. The program assessment plan should be developed and approved by all faculty in the department. In addition, the program assessment plan should be developed to include student input and external sources (e.g., national standards, advisory boards, employers, alumni, etc.). Describe the process through which your academic unit created this assessment plan. Include the following:

- a. Timeline regarding when or how often this plan will be reviewed and revised. (This could be aligned with program review.)

We maintain a formal graduate policies handbook. This is assessed annually and updated as needed by the MMI Graduate Oversight Committee (the last full revision was finished in Summer 2015). The handbook is edited by the full faculty and all changes are voted upon by the faculty.

- b. How students were included in the process and/or how student input was gathered and incorporated into the assessment plan.

We are a small, intimate graduate program in which the primary teaching modality is the apprenticeship under a research mentor. The students are continually in very close contact with their mentors (usually multiple times daily) and communication occurs primarily from the student to the mentor. Our students feel very empowered to directly discuss these issues with us. This information is assessed and integrated among the faculty as a whole whenever instructional issues arise, with the assessment being led by the MMI Graduate Committee (Tavis, Chairperson). Proposed alterations to the program are discussed with senior students to receive feedback from the student's perspective. Students often participate in the revisions to the MMI graduate policies handbook.

- c. What external sources were consulted in the development of this assessment plan?

Very little external validation for this process is needed because this is how almost all apprenticeship-style graduate programs in the world operate. It is a standard, well-validated paradigm. We track our students after they leave the program, and their successes in achieving high-quality post-doctoral or technical positions (often leading to faculty or senior scientist positions) indicate that our assessment procedures are doing their job.

- d. Assessment of the manageability of the plan in relation to departmental resources and personnel

This is part of the routine duties of the full faculty in the program, particularly members of the MMI Graduate Oversight Committee. It is not an onerous task because our program is small and well-defined.