SAINT LOUIS UNIVERSITY

Saint Louis University
Program Assessment Plan

Program: PhD in Pathology
Department: Pathology
College/School: Medicine
Person(s) Responsible for Implementing the Plan: Jacki Kornbluth
Date Submitted: 7/28/21

Program Learning Outcomes	Curriculum Mapping	Assessment Methods	Use of Assessment Data
What do you expect all students who complete the program to know, or be able to do?	*Where is the outcome learned/assessed (courses, internships, student teaching, clinical, etc.)?*	*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.*	*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?*

Students will demonstrate a competency in the basic biochemical, molecular, cellular and organismal aspects of the biomedical sciences.	The outcome is learned throughout the students' training period. Upon entering the program, students will take advanced courses in pathology and microscopy and/or other area-specific courses and begin research on their dissertation project under the guidance of their faculty advisor. Student training includes independent reading of the scientific literature, discussions with senior scientists, attendance at seminars and journal clubs.	Students will be evaluated based on tests in classes, extensive discussion with faculty members. A high quality written proposal is a necessary prerequisite for advancing to the Oral Comprehensive Examination. During the oral exam, a 5-member committee assesses the student's ability to master the research subject of her/his Ph.D. thesis, including the ability to think critically and creatively, and to communicate their ideas verbally and in writing.	The 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. These data are shared with the Program Director (Dr. Kornbluth), the student progress committee (Drs. Jacki Kornbluth, Anping Chen and Ratna Ray) and the Pathology Chair (Dr. Katherine Robbidnes). They are shared with the Pathology Research Division Faculty as needed for programmatic assessment.
Students will generate a research proposal.	NIH-style grant proposal will be written that outlines the students' proposed research plan.	Students write a research proposal and defend it to a committee of 5 Faculty members that will evaluate based on student's knowledge of their proposal, knowledge of the current field, and ability to effectively answer questions. Successful completion leads to candidacy status.	Successful completion of proposal defense will occur by the end of the 3rd year of study.

Students will apply research skills which include data collection, publications, and oral presentations.	Students will complete studies in biomedical research, then write and defend a thesis.	A 5-member committee will monitor student progress, including the student's ability to master the research subject of her/his dissertation. Annual written and oral progress reports will be presented to the committee. Scholarly activities such as publications in peer-reviewed journals or presentations at national meetings will be recorded.	Progress will be shared with the Program Director (Dr. Kornbluth), the student progress committee (Drs. Chen, Kornbluth, Ray) and the Pathology Chair (Dr. Katherine Robbins). They are shared with the Pathology Research Division Faculty as needed for programmatic assessment.
Students will integrate and apply communication and research skills through oral presentations at scientific seminars, conferences, and other venues.	Students are required to present at a minimum of 3 journal clubs/colloquia. Students also have opportunities to present at regional and national scientific meetings. Students must make an oral presentation and defense of a dissertation project before a 5-member committee.	Student performance in journal club/colloquia is graded. The oral preliminary defense is graded by the 5 members of the thesis committee	Departmental Graduate Student Progress Committee will monitor student activities and student progress.
Students will have knowledge of responsible conduct in research.	Students will attend at least 8 face-to-face contact hours of the Responsible Conduct in Research program. Subjects covered include conflict of interest, intellectual property, authorship and peer review, scientific misconduct, IRB, animals in research and data confidentiality. Each interactive workshop consists of instruction in the topic, engaged discussion, and applied cases.	Online training and attendance at four workshops is a University requirement and graduate students cannot graduate without attending the required number of sessions. Attendance is taken and tracked carefully for federal compliance.	The Saint Louis University Office for Research Integrity maintains a spreadsheet of attendance records. Primary responsibility for meeting the contract requirements for RCR training is in the hands of the PI.

1. **It is <u>not recommended</u> 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.**

The Pathology Graduate Student Progress Committee (Drs. Chen, Kornbluth, Ray) will conduct an annual internal review of these assessment procedures. Each summer semester, we will review one of the program learning outcomes, alternating between the foundational knowledge outcome and the hypothesis testing outcome.

2. **Please explain how these assessment efforts are coordinated with Madrid (courses and/or program)?**
   Not applicable. We have no interactions 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 which is shared with research faculty in the department. The Handbook is updated as needed and all changes are voted on by the full faculty before implementation.

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

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. A committee of five faculty members (including the Ph.D. Mentor) advises the student and reviews their progress toward the Ph.D. at least once a year until the completion of the degree. 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 Pathology Graduate Student Progress Committee (Kornbluth, 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 Pathology 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

Management of the program and assessment plan is part of the routine duties of the full faculty in the program, particularly members of the Pathology Graduate Student Progress Committee. It is not an onerous task because our program is small and well-defined.