**Pathology and Laboratory Medicine**

**Initial Supervisory Committee Meeting Course Plan**

*This form is to be completed by the Student in consultation with the Supervisor and sent to the Supervisory Committee Chair within 4 business days of the meeting. Please type the form details in the space provided.*

Student:

Program:

Date:

Time:

Place:

Present:  **(Supervisor); (Chair); (Student)**

Students in the Master's Program must complete 12 credits in addition to their 18 credit thesis for a total of 30 credits. 9 of these credits must be from graduate level courses (PATH required courses total 4 credits).

Please note that if you are planning on transferring from the MSc program to the PhD program you must complete 9 credits from graduate level courses of first-class standing between the first and second year in order to qualify.

Students in the PhD Program who already hold a Master's must only complete the required core courses. Students entering directly from a bachelor's degree must, during the first two years of study, complete a total of 12 credits with a first class average, of which at least 9 credits must be at the 500-level or above and at least 9 credits must be of first class standing, to maintain registration as a doctoral student.

**Important topics to supplement learning:**

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**Required Core Courses:**

**PATH 502: Current topics in Pathology Research (2 Credits, Term 2)**

A series of short lectures accompanied by research paper on various aspects of experimental pathology from expert faculty. The skills required for success in this course are excellence in critical thinking and in communication. Course Coordinators: [Dr. Kevin Bennewith](mailto:kbennewi@bccrc.ca) & [Dr. Christian Steidl](mailto:%20CSteidl@bccancer.bc.ca)

**Course Objectives:**

* Provide students with a strong foundation for critically evaluating scientific literature across a range of pathology research disciplines.
* Provide students with essential skills in summarizing and communicating research findings as oral presentations.
* Provide students with the ability to contribute to scientific debate and discussion in a group setting.

**PATH 535/635: Graduate Studies Seminar (2 Credits, Term 1 & 2)**

Students will learn oral and written scientific communication skills and have a venue to practice those skills. This course will also provide an opportunity for graduate students to exchange on their research with peers, and witness the diverse research programs pursued within the department.

Primary Course Coordinator: [Leandro Venturutti](mailto:lventurutti@bccrc.ca)

**Course Objectives:**

* To expose the students to research in pathology and laboratory medicine conducted by students within the department, to broaden knowledge beyond their own area of expertise.
* To learn skills to communicate scientific research findings through oral presentations, posters, abstracts, etc.
* To provide opportunity to apply these skills, to improve presentation, teaching, critical listening, and questioning skills.
* To develop and apply critical thinking and listening toward the assessment of scientific communication in a manner consistent with scientific peer review.

**The following courses are available electives, but may not be offered on an annual basis:**

**Recommended Courses:**

**PATH 501: Foundations of Human Histopathology (2 Credits, Term 1)**

An overview of the microscopic anatomy of human tissue and organs in both health and disease. Course Coordinator: [Dr. Jacqueline Quandt](mailto:jquandt@pathology.ubc.ca)

**Course Objectives:**

* Students will learn the principles behind and practice of histological analysis and its applications in pathology.

**By the completion of the course, students will be able to:**

* identify and list histological features of cells and basic tissues that make up our organs including epithelia, connective tissues, nervous tissue, vasculature (heart & lung), lymphoid cells & organs
* relate the structure and function in cells, tissues and organs and
* Learn to operate a light microscope properly. Students will be introduced to the basic pathological processes of cell injury/necrosis, acute inflammation, wound healing & chronic inflammation, neoplasia (General Pathology) and understand their contribution to diseases encountered in specific tissues/organs (Systems pathology) as well as the student's own research/project.

**PATH 547: Techniques in Molecular Biology and Experimental Pathology (3 Credits, Term 2)**

Students will learn restriction enzyme digests, Northern and Southern blotting, cloning, DNA sequencing, polymerase chain reaction technology, electron microscopy, and fluorescein-activated cell sorting. Course Coordinator: [Dr. David Ng](mailto:db@msl.ubc.ca)

**Course Objectives:**

* To survey and use a range of molecular techniques (from old to new) that would prepare a researcher for molecular biology work.
* To focus on the biochemical principles in these techniques for best practices in troubleshooting and modifying experiments.
* To provide an opportunity for public science engagement, in the form of science writing assignments that aim to engage a layman reader.

**PATH 548L: Experimental Design and Considerations for Data Collection, Presentation, Analysis, and Interpretation (3 Credits, Term 2 April - June)**

This course will provide students with insight about study design, data collection, data presentation, data analysis, and data interpretation. Course Coordinators: [Dr. Helene Cote](mailto:hcote@pathology.ubc.ca) & Andrew Roth

**Course Objectives:**

* Design a study and an analysis plan
* Identify sources of error, variability, and bias
* Present data transparently and informatively
* Perform simple statistical analyses using statistical software
* Read the scientific literature critically
* Know when and how to interact with a biostatistician

**Directed Studies/Electives (Please list course name, credits, term and brief description below – for a complete list, please visit** [**http://grad.pathology.ubc.ca/course-of-study/courses/directed-studies-courses/**](http://grad.pathology.ubc.ca/course-of-study/courses/directed-studies-courses/) **and** [**http://grad.pathology.ubc.ca/course-of-study/courses/elective-courses/**](http://grad.pathology.ubc.ca/course-of-study/courses/elective-courses/) **):**

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