UW LABORATORY MEDICINE & PATHOLOGY
MASTER OF SCIENCE

Contents

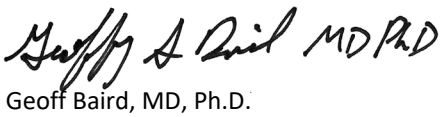
MESSAGE FROM THE LABORATORY MEDICINE & PATHOLOGY GRADUATE PROGRAM

Welcome to the graduate program in the Department of Laboratory Medicine & Pathology (DLMP) at the University of Washington. We look forward to working with you over the coming years. For all of us, graduate school is a fascinating period in the educational process. During this time, a scientist evolves from being a student gaining knowledge primarily through taking courses, to pursuing self-directed learning, and conducting, interpreting, and presenting your own data that contributes to the very knowledge based that you learned as a student.

You have been accepted to the Master of Science in DLMP with the goal of becoming a leader in the field of clinical laboratory science. Dedication and persistence are needed to hone your creative and analytic abilities. During the Master of Science program, students experience the life of an academic through completion of a regimen of courses in Year 1 and the framing, implementation, and execution of a thesis project (Year 2). The completion of this project culminates in: 1) a thesis, published and cataloged at UW Health Sciences Library and 2) the Master of Science degree in DLMP. Depending on the outcome of your thesis, you may also end up publishing manuscripts in peer-reviewed scientific journals.

You will make at least two presentations to the Department in LAB M 510 (Research Conference). The first, proposing your research project early in your studies, and the second (toward the end of your studies) will prepare you for critique and help develop or change your strategy to strengthen your thesis project. You will improve your communication skills and receive feedback from not only fellow Master of Science students, but also from DLMP faculty, residents, fellows, and staff. This may sound daunting but is actually an invaluable helpful tool in your development as a team member and a critical, independent thinker.

Remember that you can make a unique contribution most suited to your own interests regardless of which career path you choose. Both the requirements and the rewards of graduate school are substantial. We are committed to do our part in order to make your experience in the Master of Science in DLMP a valuable one; we look forward to our joint efforts with you.



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EXPECTATIONS

Graduate school is a unique experience. Although you are still considered a student, your professional career in science has begun. Below are some expectations to help you succeed in the program.

EXPECTATION #1: TAKE FULL OWNERSHIP OF YOUR LEARNING

In graduate school, Y-O-U are the one who must define your learning: you set the goals and determine standards of daily achievement, you decide on the correct combination of education and research, and you bear the ultimate responsibility for the outcome. Many people are available to help, but you are responsible for pulling it all together to meet both your current needs (coursework, research and teaching experience, etc.) and your plans for the future (a career in research, teaching, industry, a Ph.D., etc.). This includes taking charge of regular meetings with your thesis mentor, thesis committee, program adviser, and program director. Finally, seek to establish your own support group consisting of fellow students, laboratory and DLMP staff members, faculty mentors, and friends.

EXPECTATION #2: BE PERSISTENT

Graduate school may test your self-confidence. The feeling that somehow a mistake was made in your admission or that you are inadequate to excel in the field is common among graduate students.

Learning to accept criticism is an essential and often difficult part of graduate school. You may find some people overly vigorous in their criticism, but do not take it personally. Never let criticism slow you down; it actually provides a great opportunity for learning. Take risks; be creative. The more ideas you have, the better the chance some will be good. Discuss your ideas with your colleagues until you prove them right or you understand where they are weak. Hone your ability to accept criticism by not avoiding it.

EXPECTATION #3: BE PROACTIVE IN YOUR COMMUNICATION

Taking full ownership of communication is essential for success in graduate school. Communication is the way to make your relationship with your thesis mentor work: you should always feel free to discuss your ideas and needs with your mentor. Communication with your thesis committee through regular laboratory and committee meetings will also help you focus your research and complete your thesis in a timely manner. Finally, regular communication with program staff and students will help keep you on track and establish community within your graduate program.

EXPECTATION #4: ENGAGE WITH OTHERS IN THE PROGRAM

The people with whom you have the most in common are your fellow graduate students. Turn to them to discuss both science problems and personal issues. Talking with others—your committee, graduate program director, academic adviser, faculty members, fellow students, and DLMP staff—can also provide a different, and often useful, perspective.

A NOTE ON STUDENT CONDUCT

Students are required to review the WA state Student Conduct Code and adhere to the policies outlined here:

http://apps.leg.wa.gov/WAC/default.aspx?cite=478-121

MASTER'S DEGREE PROGRAM

The Master's degree program consists of coursework and a thesis level Master of Science research project and presentation. Full-time students can complete the program within 24 months (eight quarters in residence). For a full-time student, the first year is generally spent on coursework, while the thesis research, committee meetings, and thesis write-up and defense is conducted in year 2. **The Master's program cannot be completed in less than 2 years**. Part-time students have 6 years to complete the program. Please note that this program is flexible and does allow for changing from full-time to part-time and back again each quarter.

Graduate students normally spend the first year of graduate studies taking a sequence of courses in their specialized field within DLMP and a series of core courses in the program. During their initial coursework, students often begin to develop their research project. As studies progress and exposure to the clinical laboratory and research expand, the project continues to develop and is compiled into a thesis.

ACADEMIC ADVISING

Graduate Program Director/Coordinator and the Graduate Program Adviser: During a student's tenure in the program, the graduate program director, the graduate program adviser, and the graduate program coordinator are available to advise students with selecting courses, finding a thesis mentor, and reviewing student progress throughout the program.

The Faculty Mentor: The student should research prospective DLMP graduate faculty members as potential mentors. Graduate program staff are available for advice. After the selection, the student meets with their mentor and discusses interest and research areas in which the mentor is currently working and would have immediate potential to provide a student with one or more focused projects. It is never too early to begin researching and contacting faculty members to serve as your thesis mentor.

The Supervisory Committee: As the student selects a mentor and a thesis project, it becomes necessary for the student to structure a supervisory committee, which can better address the particular research issue undertaken by the student. The mentor serves as the chairperson of the supervisory committee. The supervisory committee typically consists of a minimum of two and up to four faculty members. The primary mentor should have DLMP as their primary faculty appointment, and the primary mentor must be on the UW Graduate Faculty. Ideally, one additional committee member will also have their primary faculty appointment in DLMP. If the primary mentor has an adjunct appointment in DLMP, a second committee member can be added, and this member must have DLMP as their primary appointment. The MS Program Director approves the mentor and supervisory committee (email communication is sufficient). **It is the student's responsibility to see that a supervisory committee is formed as soon as possible: for full time students seeking to complete the program in two years, the thesis mentor and supervisory committee should be formed by the end of the first year, ideally within the first 2 quarters. Part time students are advised to find their thesis mentor and form their supervisory committee by the second year of the program.**

The major guidance and evaluation of the student is done by the student's faculty mentor. Regularly scheduled meetings between the mentor and student (organized by the student) should include specific aspects of the student's developing skills, research accomplishments, resource needs, and intellectual/scientific maturation. Feedback is essential in communicating expectations and effectiveness in the working relationship. It is the student's responsibility to take full advantage of meetings with the mentor (and members of the supervisory committee, if appropriate) to obtain satisfactory direction and feedback and to ensure thorough, mutual understanding of goals and expectations.

At the onset of the project, the student, with advice from their mentor, should approach 1-3 other faculty members to act as the supervisory committee, evaluating the progress of the research and the final thesis. In anticipation of the culmination of the work the thesis is circulated to all committee members for evaluation and may take several weeks, so it is most expedient to advise the committee of their upcoming responsibility. It is the student's responsibility to track the progress of the committee and to be prepared to act on their recommendations. At least half of the committee members must be present at the thesis presentation/defense.

DEGREE REQUIREMENTS

UW GRADUATE SCHOOL REQUIREMENTS

1. Students are responsible for completing a minimum of 38 quarter credits (29 course credits and a minimum of 9 credits of thesis). Required graded courses must be completed with a grade of 3.0 or higher (see list below).
2. At least 18 of the minimum 38-quarter credits must be completed in coursework at the 500 level or higher.
3. Numerical grades must be received in at least 18 quarter credits of coursework taken at the UW. The Graduate School accepts numerical grades (a) in approved 400-level courses accepted as part of the major, and (b) in all 500-level courses or higher.
4. A minimum of three full-time quarters of residence credit must be earned. Part-time quarters may be accumulated to meet this requirement.
5. Graded courses must be 2.7 and above or have a grade of Satisfactory or Credit ('S" or "CR") that are counted in the 38-credit total. No more than 6 graduate level quarter credits can be transferred from other academic institutions to count toward the 38-credit total. No more than 12 UW Graduate Non-matriculated credits can be applied to the 38-credit total. No more than 12 credits derived from any combination of UW Graduate Non-matriculated credits and transfer credits can be applied to the 38-credit total. If a student repeats a non-repeatable class, only one set of credits counts toward the 38-credit total.
6. A thesis, approved by the supervisory committee, must be submitted to the Graduate School. Students need a minimum of 9 credits of thesis work. Each credit is approximately 3-5 hours per week of lab or desk (analysis, literature search, computation, etc.) per quarter. That is a rough estimate and students are expected to work with their mentor to define the project and expectations.
7. The graduate student must maintain registration as a full-or part-time student at the University for the quarter in which the degree is conferred (see detailed information under Final Quarter Registration).
8. All work for the Master's degree must be completed within six years. This includes quarters spent On-Leave or out of status and applicable work transferred from other institutions. See detailed information under Transfer Credit.
9. The UW Graduate School stipulates that in order to graduate, a student must maintain an overall GPA of 3.00 or higher.

Completion of the graduate program is dependent upon successfully identifying a pathway, completing required coursework while maintaining a GPA of at least 3.0, and writing, presenting, and defending a thesis. Full-time students are encouraged to meet with the academic adviser and their supervisory committee at least twice per academic year to ensure completion of Graduate School requirements. It is the responsibility of the graduate candidate to meet the Graduate School requirements.

ACADEMIC PROGRESS

Required Progress in Year 1 for Program Continuation: In the first year of the Program, a full-time student must formalize an agreement with a mentor. Failure to achieve this agreement by the end of the fourth quarter in the Program can result in dismissal from the Program.

Academic Progress in all other Programmatic Requirements: The procedure follows the University's general guidelines. The judgment will take into consideration an individual student's situation and magnitude of deficiency. Evaluation of student performance includes: 1) maintenance of a minimum GPA of 3.0, cumulatively and for each quarter of coursework, 2) satisfactory progress in fulfillment of program requirements and expectations, and 3) satisfactory research progress and performance.

Unsatisfactory progress in any of these areas may result in the following actions:

First time	Warning
Second time	Probation
Third time	Final probation
Deficiency not corrected after final probation	Dismissal

It should be noted that a warning is documented by the Program, but is neither reported to the Graduate School nor appears on the student's transcript. All other recommended actions are transmitted to the Graduate School. We also follow procedures for academic performance as outlined by the Graduate School in Memo 16: Academic Performance and Progress.

PATHWAYS AND AREAS OF RESEARCH

DLMP combines the sophisticated testing and informatics capabilities of fully accredited clinical laboratories with the resources of an academic institution in its delivery of clinical and anatomical pathology services. Within the field of Laboratory Medicine itself, there are several pathways that a MS student, particularly a student with a Medical Laboratory Science (MLS) undergraduate degree, might identify as an area for further education and training while in the MS program. In these instances, the MS student may seek to identify a pathway (and thesis mentor) in the first two quarters of the program. Selection of a specific pathway helps focus the student in a specialty area and helps to begin to define the elective courses the student chooses to pursue. The following six pathways are available for in-depth study:

- Blood Bank / Transfusion Service
- Chemistry / Immunology
- Hematology / Coagulation
- Microbiology / Virology
- Genetics / Molecular Diagnostics
- Management / Informatics

In addition to these Pathways, many DLMP faculty have active, funded research programs on infectious, neurodegenerative, gastrointestinal, aging, renal and genetic diseases, including cancer. Thus, for some MS students, their area of focus would align with these research areas and faculty mentors. Faculty members and their research interests are described here.

REQUIRED COURSEWORK

☐	BIOST 511	Medical Biometry (4 credits)
☐	LAB M 502	Grand Rounds (3 credits total, one per quarter)
☐	LAB M 510	Research Conference (3 credits total, one per quarter)
☐	LAB M 520*	Organization and Management in DLMP (3 credits)
☐	LAB M 555	Critical Thinking and Research Design in DLMP (2 credits)
☐	LAB M 601	DLMP Teaching Internship (3 credits)
☐	LAB M 700	Thesis (9 credits minimum)

***LAB M 520 is currently only offered during spring quarter of odd-numbered academic years (e.g. 2021, 2023, 2025).**

LAB M 502 GRAND ROUNDS

The primary purpose of DLMP Grand Rounds is to provide up-to-date information on laboratory testing for diagnosis, prognosis and monitoring diseases. This Continuing Medical Education (CME) accredited series covers test ordering and interpretation as well as issues related to quality improvement in clinical laboratory services. The course also encompasses current research and trends in laboratory medicine and in medicine more generally and considers how these trends are likely to impact the future practice of medicine. Lastly, the course includes lectures on general topics in medicine that provide up-to-date information in areas where laboratory testing is of particular importance.

LAB M 510 RESEARCH CONFERENCE

This course is designed to develop the student's presentation and critical thinking skills and to advance their thesis research through feedback and suggestions from Lab Med residents and fellows. The seminar course must be taken three times (3 credits total), one per quarter. The student is expected to present their thesis research twice in LAB M 510. These two LABM 510 presentations are separate from the student's final thesis defense/presentation. As such, students need to plan accordingly to fit in the three required presentations.

LAB M 555 CRITICAL THINKING AND RESEARCH DESIGN

The course aims to develop the students' critical thinking skills in a relaxed and non-judgmental environment composed of DLMP MS (and sometimes Ph.D.) students, the MS Program Director, and a different Faculty Facilitator for each class.

THESIS

Presentation of research is a requirement for completing the degree program. A thesis is developed through advisory meetings with the student's mentor, supervisory committee, and also attendance of LAB M 510 Research Conference. For more information about how to develop and write a thesis, students can refer to the instructions available on the Graduate School website at the following link:

https://grad.uw.edu/for-students-and-post-docs/thesisdissertation/

The entire supervisory committee must review and approve the final thesis. Ideally all committee members will attend the thesis defense, however only half of the members are required to attend in the case of scheduling conflicts. It is the student's responsibility to coordinate a time and location for the defense that also accommodates the supervisory committee members' schedules.

On the day of the defense, the student must present the following to the supervisory committee:

- Thesis Warrant, to be signed by all members of the supervisory committee. Students will need to inform the academic adviser when they have submitted Master's Request online so that the Warrant can be printed.
- Master Supervisory Committee Approval Form

Once the defense is successfully completed, the student must present the following:

- Signed Warrant, given to the academic adviser
- An electronic copy of the Supervisory Committee Approval Form, submitted to the Graduate School
- An electronic copy of the thesis, submitted to the Graduate School

APPLICATION FOR THE MASTER'S DEGREE

Students must apply for the MS degree through the Graduate School within the first nine (9) weeks of the last quarter (first seven weeks during summer quarter). To file a Master's Request visit this link: https://apps.grad.uw.edu/student/mastapp.aspx. The Graduate School will review the student's record and current registration and will notify both the student and graduate program director whether or not the degree requirements will be satisfied by the end of the quarter. A degree application is valid only for one quarter. Thereafter, it is the responsibility of the student to file a new application to the Graduate School.

Students who do not make satisfactory progress toward their degree, and who fail to achieve goals and implement remedies recommended by their mentors and the department may be warned or placed on academic probation.

SUGGESTED ACADEMIC CALENDAR

The following is a ***suggested*** calendar of required coursework for a full-time graduate student on a two-year program track. Both full-time and part-time students are encouraged to regularly meet with the academic adviser to monitor their progress.

FIRST YEAR	SECOND YEAR
AUTUMN	AUTUMN
☐ Enroll in LAB M 502 Grand Rounds (1) ☐ Enroll in BIOST 511 Medical Biometry I (4) ☐ Enroll in other 500 level classes to fulfill degree requirements ☐ Identify a Pathway ☐ Identify a Thesis w/Mentor	☐ Enroll in LAB M 510 Research Conference (1) ☐ Enroll in LAB M 601 Teaching Internship (3) ☐ Enroll in other 500 level classes to fulfill degree requirements ☐ Meet w/Supervisory Committee
WINTER	WINTER
☐ Enroll in LAB M 510 Research Conference (1) ☐ Enroll in LAB M 502 Grand Rounds (1) ☐ Enroll in LAB M 555 Critical Thinking and Research Design (2) ☐ Enroll in other 500 level classes to fulfill degree requirements ☐ Identify a Supervisory Committee ☐ Meet w/Program Director & Academic Adviser	☐ Enroll in LAB M 502 Grand Rounds (1) ☐ Meet w/Supervisory Committee ☐ Meet w/Program Director & Academic Adviser
SPRING	SPRING
☐ Meet w/Supervisory Committee ☐ Enroll in other 500 level classes to fulfill degree requirements ☐ Enroll in LAB M 520 Organization and Management (3) (if odd year)	☐ Apply for Degree ☐ Enroll in LAB M 510 Research Conference (1) ☐ Enroll in LAB M 520 Organization and Management (3) (if not already fulfilled) ☐ Enroll in LAB M 700 Thesis (9) (ideally enroll in thesis credits throughout program) ☐ Defend Thesis

ABSENCES AND ATTENDANCE

An excused absence (for any class) can include:

A. Sickness
B. Out of town for a work-related event (e.g., scientific meeting)
C. Family emergency

Having lab work to do is not an acceptable excuse for missing class. The students need to be proactive and communicate an absence ahead of time to the person who runs the course. For LM502 (Grand Rounds (GR) and LM510 (Research Conference (RC)) absences, contact Brooke Emrich (Schedules for LM502 and LM510; bdh6@uw.edu), Dr. Noah Hoffman (runs LM510; ngh2@uw.edu), and/or Dr. Brian Shirts (runs LM502; shirtsb@uw.edu) know if they are missing (depending on if they are missing RC, GR, or both). Students should also cc the Program Director Stephen Polyak (polyak@uw.edu) and Academic Adviser, Heather Eggleston (auyong@uw.edu).

If presentations are being recorded, students need to watch their missed classes, and submit an email attesting this to the course director, Dr. Polyak and Ms. Eggleston.

ENGLISH LANGUAGE PROFICIENCY

For non-native English speakers, English language proficiency is required by the Master's program and is deemed crucial to writing a scholarly thesis or dissertation. Additionally, a **minimum** score on the TOEFL of 80 (ELP is satisfied) is required for admission to Graduate School and for the teaching component of LAB M 601, DLMP Internship in Teaching. If a student scores 80-91 on the TOEFL , re-testing or completion of a UW-approved English preparatory program is required. Please see this link for details: Memo 8 English Language Proficiency Requirements

REGISTRATION AND SCHEDULING

Registration at the University of Washington is accomplished by going to MyUW at https://myuw.washington.edu

The academic adviser can provide LAB M add codes.

A minimum of 10 credits and no more than 18 (without a petition) must be taken each quarter to maintain full-time status. It is important for the student to discuss their schedule with the mentor or graduate program director prior to registration. Entering graduate students also learn quickly that more senior students may have strong opinions about courses they have taken and can be a persuasive source of advice.

For UW staff who are at least 50% full time effort (FTE) and who are accepted into the MS program, the UW provides tuition exemption for up to 6 credits per year. Please see details here:

https://registrar.washington.edu/course-registration/state-employee-tuition-exemption/

GRIEVANCES AND DIFFICULTIES

If you believe that you have been unjustly treated by the University system or a member of the faculty, staff or student body, you have several options. First, we encourage you to define the problem and attempt to resolve it informally with the individual involved. If this is unsuccessful, perhaps it can be solved within the Department. The graduate program director is available to listen, advise, counsel, hopefully assist in resolution, and assure confidentiality.

If the issue cannot be solved informally within the DLMP or the School of Medicine, depending on the nature of the complaint, more formal grievance procedures can be initiated through the Human Rights Office (3-7217), the University Ombudsman Office (3-6028), or the Graduate School (3-5900). These offices and the GPSS (3-8576) and UW Student Legal Services (3-6486) are also available to advise you and explain various avenues and procedures. Information on grievance issues and procedures can be found here: https://grad.uw.edu/policies-procedures/graduate-school-memoranda/memo-33-academic-grievance-procedure/

COMPLIANCE ISSUES

HIPAA Compliance

The graduate program students in DLMP may complete their clinical training in facilities, including the University of Washington Medical Center and Harborview Medical Center, which are subject to HIPAA regulations. Students are provided appropriate HIPAA training enabling them to adhere to policies governing the privacy of patient health information.

INCLUSION STATEMENT

The medical field is in critical need of diverse people, ideas and skill sets if we are to address the health disparities within the WWAMI region and beyond. The University of Washington School of Medicine and DLMP serves a culturally, racially and socio-economically diverse WWAMI region. We consider diversity of students, staff and faculty to be a fundamental element of our success, and we promote diversity and inclusion in every aspect of our mission and practice. Our intention is to create a community that encourages participation and connection and values every individual's unique contributions, regardless of socioeconomic status, race, culture, ethnicity, language, nationality, sex, sexual orientation, gender identity and expression, spiritual practice, geography, mental and physical status or age. By appreciating the importance of inclusion, we acknowledge that the collective and individual talents, skills, and perspectives of members, constituent groups, and partners foster a culture of belonging, collaborative practice, innovation, and mutual respect.

UNIVERSITY LAND ACKNOWLEDGEMENT

The University of Washington acknowledges the Coast Salish peoples of this land, the land which touches the shared waters of all tribes and bands within the Suquamish, Tulalip and Muckleshoot nations.