

Requirements for the M.S. Degree Department of
Anatomical Sciences and Neurobiology University of
Louisville, School of Medicine

General Program Requirements

A full description of the general requirements for the Master's Degree is available in the current University of Louisville Graduate Catalog (<http://graduate.louisville.edu/>). Briefly, a minimum of 30 semester hours is required for the Master's degree of which 15 semester hours must be in courses of the major subject area. Continuous enrollment is required (registration in both the fall and spring semesters prior to reaching master's candidacy [defined below] and fall, spring and summer terms once admitted to candidacy). The minimum and maximum number of hours for full time study is 9 and 12, respectively, in the fall and spring semesters (6 and 12 for the summer).

A grade average of 3.0 or better must be maintained. The program faculty and unit dean monitor the GPA of every graduate student. The GPA includes courses taken at the graduate as well as the undergraduate level. At least one-half of the credits counted toward the degree must be 600 level courses or above, excluding research credit hours. Courses with numbers from 500 to 599, open to both advanced undergraduate and graduate students, can be taken by graduate students for graduate credit (additional course requirements must be completed). A maximum of 6 credit hours in undergraduate course work may be included (undergraduate courses beyond this 6-credit hour limit must be taken pass/fail). In addition, up to 6 credits of earned graduate semester hours can be transferred upon request from other accredited institutions, as long as the course work was taken within the past three years and a grade of B or better was earned (transferred grades do not get calculated in the student's GPA). Students must be enrolled during the semester in which they wish to graduate.

Course Work and Research Hours

The Department of Anatomical Sciences and Neurobiology (ASNB) has the following requirements, which are in agreement with the requirements for the M.S. degree as set by the School of Interdisciplinary and Graduate Studies (SIGS):

ASNB Course Requirements: Students must complete two of the following courses within the Department:

	<u>credit hours</u>
Gross Anatomy (ASNB 601)	6.5
Microscopic Anatomy (ASNB 603)	5
Human Embryology (ASNB 605)	3
Fundamentals of Neuroscience (ASNB 602)	4
Analytics in Biomedical Science (ASNB 622)	3
*Developmental Neurobiology (ASNB 617)	3
*Molecular Neurobiology (ASNB 614)	4

*Mammalian Sensory Systems (ASNB 630)	4
*Synaptic Organization of the Brain (ASNB 666)	3
Dental Microscopic Anatomy (ASNB 671)	5
Survey of Dental Gross & Neuroanatomy (ASNB 672)	7

* Offered on a rotational basis

Seminar: Anatomy Seminar (ASNB 606, 1 credit hr) must be taken for credit each semester prior to candidacy.

Electives: Additional courses (electives) within ASNB or graduate level courses in other departments may be taken to achieve the minimum requirement of 30 credit hours. The student should consult with his/her advisor on the selection of the appropriate electives.

Research Hours: Research credit hours may be taken as Laboratory Rotation (ASNB 618), which is graded on a pass/fail basis, prior to choosing a mentor. Once a mentor is chosen, research hours are taken as Original Investigation (ASNB 619), in which students earn a letter grade.

Candidacy: After completion of all requirements (as outlined above), students enter Master's Candidacy and must register for and maintain candidacy (MAST 600) until the successful defense of his/her thesis. This registration must be maintained year-round (fall, spring and summer semesters) until the degree is awarded. Once a student registers for MAST 600, he/she may not register for additional courses. The statute of limitation for obtaining a Master's degree is six years from the beginning of the program of study.

Original Research

Students will conduct their required research under the direction of a member or associate member of the Departmental faculty (hereafter known as the Thesis Advisor) who is also appointed to the School of Medicine Graduate Faculty at the level of Graduate Research Training Faculty. Faculty reserve the right to decline accepting a student.

During the first year of enrollment, students are required to visit the laboratories of potential Advisors to become acquainted with the faculty and the research opportunities available. Selection of an Advisor and the initiation of a research project should be concluded prior to the end of the first year at which time a written agreement, signed by both the student and Thesis Advisor, will be filed with the Graduate Program Director.

A thesis Master of Science degree requires the completion of a prescribed curriculum of course work, a written Thesis based on original research, and a successful oral defense. By its nature, original research does not always achieve positive results within a specific period of time. Therefore, no specific time can be given for the successful completion of this degree. Note that students are

advised to complete the majority of their course work in the first year so that optimal time is available in the second year to complete their research and thesis. Specifically, students will be required to engage full-time in research for the equivalent of two academic semesters and maintain steady and satisfactory progress. Faculty advisors submit Graduate Student Progress Report biannually to the ASNB Graduate Program Committee for review.

Thesis Committee

The composition requirements of, and specific deadlines related to, the Reading Committee appear in the Graduate School Bulletin. Briefly, the Reading Committee is composed of the student's Advisor and two other faculty one of which is from outside the department. All 3 must be members of the Graduate Faculty (see listing at <http://louisville.edu/hsc/gradandpostdoc/for-faculty/school-of-medicine-graduate-faculty-appointments>). The committee should be established shortly after the student and her/his Advisor agree on a specific research project. A Committee Form must be filed with the Director of Graduate Studies for ASNB. To avoid unnecessary delays, the student should regularly consult with her/his Thesis Advisor and committee members concerning the direction and progress of the research project. Once in Master's candidacy, the student should meet with their committee at least once per semester

Academic Probation

Any student with a point standing below 3.0 will be placed on academic probation until the student regains a 3.0 average or is dismissed. Students are ordinarily not permitted to continue on academic probation for more than one semester. Upon request of the student's graduate program, the unit dean may approve continuation beyond a single semester. A student who has received the grade of "C" (in a course that is a degree requirement), "D" or "F" may repeat that course upon the approval of the graduate program director and the unit dean. When a student repeats a course, the grade point average will be calculated on the basis of the last grade earned, although all previous grades will remain on the transcript.

Thesis Defense

The M.S. candidate will focus exclusively on completing their research projects and writing a thesis describing the results of their research. It is expected that the thesis should contain data sufficient for approximately one publishable manuscript. Upon completion of the thesis, the student will distribute a copy to each committee member. The committee will have two weeks to read the thesis and give approval to schedule a defense date or recommend changes that must be completed prior to scheduling a defense date. Once the thesis is approved by the committee, the student will schedule a Thesis Defense. SIGS requires that an announcement of the defense be posted at least two weeks prior

to the scheduled date. The defense will consist of a public oral presentation (approximately 30 minutes in length) of the research completed during the student's graduate training. Non-committee members in the audience will be allowed to ask questions. The general audience will then be dismissed and the student will defend his/her thesis before the committee. Completion of the M.S. degree will be determined by majority vote of the committee.

Electronic Format of Thesis

Deadlines for the submission are published in the schedule of classes. Students must follow The School of Interdisciplinary and Graduate Studies (SIGS) requirements for the format of their Master's thesis. The published *Guidelines for the Preparation and Processing of Theses/Dissertations* can be found at <https://louisville.app.box.com/s/cw0rwsqozb8ab4kbi2scmd7tfnpa89j8>. Any thesis received by SIGS that does not reasonably adhere to their guidelines will be returned to the student or committee chairperson.

SIGS requires the submission of a digital thesis. The digital document must be submitted in Adobe PDF format. The electronic version of the signature pages for the thesis can be found here:
<https://louisville.app.box.com/s/w21zqb0a142zov797r9x1j34e99vm9jb>