ANATOMICAL SCIENCES AND NEUROBIOLOGY (MS)

Master of Science in Anatomical Science and Neurobiology
Unit: School of Medicine (http://louisville.edu/medicine/) (GM)
Department: Anatomical Science and Neurobiology (http://louisville.edu/medicine/departments/anatomy/)
Program Webpage (https://louisville.edu/medicine/departments/anatomy/graduateprograms/)
Academic Plan Code(s): ASNBMS

Program Information
The Department of Anatomical Sciences and Neurobiology (ASNB)
Master of Science (MS) program is available to qualified individuals 
possessing a bachelor's degree from an accredited college or university. 
No specific undergraduate major is required, although some science 
background is required. Anatomical Sciences and Neurobiology has 
two program options available for students interested in earning the MS 
Degree:

The MS degree is offered to students interested in conducting original 
research and planning to continue their training and education in 
Anatomy and Neurobiology. This program option is available to all 
students accepted into the MS Program.

The MS degree program requires full-time study and it is expected that 
while participating in these programs, students will devote full-time effort 
toward completion of the degree requirements.

Admission Requirements
All students wishing to apply must submit an application to the Graduate 
School, Graduate Admissions with the following required documents:

- A formal application (http://louisville.edu/graduate/apply/) 

- Application fee.
- A minimum of two letters of recommendation.
- Official transcripts of all college work.
- A brief statement of purpose describing your interests and career 
goals.
- Official scores on the Medical College Admission Test (MCAT) 

At least one-half of the credits counted toward the degree must be 600-
level courses or above. This does not include nine (9) credit hours of 
research. The department has the following additional requirements:

Students will successfully complete at least two of the following 
courses within the department:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASNB 601</td>
<td>Gross Anatomy</td>
<td>6.5</td>
</tr>
<tr>
<td>ASNB 602</td>
<td>Fundamentals of Neuroscience</td>
<td>4</td>
</tr>
<tr>
<td>ASNB 605</td>
<td>Human Embryology</td>
<td>3</td>
</tr>
<tr>
<td>ASNB 617</td>
<td>Seminar on Developmental Neurobiology</td>
<td>3</td>
</tr>
<tr>
<td>ASNB 614</td>
<td>Molecular Neuroscience</td>
<td>4</td>
</tr>
<tr>
<td>ASNB 666</td>
<td>Synaptic Organization of the Central Nervous System</td>
<td>3</td>
</tr>
<tr>
<td>ASNB 630</td>
<td>Origin of Mammalian Sensory Systems and Comparative Neurobiology</td>
<td>4</td>
</tr>
<tr>
<td>ASNB 671</td>
<td>General and Oral Histology</td>
<td>5</td>
</tr>
<tr>
<td>ASNB 606</td>
<td>Anatomy Seminar (taken each semester prior to candidacy)</td>
<td>1/semester</td>
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Electives (see notes below) varies

Minimum Total Credit Hours 30

1 Offered on a rotational basis

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

Electives
Additional courses (electives) within Anatomical Sciences and 
Neurobiology program 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.

Additional Information for the MS Degree
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.
Original Research
Students will conduct this required research under the direction of a member or joint/associate member of the departmental faculty (hereafter known as the thesis advisor). 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.

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.

Thesis
By its nature, original research does not always achieve results within a specific period of time. Therefore, no specific time can be given for the successful completion of this degree. However, most MS students complete their degree in two years and must complete the degree requirements for the degree within six years of their admission to the MS program. Note that students are advised to complete the majority of their course work in the first year so that adequate time is allotted 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 Reports biannually to the Anatomical Sciences and Neurobiology graduate Program Committee for review.

Reading Committee
The composition requirements of, and specific deadlines related to, the Reading Committee appear in the Graduate Catalog. Briefly, the Reading Committee is composed of the student’s advisor and two other faculty, one of which is from a different department. All three must be members of the graduate faculty. This committee should be established shortly after the student and her/his advisor agree on a specific research project. 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.

Thesis Defense
The MS candidate will focus exclusively on completing their research projects and writing a thesis describing the results of their experiments. 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. The Graduate School requires that an announcement of the defense be posted at least