



INDIANA UNIVERSITY

DEPARTMENT OF ANATOMY AND CELL BIOLOGY
School of Medicine

MEMORANDUM

DATE: 26 March 2012

TO: Sherry Queener, Associate Dean IU Graduate School

FROM: Kathryn Jones, Chair, Anatomy & Cell Biology (ACB)
James Williams, Chair of ACB Graduate Studies Committee

RE: Revision of the new track for the Master of Science (M.S.) in ACB

The reviewers have asked some excellent questions about our proposed two tracks for the M.S. in Anatomy and Cell Biology. Our responses are here:

D860 (research) should be a requirement and not just an elective for students in the new track. We now state clearly the minimum number of research hours (12) for the Research Track.

How many students are anticipated to enter the new track? Admission numbers should be based on available faculty mentors.

We anticipate 1-2 students entering the new track each year. At present we have 28 faculty mentors with active laboratories and who are willing to take a masters student. Thus, we could conceivably have 14 masters students entering each year, with each mentor limited to one student, but at present we expect a much more modest number of students matriculating.

Since the two tracks require completely different course work, how will the program address the needs of students who want to switch to the other track after a semester or two? Will they have to start all over again?

Given the differences in requirements for the two tracks, we will emphasize to students ahead of time to consider carefully the track that they should choose. The most likely scenario for a change would be for a student who enters the Traditional Track, and who fails to do well in D850 Gross Anatomy. Such a student could petition to change to the Research Track, but the student would then be obligated to take all of the required courses for the Research Track. In such a case, the student could still complete the program in two years, but the total hours for the degree would increase to 35 credits.

The research track states a "thesis is normally required". Why the qualifier? Under what circumstances would a student not complete a thesis?

The qualifier exists because of our experience that some flexibility in closing out the degree is sometimes necessary. A possible circumstance in which a thesis would not be required would be one of personal hardship in the life of a student who otherwise had done an acceptable amount of research, as documented by papers submitted for publication. In such a case, the student and mentor could appeal to the Graduate Studies

Committee for a waiver of the thesis requirement in lieu of a paper or papers that would stand in its place. Such requests for waiver will be considered on a case-by-case basis.

Amended requirements for the two Tracks are set forth below

The M.S. degree in Anatomy and Cell Biology is offered in two tracks, which are compared side-by-side below.

Comparison of the two tracks for earning the Master of Science degree in Anatomy & Cell Biology

	Traditional Track	Research Track	Notes
Fall semester 1	D850 Gross Anatomy (8)	G715 Biomedical Science I. Biochemical Basis of Biological Processes (3) G716 Biomedical Science II. Molecular Biology and Genetics (3) G717 Biomedical Science III. Cellular Basis of Systems Biology (3)	Students in the Research Track may divide these classes between years 1 and 2 in order to allow for more research time during the first semester of year 1
Spring semester 1	D851 Histology (4) D861 Seminar (1) Electives (1-3)	G817 Molecular Basis of Cell Structure and Function (2) D861 Seminar (1) Electives (3-5)	
Summer sessions	Electives (3-6)	Electives (3-6)	
Fall semester 2	D852 Neuroscience and Clinical Neurology (5) G505 Responsible Conduct of Research (1) Electives (0-2)	G855 Experimental Design and Biostatistics (1) G505 Responsible Conduct of Research (1) Electives (4-6)	Both tracks include the G505 ethics course, but G855 statistics is required only for the Research Track
Spring semester 2	D861 Seminar (1) Electives (5-7)	D861 Seminar (1) Electives (5-7)	
Electives	Additional graduate-level courses, including up to 6 hours of D860 Research	Additional graduate-level courses, including at least 12 and not more than 15 hours of D860 Research	
Total credit hours	30 credit hours	30 credit hours	
Final project	Paper; thesis optional	Thesis normally required	difference between the tracks reflects expected difference in amount of research that will be done by the student
Final examination	Oral, based on paper	Oral, based on thesis	
Committee	Three members of ACB graduate faculty	Three members of ACB graduate faculty	

In summary, the Traditional Track includes 20 credit hours of required courses and does include a significant research project that results in a paper written by the student and defended before the student's three-member committee. The Research Track includes 15 credit hours of required courses, so there is room for students to do quite a bit more research than can be accomplished with the Traditional Track. Students in the Research Track are expected to begin their research work during their first semester, and overall it is expected that the Research Track students will complete a larger research project, which is fitting with their focus on entering a Ph.D. program after completing their master degree.