

Medical Sciences Specialized Master's Degree 2-Year Integrative Physiology Track

Introduction

This program will be similar to the Structural Anatomy track and will provide Medical Sciences students in good academic standing the opportunity for additional training in Integrative Physiology. Students accepted into the Track will have excelled in the requirements for the Medical Sciences degree, and expressed a strong interest in research experience. Students will be able to apply for this option during the spring semester of the first year.

The application process will include the identification of the student's possible major professor and a review of their academic credentials by the Integrative Physiology Graduate Program Committee. To transfer to the track the student must have at least a 3.00 GPA. Students will be selected based on academic performance, interviews with faculty, and project availability.

In addition to the Medical Sciences curriculum, students will undertake a research assistantship and produce a practicum report on the latter. Students will work with an advisory committee for the production of the practicum report. The student projects will be completed in spring semester of their 2nd year must complete 9 SCH of Internship Practicum. Additional course work will be optional. All students in the track must satisfy all other requirements of the Medical Sciences master's program as directed by the GSBS before graduation.

Justification

Benefits to Integrative Physiology Program / UNTHSC

The Structural Anatomy program successfully began a track for students in the Medical Sciences Master's program that allowed student to extend their time in the program as they pursued their next career stage. The students have benefitted from this program because it allows them to continue their professional development in a formal way while applying for professional school programs. Our goal is to create a more research based program in Integrative Physiology within the existing Specialized Master's program. This program gives us a pool of students who are very likely to be successful, while at the same time have different funding requirements / expectations compared with the other Master's Degree programs. In addition, some faculty will be more readily able to engage with master's level research projects compared to PhD level projects. Working with master's students will allow faculty from the Integrative Physiology Graduate Program to advance their research and increase the number of publications / grants submitted.

Benefits to the field

A cohort of students in the Integrative Physiology Track each year will advance research, education, and the scholarship of teaching and learning in Integrative Physiology.

Benefits to students

An increasing number of applicants to the Medical Sciences master's degree plan to apply to professional school after the completion of their first year curriculum, meaning that they plan for a "gap year" between their graduate studies and the start of professional school. Many of these student volunteer in laboratories during the first year of the program, having a formal program would allow them to enhance their training and their application by providing them with additional course work as well as research opportunities. The student will also benefit from having an advisory committee to supervise their project in addition to their PI.

Proposed Course Plan

YEAR 1 – Medical Sciences curriculum (38 SCH)

Year 2 Summer

Independent Research (1 elective) **6 SCH**

Year 2 Fall

Independent Research (1 elective) **9 SCH**

Year 2 Spring

Internship Practicum **9 SCH**

TOTAL: 62 SCH

(Physiology PhD 103, traditional MS 39)

Practicum projects would be Research assistantships.

Elective Courses could include:

- CVMD 5300 Cardiovascular Physiology
- CVMD 6320 Advances in Cardiovascular Physiology
- CVMD 6350 Integrative Physiology of Skeletal Muscle
- CVMD 6380 Neurohumoral Control of Autonomic Function
- CVMD 6385 Current Topics in Physiology
- CVMD 6390 Myocardial Metabolism: Concepts and Controversies
- BMSC 5170 Techniques in Biomedical Sciences
- BMSC 5310 - Scientific Communications
- PHRM 6400 – Functional Neuroscience
- PHRM 5470 Neuropharmacology
- BMSC 5250 Laboratory Management