

# MASTER OF SCIENCE (M.S.)

*The master's degree is offered only under special circumstances and upon recommendation by the program COGS and approval by the Graduate Dean.*

**IMPORTANT Note About the Doctor of Philosophy in Physiology Degree\***  
*This program is no longer accepting students at this time as this field of study is now the Physiology and Pharmacology discipline within the new Integrated Biomedical Sciences (IBMS) ([http://gsbs.uthscsa.edu/graduate\\_programs/integrated-biomedical-sciences](http://gsbs.uthscsa.edu/graduate_programs/integrated-biomedical-sciences)) Program. All information in this section of the Catalog is for the current Physiology students only.*

Physiology is the study of the structure, and function, and integration of the human body. In the pioneering days, research efforts were primarily directed at tissues and organs. This research continues to this day and has resulted in a comprehensive picture of the function of the human body. As molecular and genetic methods have come of age, physiologists have implemented these techniques to elucidate the molecular mechanisms that underlie physiological function. It is now clear that in order to develop a complete understanding of the normal and dysfunctional human body, we must ask questions at all levels, from the molecular to the cellular, to the organ, to the whole organism.

## Physiology Degree Requirements

A minimum of 30 credit hours and a minimum overall GPA of 3.0 is required for the M.S. degree. In addition, all master's candidates must register for PHYL 6098 Thesis for at least one semester in order to graduate. The student must successfully defend a thesis and be recommended by their program COGS for approval of their degree to the Dean of the Graduate School of Biomedical Sciences.

## Physiology Plan of Study

### First Year

Fall		Credit Hours
IBMS 5000	Fundamentals Of Biomedical Sciences	8
IBMS 5008	Lab Rotations	2
Total Credit Hours:		10.0

### First Year

Spring		Credit Hours
IBMS 5008	Lab Rotations	2
PHYL 5045	Mammalian Physiology <sup>1</sup>	4
Total Credit Hours:		6.0

### Second Year

Fall		Credit Hours
PATH 5021	Biostatistics	3
PHYL 6091 or CSAT 5095	Selected Topics Of Physiology	2-3
PHYL 6090	Seminar	1
PHYL 6097	Research	1-12
Total Credit Hours:		7.0-19.0

### Second Year

Spring		Credit Hours
INTD 6002	Ethics In Research	0.5
PHYL 6091	Selected Topics Of Physiology	2
PHYL 6090	Seminar	1
PHYL 6097	Research	1-12
Qualifying Exam (QE) proposal due prior to May 1st.		
Total Credit Hours:		4.5-15.5

### Third Year

Fall		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

### Third Year

Spring		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

### Fourth Year

Fall		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

### Fourth Year

Spring		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

### Fifth Year

Fall		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

### Fifth Year

Spring		Credit Hours
PHYL 6097	Research	1-12
PHYL 6090	Seminar	1
Total Credit Hours:		2.0-13.0

<sup>1</sup> Students may take the full course but are only required to take three out of the four modules (PHYL 5041 Excitable Membranes, PHYL 5042 Cardiovascular Physiology, PHYL 5043 Respiratory & Renal Physiology, and PHYL 5044 Metabolism/Hormones/GI System).

Other courses – Selected Topics in Physiology or coursework as desired by mentor.

All students are required to submit a thesis research proposal the Spring semester following passing the Qualifying Exam. The thesis research proposal is presented during the spring PHYL 6090 Seminar.

Students are required to attend Monday Physiology Department Seminars/Special Seminars followed by student roundtable luncheon.

## **Physiology Objectives/Program Outcomes**

1. The student will be able to critically review and interpret research literature.
2. The student will be able to demonstrate proficient understanding of core physiological principles.
3. The student will be able to communicate effectively in verbal presentations.
4. The student will be able to demonstrate the ability to conduct independent research.
5. The student will be able to effectively communicate in writing.