

BIOMEDICAL SCIENCES, PH.D.

Degree Requirements (62 Hours)

Graduate studies in biomedical science are designed to provide broad interdisciplinary training as well as specialization in an area of research. The Ph.D. degree requirements include an admission-to-candidacy examination, a comprehensive examination, participation in seminar programs and a dissertation based upon the student's research.

Following completion of required courses, the student must successfully complete a written comprehensive examination in the format of a research grant proposal. The student must also complete an oral defense of the comprehensive examination. The written and oral components will be evaluated by the student's Advisory Committee.

Ongoing seminar programs expose students to cutting-edge research by scientists at the School of Medicine, other departments of the University, and from around the nation and world. Students are required to present their own data in the Biomedical Sciences Graduate Seminar series. The students also are required to present once at the annual Morgan W. Newton Graduate Research Symposium. These seminars provide students with the opportunity to share their research findings with student and faculty colleagues. They also provide the student with valuable opportunities to enhance their oral presentation skills.

Biomedical science graduate students may elect to carry out research in such current areas of interest as cancer, reproductive biology, immunology, biodefense, complementary medicine, cell and molecular biology, neuroscience, microbiology, vision science, developmental biology, cardiovascular biology, AIDS and many more specialties. A detailed description of research activities within the biomedical science program may be found at the USC School of Medicine web site: www.med.sc.edu. Research performed by the student culminates in the PhD dissertation. The dissertation research is presented at a seminar open to all students and faculty of the university. The student also must successfully complete an oral defense of the dissertation to their Advisory Committee.

Molecular and Cellular Biology Concentration

The required core courses in the **molecular and cellular biology concentration** are:

Course	Title	Credits
BMSC 754 or BIOL 717	Biomedical Biochemistry I Biological Chemistry	4
BMSC 700	Introduction to Biomedical Research	1
BMSC 706	Responsible Conduct of Biomedical Research	2
BMSC 801	Seminar in Biomedical Science	2
BMSC 702 or BIOL 714	Medical Cell Biology I Advanced Cell Biology	4
Total Credit Hours		13

Neuroscience Concentration

The required core courses in the **neuroscience concentration** are:

Course	Title	Credits
PHPH 750	Fundamental Neuroscience I	4
PHPH 751	Fundamental Neuroscience II	4
BMSC 754	Biomedical Biochemistry I	4

BMSC 700	Introduction to Biomedical Research	1
BMSC 706	Responsible Conduct of Biomedical Research	2
BMSC 801	Seminar in Biomedical Science	2
Total Credit Hours		17