

CARDIOVASCULAR SCIENCE CERTIFICATE

Certificate Program Faculty Advising Committee (Mack, Mackman, Taylor, and Caron).

- Attendance at the MHI sponsored cardiovascular seminar series.
- Participation in the IVB/MHI annual research symposium.

The Certificate Program in Cardiovascular Science was established in 2013 to provide UNC Chapel Hill graduate students with more in-depth academic experience in the field of cardiovascular research. Certificate programs at UNC are offered by academic schools, departments, or curricula and consist of courses and other related experiences in specialized fields. Upon completion of program requirements, certificates are awarded in recognition of competence in a given skill, practice, or field of study. Certificates carry academic credit and are awarded in addition to graduate degrees granted by specific Departments or Curricula.

Participants in the Graduate Certificate Program in Cardiovascular Science will interact with a large number of investigators within UNC's McAllister Heart Institute (MHI) and will receive training in a variety of settings (classroom, research lab, seminars, symposia). The educational objectives of the program are as follows;

1. To provide students with a broad understanding of cardiovascular development, physiology, pharmacology, and disease.
2. To keep students abreast of recent advancements in cardiovascular research.
3. To provide practical training in cardiovascular research methods.
4. To increase students' exposure to career and funding opportunities in the cardiovascular field.

Course Requirements

Code	Title	Hours
Core Courses		6
A minimum of six credit hours from the following list:		
PATH 766	Current Topics in Cardiovascular Biology	3
PATH 767	Molecular and Cellular Biology of Cardiovascular Diseases	3
PATH 920	Seminar in Interdisciplinary Vascular Biology	1
Electives		3
A minimum of three credit hours from the following list: ¹		
PATH 713	Molecular and Cellular Pathophysiological Basis of Disease: Mechanisms of Disease	3
CBPH 852	Cell Biology and Physiology in Health and Disease I	4.5
CBPH 853	Cell Biology and Physiology in Health and Disease II	4.5
PHCO 701	Introduction to Molecular Pharmacology	3
PHCO 702	Principles of Pharmacology and Physiology	3
BIOL 624	Developmental Genetics	3
Minimum Hours		9

¹ Please note that this is not an exhaustive list; for inquiries about courses not on this list, contact your program directors.

Non-Course Certificate Requirements

- Completion of thesis work (including a successful defense) with an MHI-associated faculty member **or** Completion of a thesis that contains a significant cardiovascular component as judged by the