

Epidemiology — Ph.D.

Program Director

Nicole Gatto

The aim of this program is to prepare students with a strong background in a health science such as medicine or public health for a career in research and teaching at academic and non-academic institutions, governmental agencies, research institutes, non-profit organizations or private industry. The curriculum is designed to fulfill program requirements while addressing the nature of the student's proposed research program, as well as the student's interest and academic needs as determined by advisors. Ph.D. degree students are expected to write scientific journal articles as part of their training. In addition to participating as a teaching assistant and/or a laboratory assistant, the student will also deliver course lectures. The student is responsible for identifying an appropriate faculty member to serve as his or her research mentor.

Learning objectives

Students completing the Ph.D. program in epidemiology are expected to develop high level knowledge of epidemiologic theory and methodology and apply this knowledge to the design, conduct, statistical analysis and interpretation of data from population-based research in the health sciences. The graduate of this program will be able to:

- Demonstrate knowledge of human disease etiology and apply this knowledge to epidemiologic investigations.
- Interpret descriptive epidemiologic data to generate hypotheses in the examination of possible risk factors for disease.
- Critically evaluate the scientific literature pertaining to exposure and disease relationships, study designs, measures of association, and issues of bias, confounding and effect modification, and to identify gaps in knowledge.
- Utilize classical, modern and innovative epidemiologic methods in designing studies.
- Apply quantitative skills to analyze and synthesize epidemiologic data, and use available statistical software packages
- Communicate population-based study results orally and in written formats
- Design and present an epidemiologic study resulting in publishable manuscripts
- Develop research proposals using National Institutes of Health (NIH) guidelines

Educational effectiveness indicators

- Comprehensive examination
- Concept paper
- Dissertation proposal
- Dissertation
- Submittable papers
- Published paper
- Course evaluations of student instructor

Prerequisite

Doctoral-level health professional degree
or

Master's degree in related field, with documented research experience (such as published or submitted paper) and the following courses:

- Anatomy
- Physiology
- Pathology
- Histology
- Microbiology
- Biochemistry
- EPDM 509 Principles of Epidemiology (or equivalent)
- STAT 521 Biostatistics I (or equivalent)
- STAT 548 Analytical Applications of SAS (or equivalent)

Teaching assistantship/Laboratory assistantship

Ph.D. degree students are required to participate as teaching or laboratory assistants in introductory and advanced methodological courses. Further, they are expected to obtain experience in lecturing by developing and delivering at least one class lecture during their doctoral training.

Program requirements

Advanced standing from previous degrees considered.

Epidemiologic methods		
EPDM 510	Epidemiologic Methods I	3
EPDM 511	Epidemiologic Methods II	3
EPDM 512	Epidemiologic Methods III	3
EPDM 515	Clinical Trials	3
EPDM 635A	Epidemiological Studies of Seventh-day Adventists A	1
EPDM 635B	Epidemiological Studies of Seventh-day Adventists B	1
STAT 515	Grant- and Contract-Proposal Writing	3
STAT 522	Biostatistics II	4
STAT 564	Survey and Advanced Research Methods	3
Descriptive epidemiology		
Choose from the following:		12
EPDM 544	Epidemiology of Infectious Disease	
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement	
EPDM 565	Epidemiology of Cancer	
EPDM 566	Epidemiology of Cardiovascular Disease	
EPDM 567	Epidemiology of Aging	
EPDM 588	Environmental and Occupational Epidemiology	
EPDM 625	Special Topics in Epidemiology	
Religion		
RELR 5__	Graduate-level relational	3
RELE 525	Ethics for Scientists	3
or RELE 534	Ethical Issues in Public Health	
RELT 615	Seminar in Philosophy of Religion	3
or RELT 617	Seminar in Religion and the Sciences	
Other required courses		
EPDM 606	Doctoral Seminar in Epidemiology ¹	9
Cognates		

Elective ²		6
Research and dissertation		
EPDM 685	Preliminary Research Experience	2
EPDM 694	Research ³	6-8
EPDM 697	Dissertation Proposal	3-5
EPDM 698	Dissertation ³	12
Total Units		83-87

¹ 1 unit per every fall, winter, and spring quarters in program, minimum of 9 units

² Courses chosen in consultation with advisor; may be from a different discipline, school or institution.

³ Repeated registrations required to fulfill total units

Additional requirements

Forums/Seminars

Doctoral students are required to attend a minimum of ten Epidemiology, Biostatistics, and/or Adventist Health Study seminars during each year of their program.

Culminating experience

As a part of the culminating experience, the student completes three publishable scientific papers for submission to peer reviewed journals (of which one must be accepted for publication), successfully defends dissertation, and submits a committee approved dissertation manuscript. Further details provided in the Doctoral Handbook.

Normal time to complete the program

3.33 years based on less than full-time enrollment