

PH.D. IN ENVIRONMENTAL HEALTH, EPIDEMIOLOGY SPECIALIZATION

The field of epidemiology is defined as the study of the distribution and determinants of disease, injury, and health in populations, with the ultimate goal of disease prevention and control. Epidemiology is one of the core sciences of public health and serves as the foundation for the design and analysis of research studies. The Ph.D. in Environmental Health, Epidemiology Specialization offers both theoretical knowledge and applied experiences in epidemiology, with a focus on quantitative methods. The skills and knowledge gained in the program can be applied to a broad range of risk factors and health outcomes.

[Learn more about the Epidemiology Specialization on the Department of Environmental and Radiological Health Sciences website.](#)

[Students interested in graduate work should refer to the Graduate and Professional Bulletin.](#)

Learning Objectives

Students successfully completing this degree will be able to:

1. Explain and apply principles and epidemiology including measures of disease frequency, study design, measures of association and potential impact, bias, confounding, and effect modification/interaction.
2. Assess epidemiologic research by analyzing the appropriateness of study design, the quality of exposure/outcome measures and statistical analyses, identifying strengths and weaknesses, discussing potential sources of bias and their potential impact on the study, and interpreting results.
3. Select appropriate statistical techniques given the data, study design, sample size, hypotheses, and other relevant factors.
4. Analyze an epidemiologic dataset using at least one computer-aided tool.
5. Explain and apply ethical principles pertaining to epidemiologic research.
6. Formulate, present (in a written and oral format), and defend a clearly-defined and scientifically appropriate research proposal.
7. Formulate and defend a clear description of the rationale, methods, results, and interpretation of an original and independent epidemiologic investigation (dissertation) that would be suitable for publication in a peer-reviewed journal and provide a meaningful contribution to scientific knowledge.
8. Explain the biologic mechanisms of disease relevant to epidemiology and public health.
9. Explain the broader context and relevance of epidemiologic interdisciplinary research for policy and other realms.
10. Summarize the major topics and issues in environmental health.

Requirements Effective Fall 2023

Code	Title	Credits
ERHS 501	Biological Basis of Public Health	2
ERHS 520	Environmental and Occupational Health Issues	3
or PBHL 530	Environmental Public Health and Policy	
ERHS 532	Epidemiologic Methods	3
or PBHL 570	Epidemiology for Public Health	
ERHS 535	R Programming for Research	3
ERHS 573	Design and Conduct of Epidemiologic Research	2
ERHS 640	Advanced Epidemiology Methods I	3
ERHS 658	Environmental and Occupational Epidemiology	2
ERHS 693A	Research Seminar: Epidemiology ¹	3
ERHS 732	Advanced Epidemiological Analysis	2
ERHS 740	Advanced Epidemiology Methods II	3
ERHS 750	Grant Writing for Environmental Health	2
ERHS 760	Interpreting Epidemiologic Evidence	2
ERHS 784	Supervised College Teaching	1
ERHS 799	Dissertation ²	21-27
Statistics courses at the 500-level or above ³		8
Electives ^{2,3}		6-12
Program Total Credits:		72

A minimum of 72 credits are required to complete this program.

¹ ERHS 693A should be taken three times for a total of 3 credits.

² Minimum of 21 dissertation credits and 6 elective credits; additional credits in these categories can be used to meet the 72-credit minimum required for the program.

³ Requires approval by advisor.

Requirements for All Graduate Degrees

For more information, please visit Requirements for All Graduate Degrees (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/graduate-study/procedures-requirements-all-degrees/>) in the Graduate and Professional Bulletin (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/>).

Summary of Procedures for the Master's and Doctoral Degrees

NOTE: Each semester the Graduate School publishes a schedule of deadlines. Deadlines are available on the Graduate School website (<https://graduateschool.colostate.edu/deadline-dates/>). Students should consult this schedule whenever they approach important steps in their careers.

Forms (<https://graduateschool.colostate.edu/forms/>) are available online.

Step	Due Date
1. Application for admission (online)	Six months before first registration
2. Diagnostic examination when required	Before first registration
3. Appointment of advisor	Before first registration
4. Selection of graduate committee	Before the time of fourth regular semester registration
5. Filing of program of study (GS Form 6)	Before the time of fourth regular semester registration
6. Preliminary examination (Ph.D. and PD)	Two terms prior to final examination
7. Report of preliminary examination (GS Form 16) - (Ph.D. and PD)	Within two working days after results are known
8. Changes in committee (GS Form 9A)	When change is made
9. Application for Graduation (GS Form 25)	Refer to published deadlines from the Graduate School Website
9a. Reapplication for Graduation (online)	Failure to graduate requires Reapplication for Graduation (online) for the next time term for which you are applying
10. Submit thesis or dissertation to committee	At least two weeks prior to the examination or at the discretion of the graduate committee
11. Final examination	Refer to published deadlines from the Graduate School Website
12. Report of final examination (GS Form 24)	Within two working days after results are known; refer to published deadlines from the Graduate School website
13. Submit a signed Thesis/ Dissertation Submission Form (GS Form 30) to the Graduate School and Submit the Survey of Earned Doctorates (Ph.D. only) prior to submitting the electronic thesis/ dissertation	Refer to published deadlines from the Graduate School website.
14. Submit the thesis/dissertation electronically	Refer to published deadlines from the Graduate School website
15. Graduation	Ceremony information is available from the Graduate School website