MASTER OF SCIENCE IN ENVIRONMENTAL HEALTH, PLAN A, EPIDEMIOLOGY SPECIALIZATION

The field of epidemiology is defined as the study of the distribution and determinants of disease, injury, and health in populations, with an 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 Master of Science in Environmental Health, Plan A, 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 are applied to a broad range of risk factors and health outcomes.

Learn more about the Epidemiology Specialization on the Department of Environmental and Health Sciences website.

Students interested in graduate work should refer to the Graduate and Professional Bulletin.

Learning Objectives

Upon successful completion, students 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 and defend a clear description of the rationale, methods, results, and interpretation of an epidemiologic investigation (thesis) that would be suitable for publication in a peer-reviewed journal.
7. Explain the biologic mechanisms of disease relevant to epidemiology and public health.
8. Explain the broader context and relevance of epidemiologic interdisciplinary research for policy and other realms.
9. Summarize the major topics and issues in environmental health.