

# STAT 323: Epidemiology: A Practical Approach to Research Methods

This course offers an introduction to the concepts and methodologies of population-based epidemiologic principles. This is an introductory course for biomedical researchers and medical professionals who are not majoring in Epidemiology. The lectures will cover the following topics: (1) Epidemiology key terms and core concepts; (2) Calculation and interpretation of measures of disease frequency and measures of association; (3) Evaluation of epidemiologic study designs and their restrictions; (4) Applications of epidemiologic methods in different fields of public health. Upon completion of the course, students will have a comprehensive understanding of the investigation, causality, and inference in public health using the practical epidemiologic methods.

## Learning Objectives

- Calculate basic epidemiology measures using hospital and clinical data
- Understand the research methods and causal reasoning based on developing and testing hypotheses in epidemiology
- Conduct appropriate inferences from epidemiologic data and apply analytical skills using modern statistical approaches
- Identify the causes and factors that may influence the occurrence of pandemic disease and health condition
- Learn to communicate epidemiologic information with professional and general audiences

**Credits:** 2

**Class Type:** Graduate Course

**Program:** Bioinformatics and Data Science

**Availability:** Spring 2022

**Session:** Session B