Master of Public Health (MPH)
Biostatistics (BIOS)

Concentration Competencies and Learning Outcomes

MPH-BIOS Competency 1

C1: Foundation - Translate mathematical and statistical foundations to biostatistics.

> **LO.1.1:** Relate theories of probability to health applications.

> **LO. 1.2:** Relate theories of inference to health applications

MPH-BIOS Competency 2

C2: Research Design - Design and critically evaluate study protocols in the health sciences.

> **LO.2.1:** Identify studies involving a certain type of design.

> **LO.2.2:** Identify the appropriate statistical method(s) given a study in the health sciences

> **LO.2.3:** Identify limitations and alternative approaches given a study in the health sciences.

MPH-BIOS Competency 3

C3: Data Management - Design and apply comprehensive data management strategies for health-related studies.

> **LO.3.1:** Efficiently use statistical software for data management.

> **LO.3.2:** Prepare raw data for statistical analysis.

MPH-BIOS Competency 4

C 4: Data Analysis - Identify and apply suitable statistical methods for data analyses.

> **LO.4.1:** Apply descriptive statistics to meaningfully summarize data

> **LO.4.2:** Choose and apply the appropriate statistical methods to analyze data

> **LO.4.3:** Conduct data analysis using statistical software

MPH-BIOS Competency 5
C 5: Communication, Collaboration, and Consultation - Effectively communicate statistical information to health practitioners and professionals.

> **LO.5.1:** Translate data into informative tables, charts, and/or reports for addressing health issues.

> **LO.5.2:** Communicate statistical information to educated lay audiences.

> **LO.5.3:** Collaborate as a member of an inter-professional team.

MPH-BIOS Competency 6
C 6: Ethical Practice - Understand and abide by strict ethical standards in health-related studies.

> **LO.6.1:** Understand and abide by the ethical guidelines for statistical practice.