BIOSTATISTICS PROGRAM COMPETENCIES

MASTER OF SCIENCE COMPETENCIES

**MS-BST 1:** Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.

**MS-BST 2:** Understand issues of data collection, analysis and study management.

**MS-BST 3:** Propose and complete research project appropriate for addressing a specific research question in statistics or in an applied field.

**MS-BST 4:** Effectively communicate research results orally and in writing across the spectrum of scientific venues.

**MS-BST 5:** Critically evaluate published research.

MASTER OF SCIENCE IN PUBLIC HEALTH COMPETENCIES

**MSPH-BST 1:** Design, conduct, and evaluate research studies.

**MSPH-BST 2:** Understand issues of data collection, analysis and study management.

**MSPH-BST 3:** Demonstrate an understanding of the ethics of scientific research.

**MSPH-BST 4:** Formulate a proposal for a research study, present it, and revise it appropriately for implementation.

**MSPH-BST 5:** Effectively communicate research results orally and in writing across the spectrum of scientific venues.

**MSPH-BST 6:** Critically evaluate published research.

**MSPH-BST 7:** Demonstrate application of biostatistics in an area of specialization.
DOCTOR OF PUBLIC HEALTH COMPETENCIES

UAB SOPH Core DrPH Competencies

**DRPH 1:** Demonstrate in-depth understanding of the core areas of public health theory, policy, and practice.

**DRPH 2:** Analyze policy issues and challenges in public health using credible research designs and statistical methods.

**DRPH 3:** Research relevant literature and synthesize the findings.

**DRPH 4:** Evaluate information to develop appropriate strategies to address public health challenges in an area of specialization.

**DRPH 5:** Implement interventions to address public health challenges.

**DRPH 6:** Demonstrate skill in oral and written communication to varied audiences.

Biostatistics DrPH Competencies

**DrPH-BST 1:** Apply advanced biostatistical techniques to public health research.

**DrPH-BST 2:** Identify and critically evaluate biostatistical techniques in an area of specialization.

**DrPH-BST 3:** Effectively design a public health research proposal, design and manage the database, and perform the analysis of the research in a public health area of specialization.

**DrPH-BST 4:** Demonstrate an understanding of probability, estimation, and inference as applied to design and analysis of public health research.

**DrPH-BST 5:** Effectively communicate the public health implications of an applied biostatistical analysis.
DOCTOR OF PHILOSOPHY COMPETENCIES

PHD-BST 1: Explain the theoretical justifications for statistical methodologies.

PHD-BST 2: Apply statistical techniques with rigorous evaluation of any required distributional assumptions.

PHD-BST 3: Design scientific investigations with collaborators.

PHD-BST 4: Critically evaluate the statistical literature relevant to a specific statistical method or design.

PHD-BST 5: Write publishable articles that advance public health and/or statistical theory/methodology.