BIOSTATISTICS (MS)

Graduate Committee

Dr. Christopher Wichman (Program Director), Dr. Ying Zhang, Dr. Su Chen, Dr. Hongying Dai, Dr. Ran Dai, Dr. James Dong, Dr. Yeongjin Gwon, Dr. Gleb Haynatzki, Dr. Yunju Im, Dr. Lynette Smith, Dr. Fang Yu, Dr. Cheng Zheng.

Program Description

The M.S. in Biostatistics is designed to provide students with instruction and experience in data management and computing, statistical reasoning, scientific logic, data analysis, and data interpretation. These skills are essential to prepare students to work as biostatisticians or health data analysts in public and private research institutes, or the health care industry throughout Nebraska, the country, and the world. Students may also choose careers as scientists / data analysts in non-health care related industries, such as banking and insurance. The program curriculum is consistent with the core competencies of Biostatistics and strongly emphasizes the acquisition of applied skills and the theoretical mathematical foundations of Biostatistics. The primary focus is in the following areas of Biostatistics: study design; survival analysis; generalized linear models; longitudinal analysis; computing; and biostatistical learning (machine learning / AI).

Code	Title	Credit Hours
Biostatistics Core (8 courses/24 credits) - Thesis and Non-Thesis		
BIOS 801	BIOSTATISTICS THEORY I	3
BIOS 802	BIOSTATISTICS THEORY II	3
BIOS 810	INTRODUCTION TO SAS PROGRAMMING	3
BIOS 815	BIOSTATISTICAL COMPUTING	3
BIOS 818	BIOSTATISTICAL LINEAR MODELS: METHODS AND APPLICATION	3
BIOS 823	CATEGORICAL DATA ANALYSIS	3
BIOS 824	SURVIVAL DATA ANALYSIS	3
BIOS 829	INTRODUCTION TO BIOSTATISTICAL MACHINE LEARNING	3
Health Care Core (1 course/3 credits)		
HPRO 830	FOUNDATIONS OF PUBLIC HEALTH	3

Code	Title	Credit Hours
Non-Thesis Electives (9 credit hours – at least 6 credit hours in Biostatistics)		
BIOS 825	CORRELATED DATA ANALYSIS	3
BIOS 835	DESIGN OF MEDICAL HEALTH STUDIES	3
EPI 820	EPIDEMIOLOGY IN PUBLIC HEALTH	3
EPI 845	EPIDEMIOLOGIC METHODS 1	3
EPI 945	ANALYTICAL EPIDEMIOLOGIC METHODS	3

Code	Title	Credit Hours
Thesis Electives (6 credit hours – at least 3 credit hours in Biostatistics)		
BIOS 825	CORRELATED DATA ANALYSIS	3
BIOS 835	DESIGN OF MEDICAL HEALTH STUDIES	3
EPI 820	EPIDEMIOLOGY IN PUBLIC HEALTH	3
EPI 845	EPIDEMIOLOGIC METHODS 1	3
EPI 945	ANALYTICAL EPIDEMIOLOGIC METHODS	3
Required for Thesis Track (in addition to 6 elective credit hours)		
BIOS 899	MASTER'S THESIS	3