DATA ANALYTICS & OPTIMIZATION

With the big data analytics trend, skills that encompass both data management and business analysis are in great demand. The Data Analytics and Optimization track focuses on using large data sets, computer models, and optimization methods to support data-driven decision-making. This powerful combination of big data analytics with optimization has been successfully demonstrated and will be increasingly needed in the management of:

- healthcare and transportation networks
- retail and financial decision making
- supply chain and logistics systems
- large scale information systems
- manufacturing operations
- energy and smart grids
- social networks

The ISE Data Analytics and Optimization track is an undergraduate elective track designed with a comprehensive and applied curriculum providing students with a strong background in data science, computer science, and optimization methods. The track requires a sequence of courses in computer science, operations research, cognitive engineering, and probability and statistics. Students will be prepared in the use of critical tool sets necessary for managing, visualizing, and extracting useful information from big data, as well as powerful skill sets such for modeling, simulation, optimization, and decision analysis in order to support efficient data-driven decision making.

Entry into this track is competitive, as there is only space for a limited number of students in the required courses. Students will be admitted based on EPHR as well as performance in programming, math, and statistics courses.

This track requires students to complete a minimum of 17 credit hours.

REQUIRED ELECTIVES:

CSE 2221	4	Software I: Software Components
CSE 2231	4	Software II: Software Development and Design
CSE 2321	3	Foundations I: Discrete Structures
CSE 3241	3	Introduction to Database Systems
CSE 5243	3	Introduction to Data Mining

Students who were admitted to OSU prior to Autumn 2015 should contact their Academic Advisor
for information about their course requirements in this track.