ROCHESTER UNIVERSITY

DATA ANALYTICS

Data scientists develop and implement a set of techniques or analytics applications to transform raw data into meaningful information using data-oriented programming languages and visualization software. They apply data mining, data modeling, natural language processing and machine learning to extract and analyze information from large structured and unstructured datasets. They are also able to visualize, interpret and report data findings.

Graduates will possess a comprehensive knowledge base of statistical concepts. They will be able to evaluate and apply fundamental statistical concepts in the context of a broad range of data problems, including Bayes Theorem, common statistical tests and biases, inference and causal inference, and hypothesis testing.

YOU HAVE AN EPIC STORY TO TELL

College should be more than just getting a degree. At RU, we prepare you for your professional and personal future. Our combination of general education classes — in addition to your major courses — will give you **equipment for living** so that you can live an **EPIC** life.

EXPLORE. Understand the world in all its beauty, diversity and complexity.

PREPARE. Gain knowledge and skills to serve in your business or organization.

INTEGRATE. Connect and apply knowledge in your professional and personal life.

CALLING. Discern what God has called you to be and do.

WHAT CAN I STUDY?

Students in this major will develop and implement a set of techniques or analytics applications to transform raw data into meaningful information using data-oriented programming languages. They will take classes such as:

- Foundations of Data Analytics
- Principles and Techniques of Data Analytics
- Data Analytics Internship
- Introduction to Computing
- Introduction to Programming
- Database Concepts
- Data Structures
- Finite Mathematics
- Elementary Statistics
- Calculus and Analytic Geometry
- And other classes in science, statistics or research

WHAT WILL I LEARN?

The following learning outcomes are linked to assignments and activities throughout this program. These learning objectives are specific to the Data Analytics and Computer Science classes within the program; and thus, do not include courses in mathematics.

Graduates will possess a comprehensive knowledge base of statistical concepts: They will be able to evaluate and apply fundamental statistical concepts in the context of a broad range of data problems, including Bayes Theorem, common statistical tests and biases, inference and causal inference and hypothesis testing.
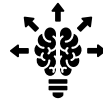
Graduates will be able to apply and evaluate machine learning algorithms in a business problem context, with an emphasis on selecting predictive modeling only when appropriate. Further, they will be able to perform feature engineering and data preprocessing in order to improve the accuracy and efficacy of predictive models.

Graduates will be able to perform in-depth exploratory analysis to form hypotheses. They will be able to design experiments to answer causal questions and evaluate the results of the experiments.

Graduates will be able to communicate effectively in written, oral and visual forms and use visualization techniques to communicate insights.

Graduates have considered their vocational goals and are reflective of how these may be embodied in their professional and/or personal lives.

WHAT ABOUT MY CAREER?

After you graduate with a data analytics degree, you can pursue positions in:

- Data Engineer
- Research Analyst
- Data Scientist
- Software Engineer
- Product Manager

MISSION

Rochester University prepares students for professional and personal success as they serve in God's world.

WHAT OUR ALUMNI SAY:

KATY PEACOCK
Class of 2013

"The small class sizes offer access to professors that you don't get at larger schools. This allowed me to learn according to my individual interests, strengths and weaknesses. It also meant I was able to pursue research opportunities that ultimately helped me achieve my goal of attending medical school and has given me a knowledge base that has served me well.

COMBINING CURIOSITY & CRITICAL ANALYSIS WITH CHRISTIAN VALUES

ROCHESTER
UNIVERSITY