Data Analytics (BS)

This program is offered by the George Herbert Walker School of Business and Technology/Computer and Information Sciences Department. It is available online and at the St. Louis main campus.

Program Description

Data analytics is widely embraced by companies to help executives in decision making. It allows companies to more accurately know what the business is doing and aims at enabling rich insights and better decision making. Data analytics encompasses a wide range of technologies to support analyzing business data, transforming information and generating intelligence. Technologies play important roles in the data analytics process and form the foundation of its architecture. More and more companies need knowledgeable people to perform analysis and gain the company's success through analytically focused strategies. There is a constant demand for data analysis and information analysts who can understand database, query data, perform activities in analytical processing, statistical analysis, forecasting and data mining. The program is created to meet this demand by helping students understand underlying concepts and methodologies that are used in the data analytics process. Students in the program will learn various technologies that support effective business decision making in today's increasingly competitive environment.

Students in the program will study concepts and principles in data analytics and the underlying building technologies. Students will experience a broad category of applications and techniques for gathering, storing, analyzing and providing access to data to help business users perform better decision making. The skill set learned from the program will enable students to take challenges in the process of transforming data to meaningful information and identifying new opportunities for the organization. This will better position them toward professional accomplishment in their lifelong learning process.

Learning Outcomes

- Students will be able to demonstrate critical thinking skills in the field of data analytics.
- Students will be able to demonstrate the ability to solve problems related to the program content.
- Students will be able to demonstrate an understanding of the concepts and principles of software systems.
- Students will be able to analyze, design and document a system component using appropriate data analytical techniques and models.
- Students will be able to demonstrate the ability to incorporate various data analytics elements.
- Students will be able to demonstrate an understanding of fundamental principles of data analytics systems and technologies.

Degree Requirements

For information on the general requirements for a degree, see Baccalaureate Degree Requirements under the Academic Policies and Information section of this catalog.

A minimum of 120 credit hours consisting of the following:

- 42 required credit hours
- Applicable University Global Citizenship Program hours
- Elective credit hours

At least 21 of the required 42 credit hours must be taken at Webster University. All upper-level courses must be taken at Webster University.

Required Courses

- STAT 1100 Descriptive Statistics (3 hours)
- MATH 1360 Business Mathematics (3 hours)
- CSIS 1500 Introduction to Business Technologies (3 hours)
- CSIS 1700 Data Exploration (3 hours)
- CSIS 2300 Electronic Commerce (3 hours)
- CSIS 2500 Introduction to Data Science (3 hours)
- CSIS 2800 Data Visualization Fundamentals (3 hours)
- CSIS 3300 R Programming for Data Analytics (3 hours)
- CSIS 3410 Information Analysis (3 hours)
- CSIS 3700 Data Analytics Methods (3 hours)
- CSIS 4300 Database Systems (3 hours)
- CSIS 4310 Decision Support Systems (3 hours)
- CSIS 4320 Data Warehousing (3 hours)
- CSIS 4330 Machine Learning for Data Analytics (3 hours)

All core courses are available online.

Majors