Data Analytics (MS)

This program is offered by the George Herbert Walker School of Business and Technology and is available at the St. Louis main campus and San Antonio.

Program Description

Data analytics is the science of interpreting vast amounts of complex data to make sound decisions. The MS in data analytics focuses on developing and applying data analytics skills to fulfill significant needs in the business community. Students will integrate business concepts as well as key methods and tools for large-size data modeling, analysis and solving challenging problems involving "Big Data." The program provides a strong foundation in data analytics by bringing together salient techniques from statistics, mathematics, computer science, business, accounting, finance and management in a realistic business context.

Learning Outcomes

By the end of the program, students will be able to:

- Compose query statements to implement the data definition and manipulation.
- Construct multidimensional data cubes analysis.
- Apply effective methods for analyzing, presenting and using informational data.
- Develop meaningful reports and visualization of business data analytics appropriate to a technical and non-technical audience.
- Articulate forecasting and predictive models for real-world analytical applications.

Program Curriculum

The 36 credit hours for the MS in data analytics requires the following courses:

Introductory Courses

- BUSN 5200 Basic Finance for Managers (3 hours)
- BUSN 5760 Applied Business Statistics (3 hours)
- CSDA 5110 Analytics Programming with R (3 hours)
- CSDA 5130 Social and Ethical Issues in Analytics (3 hours)
- CSDA 5210 Databases and Data Warehouses (3 hours)

Reinforcement Courses

- CSDA 5230 Data Analytics (3 hours)
  or CSDA 5240 Database Programming (3 hours)
- CSDA 5310 Data Visualization (3 hours)
- CSDA 5320 Analytics Applications using Python (3 hours)
- CSDA 5330 Machine Learning for Predictive Analytics.(3 hours)

Proficiency Courses

- CSDA 5410 Time Series Analytics (3 hours)
- CSDA 5430 Predictive Analytics (3 hours)

Subject Specific Courses

- CSDA 6010 Analytics Practicum (3 hours)

Course Substitution

Applicants to the data analytics program may take substitute courses for BUSN 5200 Basic Finance for Managers and BUSN 5760 Applied Business Statistics based on successful completion of prior academic work. Work experience will not be considered in lieu of academic coursework. The following rules apply to these substitutions:

BUSN 5200 Basic Finance for Managers

- Students that have completed an undergraduate or graduate degree in finance or accounting **or** who have completed one undergraduate or higher course in finance or accounting from an accredited university in the past five years with a grade of "B" or better may substitute BUSN 5200 with the following:
  - One 3-credit-hour graduate level finance, business accounting or cybersecurity course from Webster University, provided the prerequisites for that course are met. Students should consult with their academic advisor for substitute course selection and approval.
  - Students must meet the stated hours and other core course requirements for the degree.

BUSN 5760 Applied Business Statistics

- Students who have completed an undergraduate or graduate degree in statistics **or** who have completed one undergraduate or higher course in statistics from an accredited university in the past five years with a grade of "B" or better may substitute BUSN 5760 with the following:
  - One 3-credit-hour graduate level cybersecurity or business accounting course from Webster University, provided the prerequisites for that course are met. Students should consult with their academic advisor for substitute course selection and approval.
  - Students must meet the stated hours and other core course requirements for the degree.

Admission

See the Admission section of this catalog for general admission requirements. Students interested in applying must submit their application online at www.webster.edu/apply. Transcripts should be sent from your institution electronically to transcripts@webster.edu. If this service is not available, send transcripts to:

Office of Admission
Webster University
470 E. Lockwood Ave.
St. Louis, MO 63119

Additional Requirements

Requirements for admission to the MS in data analytics program include:

Preliminary Skills and Prerequisite Courses

To ensure adequate preparation in both information technology and business, an applicant to this data analytics program must have basic business knowledge and basic information technology knowledge. The Walker School of Business & Technology accepts individuals who have successfully graduated from undergraduate computer science, information systems, mathematics, business administration, management or similar degree programs and possess the basic business, mathematics and information technology knowledge.

Requirements

- Official transcripts from all of your previously attended colleges and universities (including community colleges and summer courses).

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- To be eligible for this program, students must have either:
  - Earned an undergraduate degree in business, management, computer science, statistics, economics, biology (BS), chemistry (BS) or physics (BS).
    OR
  - Completed college-level algebra and statistics, in the last 5 years, with a B or better in both courses.
  - Have work experience that includes business, database and analytics.
- A phone interview or essay may be required.
- It is preferred that students have a business background and strong analytical skills.

Advancement to Candidacy

Students are admitted to their graduate program upon completion of all admission requirements. Students are advanced to candidacy status after successfully completing 12 credit hours with a cumulative GPA of 3.0 or higher. In specialized programs, courses required as prerequisites to the program do not count toward the 12 credit hours required for advancement.