New Program Report

Date Submitted:
07/17/2023

Institution
Webster University

Site Information

Implementation Date:
6/1/2023 12:00:00 AM

Added Site(s):

Selected Site(s):

Webster University, 470 East Lockwood, St. Louis, MO, 63119-3194

CIP Information

CIP Code:
279999

CIP Description:
Any instructional program in mathematics and statistics not listed above.

CIP Program Title:
Mathematics and Statistics, Other

Institution Program Title:
Data Analytics

Degree Level/Type

Degree Level:
Master Degree

Degree Type:
Master of Science

Options Added:

Collaborative Program**:**
N

Mode of Delivery

Current Mode of Delivery

Classroom

Student Preparation

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Special Admissions Procedure or Student Qualifications required:
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).
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.

Specific Population Characteristics to be served:
n/a

Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:
Webster University has academic policies describing minimum faculty qualifications by discipline. These policies meet or exceed guidelines from the Higher Learning Commission.

Estimate Percentage of Credit Hours that will be assigned to full time faculty:
Webster University strives to have more than 50% of credit hours assigned to full-time faculty. The percentage of credit hours assigned to full-time faculty will vary based on location and student enrollment in a program at any given time. Overall, the percentage of credit hours assigned to full-time faculty ranges from 10 to 20%. At Webster University's main campus in Missouri, percentages are often higher.

Expectations for professional activities, special student contact, teaching/learning innovation:
Faculty are expected to continually engage in appropriate professional development activities to ensure their professional qualifications are current. The University provides resources to help ensure robust student contact and engagement. The University also provides resources for faculty to innovate their teaching/learning to meet clear learning outcome objectives.

Student Enrollment Projections Year One-Five

Year 1	Full Time: 5	Part Time: 0	

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Year 2	Full Time: 5	Part Time: 0	
Year 3	Full Time: 5	Part Time: 0	Number of Graduates: 5
Year 4	Full Time: 5	Part Time: 0	
Year 5	Full Time: 5	Part Time: 0	Number of Graduates: 5

Percentage Statement:
n/a

Program Accreditation

Institutional Plans for Accreditation:
Webster University will maintain its accreditation by the Higher Learning Commission. There are no plans to pursue specialized accreditation at this time for this program.

Program Structure

Total Credits:
36

Residency Requirements:
n/a

General Education Total Credits:
0

Major Requirements Total Credits:
36

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
CSDA 5410	3	Time Series Analytics
CSDA 5320	3	Analytics Applications using Python
CSDA 5230	3	see catalog copy
CSDA 5130	3	Social and Ethical Issues in Analytics
CSDA 6010	3	Analytics Practicum
BUSN 5760	3	Applied Business Statistics
CSDA 5430	3	Predictive Analytics
CSDA 5110	3	Analytics Programming with R
CSDA 5330	3	Data Mining
BUSN 5200	3	Basic Finance for Managers
CSDA 5310	3	Data Visualization
CSDA 5210	3	Databases and Data Warehouses

Free Elective Credits:
0

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Internship or other Capstone Experience:
CSDA 6010 Analytics Practicum (3 hours)

Assurances

I certify that the program will not unnecessarily duplicate an existing program of another Missouri institution in accordance with 6 CSR 10-4.010, subsection (9)(C) Submission of Academic Information, Data and New Programs.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

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Data Analytics (MS)

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

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 Data Mining (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

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Requirements

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

Data Analytics (MS)

- 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.