MULTIDISCIPLINARY DATA ANALYTICS AND APPLIED ARTIFICIAL INTELLIGENCE, UNDERGRADUATE CERTIFICATE (COLLEGE OF LETTERS AND SCIENCE)

There is data all around us, and every day artificial intelligence (AI) can do more to help analyze it. Businesses want to hire people who can leverage AI to manage, analyze, and use a wide range of data for more effective decision making. The Undergraduate Certificate in Multidisciplinary Data Analytics and Applied AI is designed for you to learn those skills.

The Undergraduate Certificate in Multidisciplinary Data Analytics and Applied AI is a special program that includes courses from the College of Letters & Science, the College of Community Engagement & Professions, the Lubar College of Business, and the College of Engineering & Applied Science. Faculty members from across campus team up to deliver this program collaboratively, reflecting the multidisciplinary nature of this field.

The Undergraduate Certificate in Multidisciplinary Data Analytics and Applied AI at UWM is unique because its goal is to train students to practice data analytics and use AI in whatever field they are passionate about. The Certificate requires 15 credits across five courses, with one course in each of the categories: data science, artificial intelligence, statistics, and programming, and one other course selected to reflect the student's primary area of interest.

The career prospects for individuals with data analytics and AI skills are very positive. Data analytics skills are being used not only in industries that are obviously oriented toward using data, like information technology, sciences and business, but also in fields that more recently have begun to take full advantage of their data resources, like agriculture, atmospheric sciences, environmental sciences, geography, and healthcare.

Requirements

The Certificate requires 15 credits across five courses, with one course in each of the four categories: data science, artificial intelligence statistics, and programming, and one other course selected to reflect the student's primary area of interest.

Code	Title	Credits
Data Science (select one):		**3**
ATM SCI 600	Data Analytics	
COMPSCI 425	Introduction to Data Mining	
COMPSCI 557	Introduction to Database Systems	
FRSHWTR 585	Applied Water Statistics and Data Manipulation	
INFOST 370	Data Analysis and Visualization for the Information Professional	
INFOST 582	Introduction to Data Science	
MTHSTAT 216	Introduction to Statistical Computing and Data Science	
Artificial Intelligence (select one):		**3**
BUS ADM 536	Business Intelligence	
COMPSCI 411	Machine Learning and Applications	
COMPSCI 422	Introduction to Artificial Intelligence	
INFOST 671	Applied Web 3.0: Artificial Intelligence and Blockchain	
Statistics (select one):		**3**
ATM SCI 500	Statistical Methods in Atmospheric Sciences	
ECON 411	Economic Forecasting Methods	
ECON 413	Statistics for Economists	
ECON 513	Introduction to Econometrics	
INFOST 687	Data Analysis for Data Science	
MTHSTAT 361	Introduction to Mathematical Statistics I	
Programming (select one):		**3**
BIO SCI 502	Introduction to Programming and Modeling in Ecology and Evolution	
BUS ADM 335	Introduction to Business Application Development	
COMPSCI 202	Introductory Programming Using Python	
COMPSCI 251	Intermediate Computer Programming	
INFOST 350	Introduction to Application Development	
Select one additional course from any one of the four areas [1]		3
Total Credits		**15**

[1] For this one elective course, consult with the BSDA program director to select one course from the BSDA curriculum. You need approval of the Program Director, who will ensure duplication of course content is minimized.

To obtain the certificate, the student must complete, with a minimum grade point average of 2.75, at least 15 credits in approved Multidisciplinary Data Analytics and Applied AI Certificate courses, of which 12 must be earned in residence at UWM. The certificate will be confirmed upon completion of the certificate requirements. Certificate courses may not be taken on a credit/no credit basis.

Students earning the BS in Data Analytics or the BS in Data Science are not eligible to earn this certificate.

Admission

The Undergraduate Certificate in Multidisciplinary Data Analytics and Applied AI is available to all UWM students seeking a bachelor's degree who have a current overall GPA of 2.0, to students who previously received a bachelor's degree from UWM or any other accredited college or university, and to those who do not plan to pursue a college or university degree (non-degree students) but who have a strong interest in this subject. The exception is students earning the BS in Data Analytics or the BS in Data Science at UWM: They are not eligible for this certificate.

Non-degree students must meet University admission requirements. Students must declare their intent to pursue this certificate.

Multidisciplinary Data Analytics and Applied Artificial Intelligence Certificate Learning Outcomes

Graduates of the Certificate will be able to:

1. Apply data analytics and AI concepts inter-disciplinarily to problems in a variety of fields and industries.
2. Effectively communicate during problem formulation, analysis and investigation, and while presenting the results of the analysis.
3. Appreciate and abide by ethical uses of data and insights from the analysis.