

# Combined Degrees: Data Analytics B.S./M.S.

**Effective May 17, 2024 FYS1020 and CAR0010 will no longer be requirements in our undergraduate programs.**

The College of Arts & Sciences and the College of Engineering & Design offer students an opportunity to earn both their undergraduate and graduate degrees through its Combined Degrees: Data Analytics B.S./M.S. program. This program enables qualified students to earn, in a continuous plan of study, both a B.S. and a M.S. in Data Analytics in as little as five years.

Qualified students are able to complete five core Master of Public Health graduate courses that will count toward their undergraduate Data Analytics degree. Visit the Data Analytics B.S. degree and Data Analytics M.S. degree program pages for program descriptions and outcomes.

## Requirements

Eligible undergraduate students who would like to pursue the Combined Degrees: Data Analytics B.S./Public Health M.P.H. program should apply directly for the program by the end of their first year to take maximum advantage of this accelerated option. Qualified students who elect the Combined Degrees: Data Analytics B.S./Public Health M.P.H. program as an undergraduate student must fulfill all admissions requirements for entrance into the intended graduate program and complete a graduate program application.

## Data Analytics

A four-year program leading to the bachelor of science degree

### Major Courses

CSIS1000	Problem Solving and Programming Concepts	3
CSIS1101	Computer Science I	3
CSIS2030	Database Concepts	3
CSIS2080	Database Design	3
DMSM2025	Introduction to Data Visualization	3
DMSM2050	Spreadsheets for Data Analysis	3
FIT1040	Spreadsheet Design for Business Solutions	3
MATH2220	Linear Algebra	3
MATH4900	Applied Statistics	3

### Major Electives

Choose 15 credits from the following courses or declare a minor: \*\* 15

CYB3038	HCI/Usable Security	
ITEC3050	Information Security with Cryptography	
Choose three of the following:		
CSIS1112	Computer Science II	
ENG2010	Introduction to Technical Communication	
MATH2020	Discrete Mathematics	
PRMG2010	Introduction to Project Management & Project Membership	

### Applied/Experiential Learning

Choose 9 credits from the following: 9

ASCI4799	College of Arts & Sciences Internship <sup>1c</sup>	
DEE3999	Directed Experiential Education <sup>D</sup>	
RSCH3830	Undergraduate Research Experience	
RSCH4020	Honors Directed Academic Experience	
Study Abroad <sup>Sa</sup>		

### Related Professional Studies

CAR0010	Career Management	1
FYS1020	First-Year Seminar	1

### A&S Core Experience

Communications Foundation Courses		9
ENG1020	Rhetoric & Composition I	
ENG1021	Rhetoric & Composition II	
ENG1030	Communication Skills	
Integrative Learning		6
Two ILS courses, one at the 2000 level, one at the 4000 level		
Arts and Humanities		6
PHIL3240	Ethics: A Global Perspective	
One course from ART, HIST, HUM, LIT, or REL		
Mathematics		6
MATH1035	Quantitative Analysis I (or higher, based on student's placement) <sup>***</sup>	
MATH2035	Quantitative Analysis II	
Science		3
One course from BIO, CHM, PHY or SCI		

Social Sciences		6
ECON1001	Macroeconomics	
One course from ANTH, GEND, LEAD, PSCI, PSYC, RES or SOC		
A&S Electives		6
MATH2001	Statistics I	
or MATH2010 Introduction to Biostatistics		
MATH2002	Statistics II	
Free Elective <sup>#</sup>		
15 credits selected from 1000-4999 numbered offerings within the university		15
Graduate Courses <sup>****</sup>		
DATA5025	Tools for Data Analytics	3
DATA5100	Statistical Analysis	3
DATA5400	Introduction to Predictive Modeling	3
DATA5600	Research Methods in Data Analytics	3
<b>Total Credits</b>		<b>122.0</b>

- \* Students are responsible for meeting prerequisites.
- \*\* Students should consult with their advisor when selecting a minor.
- \*\*\* Students that do not place in MATH1035 Quantitative Analysis I, must take an extra course, MATH1020 Fundamentals of Algebra, as a prerequisite. If needed this counts as a free elective.
- \*\*\*\* Students use 3 credits from Applied/Experiential Learning and 9 free elective credits for graduate-level courses in the Data Analytics M.S. during their fourth year.

<sup>1c</sup>Typically, internships require a minimum of six credits. Students interested in a 9 or 12-credit internship can apply additional experiential learning and free elective credits, if available. Students are strongly encouraged to contact a faculty advisor before scheduling internship and free elective credits.

<sup>D</sup>Directed Experiential Education (DEE) opportunities are based on project availability with community partners and student eligibility. For more information, visit Experiential Education & Career Services (EE&CS).

<sup>Sa</sup>To be eligible to count toward Applied/ Experiential Learning, a Study Abroad offering must meet certain requirements. Contact JWU Global to discuss eligible Study Abroad options for this degree program.

<sup>#</sup> In addition to classes, free elective credits may be applied to a number of options such as internship, study abroad, Directed Experiential Education courses and courses in a specialization or minor as relevant. For students who qualify for the J2 program, up to four graduate courses may apply. Students are strongly encouraged to contact a faculty advisor before scheduling free elective credits.

## Data Analytics

### Master of Science

#### Core Courses

DATA5025	Tools for Data Analytics <sup>†</sup>	3
DATA5050	Data Management	3
DATA5100	Statistical Analysis <sup>†</sup>	3
DATA5150	Data Mining	3
DATA5200	Data Visualization	3
DATA5300	Big Data Analytics	3
DATA5350	Text & Web Mining Analytics	3
DATA5400	Introduction to Predictive Modeling <sup>†</sup>	3
DATA5515	Advanced Topics in Predictive Analytics	3
DATA5550	Optimization Simulation	3
DATA5600	Research Methods in Data Analytics <sup>†</sup>	3
DATA5700	Data Analytics Capstone	3
<b>Total Credits</b>		<b>36.0</b>

<sup>†</sup> These graduate courses will fulfill the bachelor of science requirements in the 4th year. Please note: The bachelor of science is not awarded until all graduate-level courses applying to the undergraduate degree have been successfully completed.

Note: Students must pass MATH0010 Pre-Algebra or have equivalent placement scores to enroll in required math courses.

Note: Students must pass ENG0001 Writing Workshop or have equivalent placement scores to enroll in ILS 2000-level courses.

In collaboration with academic colleges across all JWU campuses, JWU Global Study Abroad programs offer a variety of international, domestic, and digital options for major, minor, free electives, experiential learning, and transferable courses. There are many affordable options for students during a semester, winter session, spring and/or summer breaks. Faculty-led, exchange, affiliate, and direct-enroll programs range in duration from one week to a full semester or full year. Financial aid may be applied, and some partners offer external scholarships. Premiere programs do not qualify for JWU scholarships or grants; however federal aid is available. Visit the study abroad website for information, program descriptions and online applications. Where will you go? Wherever you decide, make the best of your educational journey!