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

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 Ic | |
| DEE3999 | Directed Experiential Education D | |
| RSCH3830 | Undergraduate Research Experience | |
| RSCH4020 | Honors Directed Academic Experience | |
| Study Abroad Sa | | |

### 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) *** | |
| 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 #

| | | |
|---|---|---|
| 15 credits selected from 1000-4999 numbered offerings within the university | | 15 |

### Graduate Courses ****

| | | |
|---|---|---|
| DATA5025 | Tools for Data Analytics | 3 |
| DATA5100 | Statistical Analysis | 3 |
| DATA5400 | Introduction to Predictive Modeling | 3 |
| DATA5600 | Research Methods in Data Analytics | 3 |
| **Total Credits** | | **122.0** |

\*     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.

Ic 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.

D 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).

Sa 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.

\# 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 † | 3 |
| DATA5050 | Data Management | 3 |
| DATA5100 | Statistical Analysis † | 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 † | 3 |
| DATA5515 | Advanced Topics in Predictive Analytics | 3 |
| DATA5550 | Optimization Simulation | 3 |
| DATA5600 | Research Methods in Data Analytics † | 3 |
| DATA5700 | Data Analytics Capstone | 3 |
| **Total Credits** | | **36.0** |

†     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!