

University of the Incarnate Word®

## Bachelor of Science in **Data Science**

School of Mathematics, Science and Engineering

### **PROGRAM OVERVIEW**

The Bachelor of Science (B.S.) in Data Science at the University of the Incarnate Word is designed to prepare future professionals with the mathematic, computer information system, statistical and analytical skills to manage and understand the data that fuels growth across sectors.

The B.S. in Data Science is a 120-hour degree program integrating higher mathematics, computer information systems, statistics, machine learning and programming. Through this combination of courses and skill development, students will build a strong foundation in the fields of study that make them sound logicians, information analysts and highly coveted in the job market. Data Science majors can further tailor their education through elective courses that emphasize data mining, design, predictive analytics, business intelligence and more. UIW's core curriculum will also develop communication and critical soft skills, ethics and a broader worldview.

To complete the degree program, data science students will complete a capstone project course in the spring semester of their senior year. The capstone challenges students to apply their data science knowledge to solve a problem or innovate.

### **ADMISSION REQUIREMENTS**

The requirements for admission to the B.S. in Data Science program are the same as the requirements for admission to the University of the Incarnate Word.

### **CONTACT**

**UIW Admissions**  
(210) 829-6005  
admission@uiwtx.edu

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**Data Science (B.S.)**

## B.S. in Data Science

### FRESHMAN YEAR

#### Fall

ENGL 1311: Composition I (3 hours)  
 PHIL 1381: Intro to Philosophy (3 hours)  
 History (3 hours)  
 MATH 1304: College Algebra (as Math core)  
 (3 hours)  
 FYES 1211: First Year Experience Seminar (2 hours)  
 PEHP Physical Activity Course (1 hour)

**Total Hours: 15**

#### Spring

ENGL 1312: Composition II (3 hours)  
 MATH 1311: Pre-Calculus (general elective)  
 (3 hours)  
 DATA 2365: Intro to Data Science (3 hours)  
 General Elective (3 hours)  
 General Elective (3 hours)

**Total Hours: 15**

### SOPHOMORE YEAR

#### Fall

ENGL 2310 World Literature (3 hours)  
 Modern Language I (3 hours)  
 PHIL 3312: Logic or upper level PHIL/RELS (3 hours)  
 MATH 2312: Calculus I (3 hours)  
 MATH 2322: Linear Algebra (3 hours)

**Total Hours: 15**

#### Spring

Fine Arts (3 hours)  
 Modern Language II (3 hours)  
 General Elective (3 hours)  
 MATH 2313: Calculus II (3 hours)  
 MATH 2340: Computer Programming (3 hours)

**Total Hours: 15**

### JUNIOR YEAR

#### Fall

MATH 3331: Foundations of Probability and Statistics  
 (3 hours)  
 MATH 3314: Calculus III (3 hours)  
 MIS 3363: Design/Implem of Database Sys. or  
 CIS 3310: Database Systems (3 hours)  
 CIS 1333: Scripting Languages (3 hours)  
 Science with Lab (4 hours)

**Total Hours: 16**

#### Spring

MATH 3332: Foundations of Statistical Inference  
 (3 hours)  
 MATH 4333: Regression Analysis (3 hours)  
 RELS 1305, 1315, 1325, 1335 or 1327 (3 hours)  
 Social Science (3 hours)  
 General Elective (3 hours)

**Total Hours: 15**

### SENIOR YEAR

#### Fall

DATA 4365: Data Mining & Machine Learning  
 (3 hours)  
 Data Science Elective (3 hours)  
 Data Science Elective (3 hours)  
 General Elective (3 hours)  
 General Elective (3 hours)

**Total Hours: 15**

#### Spring

DATA 4390: Capstone Project (3 hours)  
 Data Science Elective (3 hours)  
 Data Science Elective (3 hours)  
 General Elective (3 hours)  
 General Elective (2 hours)

**Total Hours: 14**

120 hours needed to complete the B.S. in Data Science

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