

Data Science AS DEGREE

Program Overview

Data Science uses the techniques and theories from many different fields of study including mathematics, statistics, computer science, and information theory. Data scientists sort through great amounts of unstructured data such as emails, videos, social media, and other user-generated content and write algorithms to extract insights from the data. In essence, they turn data into knowledge

Students entering into this program of study will learn to collect, manage, interpret and analyze data in order to assist in making data-informed decisions for the benefit of a company or organization.

Career Opportunities

There is a growing need for individuals who have the skills to effectively collect and analyze data to make informed, data-driven decisions. Jobs for data scientists, business intelligence analysts, data mining analysts and other data science professions have emerged across all industries that use data extensively, including government, business, healthcare, online commerce and more.

Program Outcomes

1. Graduates will have knowledge and skills to understand big data and the challenges of capturing, storing and retrieving massive data.
2. Graduates will develop an understanding of the analytical and computational techniques used to analyze data for the purposes of providing meaning.
3. Graduates will be familiar with the foundations, frameworks and applications of the emerging field of data science.
4. Graduates of the Data Science program will be prepared for the application of data-based analytical approach to identify and solve problems.

Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below. For more information please go to saintpaul.edu/Transfer.

Data Science AS

BA Individualized Studies
Metropolitan State University

Program Faculty

Warren Sheaffer warren.sheaffer@saintpaul.edu

Program Requirements

Check off when completed

Course	Cr
<input type="checkbox"/> CSCI 1410 Computer Science & Information Systems	4
<input type="checkbox"/> CSCI 1523 Intro to Computing and Programming Concepts	4
<input type="checkbox"/> CSCI 1524 Intro to Algorithms and Data Structures	4
<input type="checkbox"/> CSCI 1541 Java Programming 1	4
<input type="checkbox"/> CSCI 1550 Database Management Fundamentals	4
<input type="checkbox"/> CSCI 1714 Introduction to Data Science	4
<input type="checkbox"/> Technical Electives	6
Select from CSCI, GISC, MATH; the following are recommended:	
CSCI 1450 Web Fund/HTML - 4 cr	
CSCI 1544 Enterprise Op Systems – 4 cr	
CSCI 2470 Enterprise Database Systems – 4 cr	
GISC 1760 Intro to GIS – 4 cr	
GISC 1765 Cartography – 3 cr	
GISC 2730 Programming and Scripting in GIS – 4 cr	
MATH 2749 Calculus 1 – 4 cr	
Subtotal	30

General Education/MnTC Requirements

General Education/MnTC Requirements	Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area	
<input type="checkbox"/> Goal 1: Communication	7
ENGL 1711 Composition 1 – 4 cr	
COMM 17XX – 3 cr	
<input type="checkbox"/> Goal 4: Mathematical/Logical Reasoning	11
MATH 1740 Introduction to Statistics – 4 cr	
MATH 2100 Intermediate Statistics – 4 cr	
PHIL 1710 Logic – 3 cr	
<input type="checkbox"/> Goal 5: History, Social Science and Behavioral Sciences	3
ECON 1720 Macroeconomics – 3 cr OR	
ECON 1730 Microeconomics – 3 cr	
<input type="checkbox"/> Goal 6: Humanities & Fine Arts	3
PHIL 1720 Ethics – 3 cr	
<input type="checkbox"/> Goals 1-10 of the Minnesota Transfer Curriculum	6
Students must select a minimum of 5 additional credits such that courses from at least six (6) goal areas of the Minnesota Transfer Curriculum are met.	
General Education Requirements	30

Total Program Credits 60

*Information is subject to change.
This Program Requirements Guide is not a contract.*

Program Start Dates

Fall, Spring, Summer

Course Sequence

This course sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered summer term. Students should consult with the Program Faculty each semester.

First Semester

CSCI 1410 Computer Science & Information Systems	4
Goal 1: ENGL 1711 Composition 1	4
Goal 1: COMM 17XX	3
Goal 4: PHIL 1710 Logic	3
Total Semester Credits	14

Second Semester

CSCI 1523 Intro to Computing and Programming Concepts	4
CSCI 1550 Database Management	4
Goal 4: MATH 1740 Introduction to Statistics	4
Goal 5: ECON 1720 Macroeconomics OR ECON 1730 Microeconomics	3
Total Semester Credits	15

Third Semester

CSCI 1541 Java Programming 1	4
CSCI 1714 Introduction to Data Science	4
Goal 4: MATH 2100 Intermediate Statistics	4
Goal 6: PHIL 1720 Ethics	3
Total Semester Credits	15

Fourth Semester

CSCI 1524 Intro to Algorithms and Data Structures	4
Technical Electives	6
MnTC Electives	6
Total Semester Credits	16
Total Program Credits	60

Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of "C" or better in READ 0722

Writing: Score of 78+ on Reading Comprehension or grade of "C" or better in ENGL 1415

College Level Math: Score of 50+ or grade of "C" or better in MATH 0920

Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites. 389S (7226)