

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. Gather, cleanse and store large data sets for future analysis.
2. Manage large scale databases in specialized data management systems.
3. Analyze large data sets using specialized software.
4. Utilize sound mathematical and statistical principles to give meaning to data found in large data sets.
5. Apply effective technical communication skills.
6. Develop database applications using an industry standard database management system.
7. Design and code computer programs in a variety of computer-programming languages.

Transfer Opportunities

Saint Paul College has transfer agreements & partnerships between many post-secondary institutions. For more information please go to saintpaul.edu/Transfer.

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

Program Faculty

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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 Cr

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

- Goal 1: Communication7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
- Goal 4: Mathematical/Logical Reasoning.11
MATH 1740 Introduction to Statistics – 4 cr
MATH 2100 Intermediate Statistics – 4 cr
PHIL 1710 Logic – 3 cr
- Goal 5: History, Social Science and Behavioral Sciences3
ECON 1720 Macroeconomics – 3 cr OR
ECON 1730 Macroeconomics – 3 cr
- Goal 6: Humanities & Fine Arts3
PHIL 1720 Ethics – 3 cr
- Goals 1-10 of the Minnesota Transfer Curriculum6
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

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 250+ or grade of "C" or better in READ 0722 or READ 0724 or EAPP 0900

Writing: Score of 250+ on Reading Comprehension or grade of "C" or better in ENGL 0922 or EAPP 0900

Quant. Reasoning, Algebra & Stats: Score of 270+ or **Adv. Algebra & Functions:** Score of 250+ 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.

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