

Data Science AS

The Data Science AS degree gives students the skills to analyze, procure, store, and process large amounts of data. The study of data science involves students dealing with data that comes from disparate sources in the modern context of the Internet, in various unstructured forms, and across academic disciplines.

Data Science Curriculum

Curriculum

Program Courses

Course Code	Title	Course Outlines	Goal Areas	Credits
CSCI 1040	Fundamentals of Structured Query Language (SQL) and	View-CSCI 1040	n/a	3
CSCI 1130	Introduction to Programming in Java (CS0) and	View-CSCI 1130	n/a	4
CSCI 2001	Object Oriented Programming (CS1) and	View-CSCI 2001	n/a	4
CSCI 2011	Programming in Python and	View-CSCI 2011	n/a	1
CSCI 2030	Database Modeling and Design and	View-CSCI 2030	n/a	4
DSCI 2001	Data Science I and	View-DSCI 2001	n/a	4
DSCI 2002	Data Science II	View-DSCI 2002	n/a	4
DSCI 2009	Interdisciplinary Applications in Data Science	View-DSCI 2009	n/a	2

Program Electives

Course Code	Title	Course Outlines	Goal Areas	Credits
CSCI 1150	Programming in C# for .NET or	View-CSCI 1150	n/a	4
CSCI 1180	Introduction to Linux Operating System or	View-CSCI 1180	n/a	4
CSCI 2002	Data Structures and Algorithms (CS2) or	View-CSCI 2002	n/a	4
CSCI 2010	Discrete Mathematical Structures or	View-CSCI 2010	n/a	4
MATH 2000	Discrete Mathematical Structures	View-MATH 2000	n/a	4

General Education Courses

Course Code	Title	Course Outlines	Goal Areas	Credits
ENGL 1200	Gateway College Writing or	View-ENGL 1200	n/a	4
ENGL 1201	College Writing I and	View-ENGL 1201	n/a	4
ENGL 1202	College Writing II and	View-ENGL 1202	n/a	2
COMM 1010	Fundamentals of Public Speaking and	View-COMM 1010	n/a	3
ECON 1060	Principles of Macroeconomics or	View-ECON 1060	n/a	3
ECON 1070	Principles of Microeconomics and	View-ECON 1070	n/a	3
MATH 1120 or				
MATH 1150				
MATH 1210	Applied Statistics	View-MATH 1210	n/a	4

Natural Science - 1 lab course, 4 credits

Course Code	Title	Course Outlines	Goal Areas	Credits
Natural Science (Goal Area 3) Lab Courses				
BIOL 1000	Life Science or	View-BIOL 1000	n/a	4
BIOL 1001	Biology I or	View-BIOL 1001	n/a	4
BIOL 1101	Principles of Biology I or	View-BIOL 1101	n/a	4
BIOL 1102	Principles of Biology II or	View-BIOL 1102	n/a	4
BIOL 1130	Human Biology with a Lab or	View-BIOL 1130	n/a	4
BIOL 1360	Biology of Women with a Lab or	View-BIOL 1360	n/a	4
BIOL 2100	Microbiology or	View-BIOL 2100	n/a	4
BIOL 2111	Human Anatomy and Physiology I or	View-BIOL 2111	n/a	4
BIOL 2112	Human Anatomy and Physiology II or	View-BIOL 2112	n/a	4
BIOL 2360	Genetics or	View-BIOL 2360	n/a	4
BIOL 2610	General Ecology or	View-BIOL 2610	n/a	4
CHEM 1000	Chemistry and Society or	View-CHEM 1000	n/a	4
CHEM 1010	Introduction to Chemistry or	View-CHEM 1010	n/a	4
CHEM 1030	Introduction to Physical Sciences or	View-CHEM 1030	n/a	4
CHEM 1061	Principles of Chemistry I or	View-CHEM 1061	n/a	4
CHEM 1062	Principles of Chemistry II or	View-CHEM 1062	n/a	4
NSCI 1000	Conceptual Physics or	View-NSCI 1000	n/a	4
NSCI 1050	Astronomy or	View-NSCI 1050	n/a	4
NSCI 1061	Solar System Lab or	View-NSCI 1061	n/a	1
NSCI 1071	Stars and the Universe Lab or	View-NSCI 1071	n/a	1
NSCI 1120	Meteorology or	View-NSCI 1120	n/a	4
NSCI 1140	Historical Geology or	View-NSCI 1140	n/a	4
NSCI 1201 or				
PHYS 1000	Conceptual Physics or	View-PHYS 1000	n/a	4
PHYS 1030	Introduction to Physical Sciences or	View-PHYS 1030	n/a	4
PHYS 1050	Astronomy or	View-PHYS 1050	n/a	4
PHYS 1061 or				
PHYS 1071 or				
PHYS 1120	Meteorology or	View-PHYS 1120	n/a	4
PHYS 1130 or				
PHYS 1231	Principles of Physics I or	View-PHYS 1231	n/a	4
PHYS 1232	Principles of Physics II or	View-PHYS 1232	n/a	4

Course Code	Title	Course Outlines	Goal Areas	Credits
PHYS 1601	General Physics I or	View-PHYS 1601	n/a	5
PHYS 1602	General Physics II	View-PHYS 1602	n/a	5

MnTC Electives

Electives from Goal Areas 6-10 (7 credits)

Total Credits Required

60

Program Overview

2023-2024

Data scientists require knowledge in a variety of information technology sub-fields, including algorithms, data structures, programming languages and statistical methods. While the field of Data Science is computer science centric, statistical and domain expertise is required. Accordingly, the data scientist may specialize in various fields, including business, physics, biology, finance and economics.

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The Data Science AS Degree will Transfer/Articulate to:

Metropolitan State University for a Data Science BS Degree, which can be completed through NHCC's University Center.

Program Outcomes

Program outcomes:

After successfully completing this program, a student will be able to:

1. Empirically support business decisions and scientific research.
2. Properly interpret and communicate statistical measures.
3. Select relevant data for system development and analysis.
4. Apply general analytical models to specialized areas in other disciplines.
5. Derive meaning from data in relevant contexts.
6. Properly assess and apply systems of algorithms, databases and third party software.
7. Understand the role of networked systems and their topologies for data analysis.
8. Determine appropriate resource allocations for solving data oriented problems.

9. Explain how data is procured, stored and analyzed.
 10. Apply methods of data preparation such as parsing and normalization.
 11. Interpret statistical parameters for understanding data in context.
 12. Evaluate models of data analysis.
 13. Develop algorithmic solutions using appropriate programming structures.
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Program Maps

Program roadmaps provide students with a guide to understand the recommended course sequence to complete their degree.

- [Data Science AS Full Time](#)
 - [Data Science AS Part Time](#)
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Career Opportunities

Information on careers, including salary and employment outlook data, is available at Minnesota State and the Bureau of Labor Statistics websites: careerwise.minnstate.edu and www.bls.gov.

Transfer Information

If you are planning on transferring to another institution, follow the guidelines available on our transfer resources web page to help you plan the process: [Transfer Information](#)

Degree Information

The Associate of Science (A.S.) degree is intended for students whose primary goal is to complete the credentials for a specific career and/or prepare for transfer to complete a bachelor's degree at a college or university with whom North Hennepin Community College has an articulation agreement. The A.S. degree provides a balance of general education courses and the required scientific, professional or technical courses in the degree program.

A student shall:

- Earn a minimum of 60 semester credits as required in the program, with a grade point average of 2.00 (C) or above in courses taken at North Hennepin Community College. Specific programs may have additional requirements or a higher minimum grade point average.

- Earn a minimum of 15 semester credits at North Hennepin Community College. A student must complete at least 50% of career specific courses at North Hennepin Community College.
- Earn 30 credits in at least 6 Minnesota Transfer Curriculum (MnTC) goal areas.
- Earn 30 professional/technical credits.
- Have four years to complete the graduation requirements as published in the catalog in effect at the time of their initial enrollment. Students taking more than four years to complete their graduation requirements may follow any catalog published during the four year period preceding their graduation.

Completion of an A.S. degree fulfills the Goal Area 2 requirement of the Minnesota Transfer Curriculum (MnTC).

Developmental Courses Some students may need preparatory course(s) in Math and/or English. Courses numbered below 1000 will not apply toward a degree.

Equal Opportunity Employer and Disability Access Information North Hennepin Community College is a member of Minnesota State Colleges and Universities system and an equal opportunity employer and educator. This document is available in alternative formats to individuals with disabilities by calling 7634930555 or through the Minnesota Relay Service at 18006273529.

Accreditation

North Hennepin Community College is accredited by the Higher Learning Commission (hlcommission.org), an institutional accreditation agency recognized by the U.S. Department of Education.

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