Undergraduate Certificate in **Data Science**

OVERVIEW

This certificate is designed to provide exposure to the three major pedagogical categories within data science: understanding of the theoretical underpinnings; computational method design, development and use; and domain-specific applications. It is expected that a student obtains specialization in one of these three areas through their choice of electives.

Mathematical prerequisite: Calculus sequence (e.g., (MATH 1210, B or higher in 1220 ***OR*** 2210) **OR** (MATH 1310 ***and*** 1320))

Required Courses (22-3 hours)	
MATH 2270	Linear Algebra (4)
MATH 3070	Applied Statistics I (4) **OR** **CS 3130 / ECE 3530** Engineering Probability and Statistics (3)
CS 1400	Intro to Computer Programming (3)
CS 1410	Object Oriented Programming(3)
DS 2500	Data Wrangling (3)
DS 3390	Ethics of Data Science (3)
CS 3190	Foundations of Data Analysis (3) **OR** **MATH 4100 / COMP 5360** Introduction to Data Science (3)

NOTE: CS 1400 and CS 1410 **can be substituted for** CS 1420 (Accelerated Object Oriented Programming). **If CS 1420 is used, an additional 3 credits among the Application Electives is required.**

Applications Electives (minimum of 3 hours required)

These courses should expose students to scientific, engineering, or societal topics which are dependent on "data" (broadly defined) and its interpretation. These will provide students exposure to subject specific data and how it is analyzed or otherwise used within the discipline.

Full list of pre-approved courses is here:
https://www.cs.utah.edu/wp-content/uploads/2025/09/Data-Science-Certificate-Application-Electives.pdf

To propose using a course not pre-approved, please email: DS-ugshelp@cs.utah.edu