

TECHNOLOGY STUDIES: DATA SCIENCE CERTIFICATE

Program code: DTSC-CC-COT

Location: Capital, Housatonic, Northwestern, Three Rivers, Tunxis

Program Description

The Certificate in Data Science provides exposure to key elements of data science including data structures and data sources, programming languages, statistical principles, computing and analytics, data management, machine learning tools, and data science applications. This certificate needs to be paired with a transfer associates degree in any field (recommended fields include mathematics, applied sciences, computer science, computer programming, business, marketing, web design).

Learning Outcomes

Upon successful completion of all program requirements, graduates should be able to:

1. Master key facets of data investigation, including data wrangling, cleaning, sampling, management, exploratory analysis, regression and classification, prediction, and data communication.
2. Implement foundational concepts of data computation, such as data structure, algorithms, simulation, and analysis.
3. Utilize various technologies to organize, analyze, explore, and visualize data.
4. Execute data organization, exploration, and develop proficiency in the programming language of R.
5. Apply advanced statistical techniques.
6. Understand machine learning models and their applications.

Certificate Requirements

Code	Title	Credits
Required Courses		
MATH 1200	Statistics I	3
MATH 2200	Statistics II	3
DTS 2201	Programming in Data Science	3
DTS 2220	Introduction to Machine Learning	3
CSA 1111	Spreadsheet Applications	3
Directed Elective		3
Total Credits		18

- Technology Studies: Data Science, AS