

INTRODUCTION TO DATA SCIENCE

High School Course & Curriculum



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Introduction to Data Science (IDS) prepares students for the modern world, teaching them how data is collected about their lives and how they can use data to answer questions.

It's not your typical math class. It's a hands-on course, that combines math, statistics, and computer science, giving students the unique opportunity to gather and analyze their own data in class.

Why Choose IDS?

- Comprehensive curriculum includes lessons, activities, a custom-made AI-assistant, and more
- Immersive Professional Development program ensures teachers are well-prepared from day one
- Technology-rich learning gives students skills that allow them to succeed in a data-driven future

College & Career-Ready Skills



Analytical Reasoning

Students learn to ask meaningful questions and find data-based answers



Artificial Intelligence (AI)

Students explore AI fundamentals and learn how data serves as AI's foundation



Coding in Language R

Students learn to code in industry-standard language R & with the RStudio interface



Decision Making

Students use data to make informed choices and decisions



Optimization & Efficiency

Students learn how data can be used to make predictions for optimization

82,064

STUDENTS

273

SCHOOLS

16

STATES

Data Science: A Career and Technical Education Opportunity

Data Science: Preparing Delaware Students for a Data-Driven Future

A Career and Technical Education (CTE) Opportunity

Data is transforming every industry. From healthcare and agriculture to business, manufacturing, cybersecurity, and artificial intelligence, organizations rely on data to solve problems, make decisions, and drive innovation. Introduction to Data Science equips students with the skills to collect, analyze, interpret, and communicate data. As one of the fastest-growing career fields, Data Science develops valuable technical and workplace skills that apply across nearly every career pathway.

Students learn to:

- Analyze and interpret real-world data; apply mathematics, statistics, and technology to solve problems;
- Create visualizations and communicate findings;
- Use coding and digital tools to investigate questions;
- Understand the foundations of artificial intelligence;
- Make evidence-based and ethical decisions using data;
- Learn skills that will be used in high-skill, high-wage, and in-demand careers.

Real-World Applications

Through our growing labor market needs, data science will help to enhance data determination, evaluation, and decision making. Students explore how data is used in:

- Agriculture and Environmental Science
- Business and Entrepreneurship
- Healthcare and Public Health
- Manufacturing and Logistics
- Cybersecurity, Information Technology, Artificial Intelligence, and Machine Learning
- Government and Public Policy

These experiences connect classroom learning to future education and career opportunities!

College and Career Pathways - Data Science provides foundational preparation for careers and postsecondary study in Data Analytics, Computer Science, Artificial Intelligence, Cybersecurity, Business Analytics, Engineering, Finance, Health Sciences, Agriculture, and more.

A Value-Added CTE Capstone - Introduction to Data Science is available as a fourth-level capstone course within approved CTE Programs of Study. The course complements pathways across Business, Information Technology, Computer Science, Engineering, Agriculture, Health Sciences, Manufacturing, and other career areas by strengthening analytical, technology, and problem-solving skills valued across industries.

Supporting Delaware's Workforce - Data literacy is becoming an essential workforce skill. By offering Data Science, Delaware schools can prepare students for college, careers, industry credentials, military service, and lifelong success in an increasingly data-driven economy.

How to Apply - LEAs interested in offering Data Science should apply as a Value-Add to their program of study. There will be a stand-alone CIP code developed to allow any program to use this course.

Funding Opportunities - Implementation may be supported through Delaware Innovation Grants, Perkins V funds, and other eligible state and federal CTE funding sources. Course enrollment must be at least 25% students who are enrolled in a CTE pathway.

Who will teach this course?- The course will be taught by a certified math teacher.

Questions? Contact Sarah Bell, Education Associate, Career and Technical Education at Sarah.Bell@doe.k12.de.us