



WHAT YOU WILL LEARN

Today, Artificial Intelligence and Machine Learning are transforming the way we live and work. Data Science encompasses these innovations, turning raw data into insights that drive decisions across every industry—from healthcare to finance to entertainment.

Data Science is an interdisciplinary study of Computer Science, Statistics, Databases and domain knowledge. At CCM, the Computer Science Data Science Option prepares students to work at the forefront of this exciting field by integrating modern AI tools throughout the learning experience.

Features of the program include:

- Analyzing real-world data using data science principles for data exploration, analysis, and visualization
- Developing foundational computational thinking skills through hands-on programming, where students use AI-assisted coding environments to learn object-oriented programming, data structures, and algorithms
- Applying industry-recognized statistical software to interpret data and communicate results clearly
- Working with diverse data sources—including APIs and SQL databases
- Building predictive models using machine learning and artificial intelligence, and learning how to evaluate and improve them
- Exploring the ethical use of data and AI, including privacy, security, bias, and responsible decision-making in an increasingly AI-driven world

Students will gain in-demand skills of R, Python, Java, Tableau and SQL in this program and prepare themselves for further study or employment in Data Science.

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CAREERS

A degree in Computer Science with a Data Science Option is in great demand in today's AI-driven economy. According to the US Bureau of Labor Statistics, jobs in the Data Science field will grow faster than most jobs in the next decade at an estimated rate of over 30%. Glassdoor reports starting salaries for entry-level positions beginning at \$85K and ranging above \$110K.

Associates Degree:

- AI / Machine Learning Analyst
- Data Analyst
- Junior Data Scientist
- Business Intelligence Analyst
- Data Support Specialist
- Data Visualization Specialist
- Database Administrator
- AI Trainer/Associate Editor
- Computer Vision/NLP Technician

Bachelor's Degree & More:

- AI Engineer
- Data Scientist
- Machine Learning Engineer
- Statistician
- Natural Language Processing Engineer
- Computer Vision Engineer
- Big Data Architect
- Forensics Data Analyst
- Health Data Analyst

CONTACT INFORMATION

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WHY STUDY AT CCM

There are many reasons why you should study Data Science at CCM:

- The Associate of Science degree program is designed to prepare students to transfer to baccalaureate programs in Data Science or Computer Science
- Completion of the degree program provides graduates the foundation to pursue an entry-level position or internships in the data analytics field
- CCM students may also complete the Certificate of Achievement in Data Analytics within their degree in one year
- The college's collaborative, team-based learning environment allows CCM students to do project-based work with others, analyzing real-world data to solve problems or answer questions
- CCM courses are taught by professors with experience in the field
- Classes are held in small classrooms equipped with industry-standard software to ensure CCM students graduate with current and relevant skills
- Extra-curricular activities such as team competitions and attendance at conferences enable CCM students to extend their knowledge and experiences outside of the classroom

Credit, non-credit internship experiences and job search support are facilitated through our Office of Career and Transfer Services, where students can also learn how to build a resume and receive the tools to help with interviewing skills to succeed.

WHERE YOU CAN GO

CCM and Ramapo College recently entered into a Data Science Transfer Agreement, the first between a community college and a four-year institution in New Jersey.

- This allows students to begin their education at CCM to earn their associate degree in Computer Science Data Science Option and then seamlessly transfer to Ramapo to earn their bachelor's degree and then a master's degree in data science also.

Graduates with an A.S. in Data Science also from CCM benefit from New Jersey's Statewide Transfer Agreement. This means that the general education requirements will be waived at New Jersey public colleges and universities, allowing students to transfer in with junior standing. In addition, many out-of-state institutions also accept CCM credits.

Data Science students frequently transfer to the following colleges and universities.

In-State:

Fairleigh Dickinson University
Kean University
New Jersey Institute of Technology
Ramapo College
Rutgers University - New Brunswick

Out of State:

Arizona State University
Columbia University
Rochester Institute of Technology
University of Maryland - College Park
University of Michigan - Ann Arbor

CURRICULUM - 2501

GENERAL EDUCATION FOUNDATION (35CR)

COMMUNICATION (6 CR)

English Composition I	ENG 111	3
English Composition II	ENG 112	3

MATH/SCIENCE/TECHNOLOGY (12 CR)

Precalculus**	MAT 123	4
Analytic Geometry & Calculus I**	MAT 131	4
Probability & Statistics	MAT 130	4

SOCIAL SCIENCE (3 CR)

Choose from General Education list (Social Science)	3
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HUMANITIES/SOCIAL SCIENCE

Choose from General Education list (Humanities/Social Science)	3
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HUMANITIES (3 CR)

Choose from General Education list (Humanities)	3
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GENERAL EDUCATION (8 CR)

Laboratory Science Sequence	4
Laboratory Science Sequence	4

COMPUTER SCIENCE CORE (25 CR)

Intro to Data Science	MAT 114	3
Computer Science I	CMP 128	3
Computer Science II (Java)	CMP 129	3
Fundamentals of Programming (Python)	CMP 131	3
Data Structures and Algorithms (CS III)	CMP 233	3
Database Programming	CMP 241	3
Discrete Mathematics	MAT 225	4
Data Science Programming	CMP 262	3

TOTAL

60

Note: You must see a faculty advisor to plan your sequence of courses. For the most up-to-date listing of courses, see the Curriculum Checklist.

**Students who meet or exceed required Math thresholds should consult with an advisor regarding Math course placement.