

# COMPUTER SCIENCE CONCENTRATION

## Program Description

The **Computer Science Concentration** within the Associate in Science in Computer Science is designed for students who plan to transfer to a four-year institution to pursue a bachelor's degree in computer science or a related computing field.

This concentration provides a strong foundation in programming, algorithms, and problem-solving while emphasizing the mathematical and analytical skills required for advanced study in computing. Students learn to design and implement software solutions, analyze computational problems, and understand how computer systems process and manage information. Coursework emphasizes logical reasoning, software development, and the application of computational thinking to real-world challenges.

The program prepares students for upper-level coursework in computer science and related disciplines within the technology sector.

## Transfer Information

The Computer Science concentration is structured to align with bachelor's degree programs in computer science, software engineering, information technology, and related computing disciplines.

Students are encouraged to work closely with faculty and Advising & Transfer Services to ensure coursework aligns with the requirements of their intended transfer institution. Because computer science programs often require specific mathematics and programming prerequisites, students should carefully follow the recommended course sequence.

Students planning to transfer within New Jersey should explore the "Transfer Programs" feature on NJ Transfer ([www.njtransfer.org](http://www.njtransfer.org) (<http://www.njtransfer.org>)) to review articulation agreements and institutional requirements.

## Career Information

The A.S. in Computer Science – Computer Science Concentration is designed primarily for transfer. A bachelor's degree is typically required for professional roles in computer science and software development.

With further education, graduates may pursue careers such as:

- Software Developer
- Computer Programmer
- Systems Analyst
- Web or Application Developer
- Data Scientist or Data Analyst
- Cybersecurity Specialist

Students are encouraged to consult with faculty and Career Services early in their academic journey to explore transfer pathways, internships, and career opportunities in computing and technology fields.

Fall One		Credit Hours
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 166	Topics in Algebra	4
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )		3

**Credit Hours 16**

Spring One		Credit Hours
ENGL 152	English II	3
MATH 196	Precalculus	4
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3

**Credit Hours 14**

Summer One		Credit Hours
MATH 265	Calculus I	4

**Credit Hours 4**

Fall Two		Credit Hours
MATH 266	Calculus II	4
PHYS 281 & 281L	General Physics I Lecture and General Physics I Lab	4
CSIT 213	Database Management	3
Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )		3

**Credit Hours 14**

Spring Two		Credit Hours
MATH 270	Discrete Mathematics	3
CSIT 265	Data Structures and Analysis	4
PHYS 282 & 282L	General Physics II Lecture and General Physics II Lab	4
Humanities or Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )		3

**Credit Hours 14**

**Total Credit Hours 62**

Fall One		Credit Hours
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 196	Precalculus	4
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )		3

**Credit Hours 16**

Spring One		Credit Hours
ENGL 152	English II	3
MATH 265	Calculus I	4
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3

**Credit Hours 14**

Fall Two		Credit Hours
MATH 266	Calculus II	4
PHYS 281 & 281L	General Physics I Lecture and General Physics I Lab	4
CSIT 168	Introduction to Python Programming	2
CSIT 213	Database Management	3
Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )		3

**Credit Hours 16**

Spring Two		Credit Hours
MATH 270	Discrete Mathematics	3
CSIT 265	Data Structures and Analysis	4
PHYS 282 & 282L	General Physics II Lecture and General Physics II Lab	4

Humanities or Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )	3
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<b>Credit Hours</b>	<b>14</b>
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<b>Total Credit Hours</b>	<b>60</b>
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<b>Fall One</b>	<b>Credit Hours</b>
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ENGL 151	English I	3
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STSC 150	Student Success Seminar	2
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MATH 265	Calculus I	4
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CSIT 165	Programming I	4
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Humanities Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )	3
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<b>Credit Hours</b>	<b>16</b>
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<b>Spring One</b>	
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ENGL 152	English II	3
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MATH 266	Calculus II	4
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CSIT 166	Programming II	4
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Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )	3
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<b>Credit Hours</b>	<b>14</b>
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<b>Fall Two</b>	
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PHYS 281 & 281L	General Physics I Lecture and General Physics I Lab	4
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CSIT 212	Systems Analysis	3
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CSIT 213	Database Management	3
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CSIT 124	Introduction to Programming	3
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CSIT 176	Computer Organization & Architecture	3
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<b>Credit Hours</b>	<b>16</b>
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<b>Spring Two</b>	
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MATH 270	Discrete Mathematics	3
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CSIT 265	Data Structures and Analysis	4
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PHYS 282 & 282L	General Physics II Lecture and General Physics II Lab	4
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Humanities or Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/academic-information/general-education/">https://catalog.ocean.edu/academic-information/general-education/</a> )	3
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<b>Credit Hours</b>	<b>14</b>
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<b>Total Credit Hours</b>	<b>60</b>
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