

COMPUTER SCIENCE/ INFORMATION TECHNOLOGY, ASSOCIATE IN APPLIED SCIENCE

Program Description

This career program prepares students for entry-level positions in a multitude of computer-related jobs. Both computer scientists and information technologists need a balance of software and hardware applications with specific courses emphasizing effective problem solving. The software development process, (composing and coordinating component of a program) requires that students construct algorithms for problem solving with appropriate documentation. This curriculum has been designed to prepare the student to meet the future needs of integration, design, deployment, and management of computing, resources and services. A graduate of the program will have a firm understanding of modern programming practices and related skills in computer information technology. The department recommends the following minimal criteria for prospective students in the Computer Science/Information Technology program:

1. High school diploma or equivalent
2. Cumulative high school grade point average of C or above
3. Ranked in top half of high school graduating class
4. No developmental studies requirement

The AAS in Computer Science offers the following concentrations:

- Information Technology
- Cloud Computing
- Data Management
- Networking
- Programming

Transfer Information

Associate of Applied Science (AAS) degrees are intended to prepare students for immediate entry into the workforce. The NJ Statewide Transfer Agreement does not guarantee the transfer of credit/coursework when a student earns an AAS degree and continues on to a four-year institution to complete a bachelor's degree. Students are encouraged to work closely with OCC faculty and Advising Transfer Services. Students planning to transfer to a four-year institution in NJ can explore the "Transfer Programs" feature on NJ Transfer www.njtransfer.org (<http://www.njtransfer.org/>).

Career Information

The Associate of Applied Science Degrees are designed to provide students with the knowledge and skills necessary to start employment upon graduation. Several of the A.A.S. degrees provide the opportunity for the student to gain work experience by offering internship credit. These degrees are usually technical in nature and prepare the student for certification and licensing exams necessary to work in their field of choice. Students are strongly encouraged to consult with OCC faculty

and Career Services as they begin to explore career options. Students can also utilize Career Coach, a resource provided by OCC, to help students explore degree programs and corresponding careers <https://ocean.emsicc.com/>

Students are encouraged to keep track of degree requirements by using the "My Progress" screen on Student Planning. Student Planning can be accessed via logging into Ocean Connect.

Program Requirements Computer Science/Information Technology

First Semester		Credit Hours
ENGL 151	English I	3
Select one of the following:		3
MATH 151	A Survey of Mathematics	
MATH 171	Finite Mathematics	
MATH 181	Introduction to Probability	
or Higher than MATH 181		
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Second Semester		Credit Hours
ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Information Technology Program Electives (p. 1)		6
Credit Hours		16
Third Semester		Credit Hours
Computer Science/Information Technology Program Electives (p. 1)		6
Lab Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#lab)		4
COMM 154	Fundamentals of Public Speaking	3
Social Science or Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Fourth Semester		Credit Hours
CSIT 213	Database Management	3
Computer Science/Information Technology Program Electives (p. 1)		6
Business Studies Elective (p. 1)		3
Credit Hours		12
Total Credit Hours		60

Computer Science/Information Technology Electives

Code	Title	Credit Hours
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Students can choose any CSIT course (CSIT 115 or higher). Students are not required to select a specific area of interest/concentration.

Suggested Business Studies Electives

Code	Title	Credit Hours
ACCT 161	Principles of Accounting I	3
BUSN 131	Introduction to Business Administration	3
BUSN 134	Principles of Marketing	3

Cloud Computing Concentration

First Semester		Credit Hours
ENGL 151	English I	3
Select one of the following		3
MATH 151	A Survey of Mathematics	
MATH 171	Finite Mathematics	
MATH 181	Introduction to Probability	
or Higher than MATH 181		
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Second Semester		Credit Hours
ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Cloud Computing Program Electives (p. 2)		6
Credit Hours		16
Third Semester		Credit Hours
Computer Science/Cloud Computing Program Electives (p. 2)		6
COMM 154	Fundamentals of Public Speaking	3
Humanities or Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Lab Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#lab)		4
Credit Hours		16
Fourth Semester		Credit Hours
CSIT 213	Database Management	3
Computer Science/Cloud Computing Program Electives (p. 2)		6
Business Studies Elective (p. 1)		3
Credit Hours		12
Total Credit Hours		60

Computer Science/Cloud Computing Elective

Code	Title	Credit Hours
CSIT 144	Introduction to Operating System Using Unix	3
CSIT 168	Introduction to Python Programming	2
CSIT 185	Networking I	3
CSIT 186	Networking II	3
CSIT 265	Data Structures and Analysis	4
CSIT 277	Introduction to Cloud Computing	4

Business Studies Electives

Code	Title	Credit Hours
ACCT 161	Principles of Accounting I	3
BUSN 131	Introduction to Business Administration	3
BUSN 134	Principles of Marketing	3

Data Management Concentration

First Semester		Credit Hours
ENGL 151	English I	3
MATH 171 or Higher		3
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Second Semester		Credit Hours
ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Networking Program Electives (p. 3)		6
Credit Hours		16

Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Second Semester		Credit Hours
ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Data Management Program Electives (p. 2)		6
Credit Hours		16
Third Semester		Credit Hours
CSIT 213	Database Management	3
Computer Science/Data Management Program Electives (p. 2)		3
COMM 154	Fundamentals of Public Speaking	3
Humanities or Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Lab Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#lab)		4
Credit Hours		16
Fourth Semester		Credit Hours
Computer Science/Data Management Program Electives (p. 2)		9
Business Studies Elective (p. 1)		3
Credit Hours		12
Total Credit Hours		60

Computer Science/Data Management Electives

Code	Title	Credit Hours
CSIT 144	Introduction to Operating System Using Unix	3
CSIT 168	Introduction to Python Programming	2
CSIT 185	Networking I	3
CSIT 200	Information Security Fundamentals	3
CSIT 265	Data Structures and Analysis	4
CSIT 275	Data Management Analytics	3

Business Studies Electives

Code	Title	Credit Hours
ACCT 161	Principles of Accounting I	3
BUSN 131	Introduction to Business Administration	3
BUSN 134	Principles of Marketing	3

Networking Concentration

First Semester		Credit Hours
ENGL 151	English I	3
MATH 171 or Higher		3
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16
Second Semester		Credit Hours
ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Networking Program Electives (p. 3)		6
Credit Hours		16

Third Semester

Computer Science/Networking Program Electives (p. 3)		6
COMM 154	Fundamentals of Public Speaking	3
Humanities or Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Lab Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#lab)		4
Credit Hours		16

Fourth Semester

CSIT 213	Database Management	3
Computer Science/Networking Program Electives (p. 3)		6
Business Studies Elective (p. 1)		3
Credit Hours		12
Total Credit Hours		60

Computer Science/Networking Electives

Code	Title	Credit Hours
CSIT 144	Introduction to Operating System Using Unix	3
CSIT 168	Introduction to Python Programming	2
CSIT 185	Networking I	3
CSIT 186	Networking II	3
CSIT 200	Information Security Fundamentals	3
CSIT 115 or Higher		4

Business Studies Electives

Code	Title	Credit Hours
ACCT 161	Principles of Accounting I	3
BUSN 131	Introduction to Business Administration	3
BUSN 134	Principles of Marketing	3

Programming Concentration

First Semester		Credit Hours
ENGL 151	English I	3
MATH 171 or Higher		3
CSIT 165	Programming I	4
Humanities Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities)		3
Social Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#social)		3
Credit Hours		16

Second Semester

ENGL 152	English II	3
CSIT 166	Programming II	4
CSIT 176	Computer Organization & Architecture	3
Computer Science/Programming Program Electives (p. 3)		6
Credit Hours		16

Third Semester

Computer Science/Programming Program Electives (p. 3)		6
COMM 154	Fundamentals of Public Speaking	3
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Lab Science Gen. Ed. Requirement (https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#lab)		4
Credit Hours		16

Fourth Semester

CSIT 213	Database Management	3
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Computer Science/Programming Program Electives (p. 3)		6
Business Studies Elective (p. 1)		3
Credit Hours		12
Total Credit Hours		60

Computer Science/Programming Electives

Code	Title	Credit Hours
CSIT 168	Introduction to Python Programming	2
CSIT 185	Networking I	3
CSIT 186	Networking II	3
CSIT 200	Information Security Fundamentals	3
CSIT 212	Systems Analysis	3
CSIT 265	Data Structures and Analysis	4

Business Studies Electives

Code	Title	Credit Hours
ACCT 161	Principles of Accounting I	3
BUSN 131	Introduction to Business Administration	3
BUSN 134	Principles of Marketing	3