Computer Programming

Computer Programming Degrees and Certificates

Computer Programming, Associate in Applied Science

Many students are not interested in transferability, but rather mobility into the job market, with the career goal of a programmer. This degree strongly emphasizes programming and includes Java, C++ and Visual Basic. These are languages routinely used by computer programmers. Students will be well prepared for entry-level positions in programming or computer operations.

For additional program information, contact department chair, Dr. Otto Hernandez, at (609)343-4978 or herande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Develop computer programming in Visual Basic, C++, Oracle SQL and Java;
- Investigate information systems with respect to their existence and develop needed informational improvements within an organization;
- Perform basic managerial functions such as organizing, staffing, directing, planning and controlling;
- Use a microcomputer for functional and analytical purposes;
- Describe various positions of employment in the informational technology profession;
- Communicate effectively in both written and oral form.

(*CPRO-Fall* 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL230	Technical Writing	3

Mathematics-Science-Technology

Course #	Title	Credits
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
	General Education Science Course (4 credits)	4
CISM125	Introduction to Computers	3

Humanities

Course #	Title	Credits
	Choose: ARTS108, PHIL102, PHIL105, PHIL110 or PHIL111 (3 credits)	3

Program Requirements

Course #	Title	Credits
CISM130	Using PC Operating Systems	4
CISM135	Computer Programming-C++	4
CISM143	Introduction to Project Management	3
CISM154	Computer Programming-Java	4
CISM159	Intermediate Programming-C++	4
CISM160	Systems Analysis and Design	3
CISM167	Programming in Oracle SQL	3
CISM174	Computer Programming-Visual Basic	4
CISM254	Advanced Computer Programming-Java	4

Program Electives

Choose a Concentration:

(Students are strongly encouraged to meet with their faculty advisor to make a choice)

Computer Programming Concentration

Course #	Title	Credits
	Choose: CISM142-Help Desk Support or CISM162-Microsoft Excel (3 credits)	3
	Choose: CISM270-iPhone Programming or CISM271-Android Programming (4 credits)	4

Database Design and Development Concentration

Course #	Title	Credits
CISM164	Microsoft Access	3
CISM170	Database Design Using Oracle	3
CISM280	Capstone Portfolio	1
	Total Credits	**60**

Recommended Sequence of Courses

Computer Programming Concentration - First Semester

Course #	Title	Credits
CISM125	Introduction to Computers	3
ENGL101	Composition I	3
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
	General Education Science Course (4 credits)	4

Computer Programming Concentration - Second Semester

Course #	Title	Credits
CISM130	Using PC Operating Systems	4
CISM135	Computer Programming-C++	4
CISM154	Computer Programming-Java	4
	Choose: CISM142-Help Desk Support or CISM162-Microsoft Excel (3 credits)	3
	Choose: ARTS108, PHIL102, PHIL105, PHIL110 or PHIL111 (3 credits)	3

Computer Programming Concentration - Third Semester

Course #	Title	Credits
CISM159	Intermediate Programming-C++	4
CISM160	Systems Analysis and Design	3
CISM167	Programming in Oracle SQL	3
CISM254	Advanced Computer Programming-Java	4

Computer Programming Concentration - Fourth Semester

Course #	Title	Credits
CISM143	Introduction to Project Management	3
CISM174	Computer Programming-Visual Basic	4
	Choose: CISM270-iPhone Programming or CISM271-Android Programming (4 credits)	4
ENGL230	Technical Writing	3

Database Design and Development Concentration - First Semester

Course #	Title	Credits
CISM125	Introduction to Computers	3
ENGL101	Composition I	3
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
	General Education Science Course (4 credits)	4

Database Design and Development Concentration - Second Semester

Course #	Title	Credits
CISM130	Using PC Operating Systems	4
CISM135	Computer Programming-C++	4
CISM154	Computer Programming-Java	4
CISM164	Microsoft Access	3
	Choose: ARTS108, PHIL102, PHIL105, PHIL110 or PHIL111 (3 credits)	3

Database Design and Development Concentration - Third Semester

Course #	Title	Credits
CISM159	Intermediate Programming-C++	4
CISM160	Systems Analysis and Design	3
CISM167	Programming in Oracle SQL	3
CISM254	Advanced Computer Programming-Java	4

Database Design and Development Concentration - Fourth Semester

Course #	Title	Credits
CISM143	Introduction to Project Management	3
CISM170	Database Design Using Oracle	3
CISM174	Computer Programming-Visual Basic	4
CISM280	Capstone Portfolio	1
ENGL230	Technical Writing	3

Game Design and Development - Option, Associate in Applied Science

The video game industry is more than just entertainment with many practical applications in the healthcare, education, and military sectors. The Game Design and Development Option in Computer Programming is for those who have a passion for gaming and are interested in gaining necessary skills required to become part of the field. Students will learn game theory, graphics design, animation (OpenGL and Direct3D), 3D modeling (Maya), and game programming (GameMaker and Unity).

For additional program information, contact department chair, Dr. Otto Hernandez, at (609)343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Apply the process involved in the design and development of a game, from concept inception toward final implementation of functional interactive game product;
- Create environments, user interfaces, problem solving and ability to use game engine platforms;
- Pursue careers in quality assurance (Q/A) game testing, junior game designer, junior level designer, junior 3D modeler;
- Communicate efficiently in written and oral form.

(GADE-*Fall* 2022)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL230	Technical Writing	3

Mathematics-Science-Technology

Course #	Title	Credits
CISM125	Introduction to Computers	3
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
PHYS100	Conceptual Physics	4

Humanities

Course #	Title	Credits
	General Education Humanities Course (3 credits)	3

Program Requirements

Course #	Title	Credits
CISM135	Computer Programming-C++	4
CISM154	Computer Programming-Java	4
CISM159	Intermediate Programming-C++	4
CISM160	Systems Analysis and Design	3
CISM170	Database Design Using Oracle	3
CISM254	Advanced Computer Programming-Java	4
GAME110	Fundamentals of Game Design	3
GAME150	Introduction to Game Programming	3
GAME200	Game Graphics	4
GAME210	Game Animation	4
GAME220	Artificial Intelligence for Games	4
	Total Credits	**60**

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
CISM125	Introduction to Computers	3
CISM135	Computer Programming-C++	4
ENGL101	Composition I	3
	General Education Science Course (4 credits)	4

Second Semester

Course #	Title	Credits
CISM154	Computer Programming-Java	4
CISM159	Intermediate Programming-C++	4
ENGL230	Technical Writing	3
	General Education Humanities Course (3 credits)	3
	General Education Mathematics Course (4 credits)	4

Third Semester

Course #	Title	Credits
CISM170	Database Design Using Oracle	3
CISM254	Advanced Computer Programming-Java	4
GAME110	Fundamentals of Game Design	3
GAME150	Introduction to Game Programming	3

Fourth Semester

Course #	Title	Credits
GAME200	Game Graphics	4
GAME210	Game Animation	4
GAME220	Artificial Intelligence for Games	4
PHYS100	Conceptual Physics	4