

## Computer Science:

### Game Development and Design Option

A.S. Degree Program – Catalog Year 2018-2019

The program outlined here will prepare students for transfer to a four-year college to obtain a Bachelor of Science degree in computer game design. The curriculum follows the model provided by the Association of Computing Machinery and the Institute of Electrical and Electronics Engineers Computer Society to assure maximum transferability. Upon graduation, students can expect to transfer to a four-year college with junior status. Effective problem solving is central to good game design and development. The software development process (composing and coordinating components of a program) requires that students construct algorithms for problem solving with appropriate documentation. This curriculum has been designed to prepare students to work as a team and solve complex computer programming problems. The department recommends the following minimal criteria for prospective students in the Computer Game Development and Design option: 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

#### Faculty Contacts/Program Chairs

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#### Transfer Information

Students pursuing the Computer Science – Game Development and Design degree can transfer into majors such as Computer Science or Information Technology with a concentration/specialization in Game Development and Design. Many colleges offer opportunities for transfer both in and out of state. Admission is competitive and may require specific coursework to be completed as well as a portfolio of artwork. 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 Arts and the Associate of Science Degrees are designed to provide students with the coursework needed to transfer to a four-year institution and pursue a bachelor’s degree. The curriculum provides students the knowledge and skills needed to pursue various career pathways, while providing a credential beyond the high school degree. 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 explore degree programs and corresponding careers <https://ocean.emsicc.com/>

#### Fundamental Coursework

CSIT 165, 166, 115, 173, 176, 213, 265; MATH 265, 266

**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.**

## Curriculum

### First Semester

CSIT 165	Programming I	4 cr.
ENGL 151	English I	3 cr.
_____	Humanities Gen Ed Requirement	3 cr.
_____	Social Science Gen Ed Requirement	3 cr.
CSIT 115	Intro. to Computer Game Development	<u>3 cr.</u>
		16 cr.

### Second Semester

CSIT 166	Programming II	4 cr.
CSIT 176	Computer Organization & Architecture	3 cr.
ENGL 152	English II	3 cr.
_____	Humanities Gen Ed Requirement	3 cr.
_____	Social Science Gen Ed Requirement	<u>3 cr.</u>
		16 cr.

### Third Semester

CSIT 265	Data Structures and Analysis	4 cr.
MATH 265	Calculus	4 cr.
BIOL 161 <u>or</u> ,	Lab Science Gen Ed Requirement	4 cr.
CHEM 181, <u>or</u>		
PHYS 281		
BUSN 134 <u>or</u>	Principles of Marketing <u>or</u>	
BUSN 271	Principles of Management	<u>3 cr.</u>
		15 cr.

### Fourth Semester

CSIT 213	Database Management	3 cr.
CSIT 173	Game Programming with Open GL	3 cr.
_____	Elective (to meet required 64 cr.)	3 cr.
BIOL 162 <u>or</u> ,	Lab Science Gen Ed Requirement	4 cr.
CHEM 182, <u>or</u>	(continue original science sequence)	
PHYS 282		
MATH 266	Calculus II	<u>4 cr.</u>
		17 cr.

**TOTAL CREDITS 64**

Courses satisfying General Education Requirements must be selected from the list of Approved General Education Courses