



# VIDEO AND COMPUTER GAME DESIGN

## Associate In Science Degree & Certificate Curriculum Requirements

### VIDEO AND COMPUTER GAME DESIGN

This major has been developed for the student intending to transfer for a four-year degree in Computer Science with a specialty in game development and real-time interaction simulations. It also serves to provide career enrichment for the working professional. It provides an excellent foundation in computer programming languages, problem solving tools, and mathematics through calculus.

#### CAREER OPPORTUNITIES

The need for qualified software developers familiar with designing real-time interactive simulations is in a growth phase. Jobs are available in the computer and video game industry. Other areas include medial and forensic imaging.

#### ASSOCIATE DEGREE REQUIREMENTS\*

The Associate of Science degree in Computer Science with an emphasis on Game Development requires:

- English proficiency: English 1A, ESL 26, or equivalent.
- Mathematics proficiency: 105 or equivalent.
- A minimum of 90 total units including:
  - All General Education requirements (see reverse)
  - Core courses (53 units)
  - Electives (10 units)
  - Electives & other graduation requirements as appropriate

#### CORE REQUIREMENTS: (53 Units)

Prerequisite: Math 49 or equivalent. Note that the computer and gaming classes are listed in approximately the order in which they should be taken.

##### Computer and gaming classes (30 units)

CIS 55A	Introduction to Games	(5 units)
CIS 15A	Computer Science I: C++	(5 units)
CIS 15B	Computer Science II: C++	(5 units)
CIS 55B	Introduction to Game Design	(5 units)
CIS 15C	Computer Science III: C++	(5 units)
CIS 55C	Practical Game Design	(5 units)

##### Mathematics and science classes (15 units)

MATH 1A	Calculus	(5 units)
MATH 1B	Calculus	(5 units)
Math 22	Discrete Mathematics (or CIS 18)	(5 units)

##### Additional required classes (8 units)

CAST 70D	3D Modeling and Animation for Multimedia	(4 units)
CAST 92A	Introduction to Adobe Photoshop	(4 units)

##### ELECTIVES (10 Units)

###### Choose two of the following:

CIS 27P	JAVA for programmers	(5 units)
CIS 19A	Introduction to programming in C#	(5 units)
CAST 52A	Introduction to Macromedia Flash	(5 units)

### VIDEO AND COMPUTER GAME DESIGN CERTIFICATE OF PROFICIENCY\*

Certificate requirements include:

- English proficiency: English 1A, ESL 26, or equivalent.
- Mathematics proficiency: 105 or equivalent.
- 63 total units including:
  - Core courses (53 units)
  - Electives (10 units)

### INTRODUCTION TO VIDEO GAME DESIGN SKILLS CERTIFICATE\* (28 Units)

This certificate is designed to prepare the student for entrée into a rigorous gaming program. It provides much of the background to the gaming world as well as a foundation in C++ programming.

##### Computer and gaming classes (20 units)

CIS 55A	Introduction to Games	(5 units)
CIS 15A	Computer Science I: C++	(5 units)
CIS 15B	Computer Science II: C++	(5 units)
CIS 55B	Introduction to Game Design	(5 units)

##### Additional required classes (8 units)

CAST 70D	3D Modeling and Animation for Multimedia	(4 units)
CAST 92A	Introduction to Adobe Photoshop	(4 units)

\* 50% of the major units must be taken within CTIS and a grade of C or better is required in these classes. All courses pertaining to the major must be taken for a letter grade. In addition, a GPA of 2.0 or higher is required in all Core and Support courses for the Degree.

Academic Year 2008-2009