The Game Design program will prepare students for positions as game designers, level designers, interface designers, producers and game artists. Typical employers include game design firms, entertainment software companies, online entertainment and education companies, interactive design companies and game development companies.

The successful graduate of the Game Design program will be able to design game concepts, create digital assets for video games and work with professional game engines.

The program may be pursued full-time or part-time. Some courses may only be offered during the day. Students are advised to take courses in sequence, as provided by the program coordinator.

MERCER
County Community College
www.mccc.edu

Join us on
Facebook Twitter YouTube LinkedIn

Visit the website:
www.mccc.edu/programs_credit

For further information contact:
Ric Giantisco, Program Coordinator
giantisr@mccc.edu

MCCC Admissions Office: 609-570-3795
(Monday through Friday, 9 a.m. to 5 p.m.)
1200 Old Trenton Road, West Windsor, NJ 08550

OS • 500 • 10/12

The Ultimate Combo Move!

Earn your degree in

GAME DESIGN or
GAME PROGRAMMING

Associate in Applied Science Degree
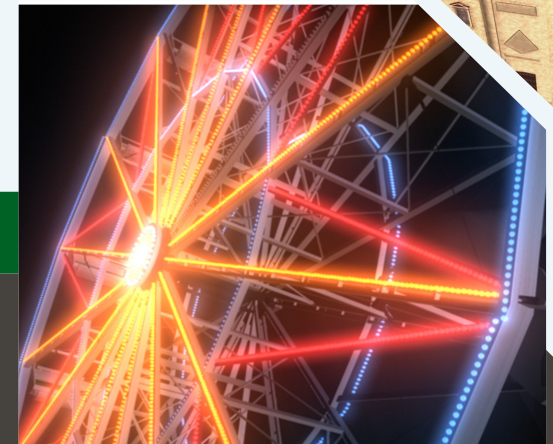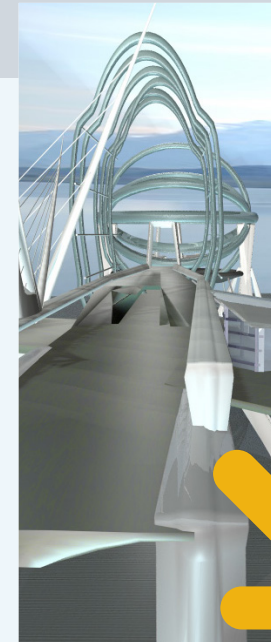
Get Career Solutions at MCCC

MERCER
County Community College
www.mccc.edu
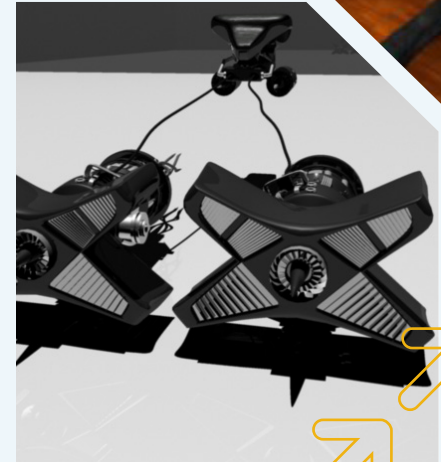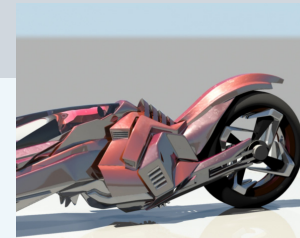
The Ultimate Combo Move!

Game Development, the design and production of board, card, dice, and video games, as an industry is now larger than Hollywood in annual revenue. Video games in particular have become ubiquitous in our contemporary culture, with the largest segment of new gamers consisting of middle-aged women. Games are being used in education, for social awareness campaigns, government and military applications, and of course entertainment. There is a significant increase in traditional board game play as well, particularly in Europe. Video games are played at websites, on mobile phones, and specialized consoles.

The pervasive reach of interactive multimedia coupled with the phenom of play is proving to be a transformative activity in contemporary culture. Games originated as survival training for children, but have largely evolved into pursuits of leisure. However, the impact they're having on the way we teach, learn, and communicate is far more significant than one might expect.

Students looking to enter the field most likely will do so as artists or programmers, eventually landing positions where they will code Artificial Intelligence, conceptualize characters, build game levels and design gameplay. Even in the current economy, there is still growth in this field. It can be competitive—so getting a good education is key to successfully launching a career.

GAME DESIGN
OBJECTIVES

The A.A.S. degree program in **Game Design** helps to prepare graduates for careers in the video game software industry, a relatively new and rapidly expanding industry. The New York City / northern New Jersey metro region is one of the ten largest in the country for video game design and development. Game Design is a highly interdisciplinary field drawing from a number of diverse areas such as art, writing, sound design, sociology, anthropology, computer technology, and programming.

The computer is the primary tool of expression in the program; however, emphasis is placed on the development of creative thinking as well as art and design skills. Students should expect to use and develop skills with scripting tools to program interactive functionality. Most coursework takes place in a studio using regularly updated professional-quality hardware and software on both Macintosh and PC computer platforms.

The Game Design program prepares graduates for positions as game designers, level designers, interface designers, producers, production assistants, and game artists. Typical employers include game design firms, entertainment software companies, educational resource development companies, interactive design companies, game development companies and research, government, and military organizations.

Successful graduates of the program will be able to:
- understand the historical development of game play;
- apply the design process to the research and development of professional video game concepts;
- apply narrative structures in the design of video games and levels;
- describe and reference industry trends and technologies in video gaming;
- design meaningful video game experiences and game mechanics appropriate to context;
- create diagrams, storyboards, and prototypes to specify game design concepts;
- develop games with level editing and scripting tools within industry standard game engines;
- understand basic programming concepts and apply scripting languages to create interaction in game environments;
- create 2D and 3D game art assets from game concepts, utilizing professional 2D digital imaging and 3D modeling and animation software;
- work effectively on interdisciplinary teams producing functioning games and levels.

The Game Design program may be pursued fulltime or part-time. Some courses may be offered only during the evening.

GAME DESIGN
REQUIREMENTS

Curriculum

Code	Course (lecture/lab hours)	Credits
ART 102	Basic Drawing (1/4)	3
ART 105	Two-Dimensional Design (1/4)	3
ART 106	Three-Dimensional Design (1/4)	3
DMA 105	Introduction to Computer Art (1/4)	3
ENG 101	English Composition I (3/0)	3
HPE 110	Concepts of Health and Fitness (1/2)†	2
COS 101	Introduction to Computer Science (3/2)	4
DMA 120	3-D Modeling I (1/4)	3
DMA 135	Digital Narrative (1/4)	3
ENG 112	English Composition II (3/0)[1]	3
GAM 120	Game Theory and Culture (1/4)	3
ART 104	Life Drawing (1/4)	3
ART 125	Topics in Contemporary Art (3/0)	3
DMA 225	Animation I (1/4)	3
GAM 140	Game Design I (1/4)	3
— —	Professional elective[2]	3
— —	Science elective	3
GAM 240	Game Design II (1/4)	3
GAM 260	Game Development (1/4)	3
— —	Mathematics elective[3]	3
— —	Professional elective[2]	3
— —	General Education elective[4]	3
		66

[1] Students planning to transfer to a four-year college should substitute ENG 102.

[2] Select from CMN 153; DMA 140, 220, 226; THR 104.

[3] Select in consultation with an academic advisor. Students planning a four-year degree are advised to take MAT 108 or 120.

[4] Select course from the following general education categories: Social Science, Humanities, Historical Perspective, Diversity and Global Perspective.

† HPE 111 is an acceptable alternative.

GAME PROGRAMMING
OBJECTIVES

The A.A.S. degree in **Game Programming** prepares students for careers in the video game industry. With advances in online social networks as well as console, stereoscopic, and smart phone technology fueling rapid expansion, the video game industry boasts revenues of around $24 billion in the United States alone, according to the newly formed Congressional Caucus for Competitiveness in Entertainment Technology (E-Tech Caucus).

The Game Programming program prepares students for a number of career options, including game designer, software engineer, artificial intelligence programmer, graphics engineer, physics programmer, and user interface scripter.

Typical employers include game design studios, entertainment software companies, and online entertainment and education companies. The New York City/ northern New Jersey metro region is one of the ten largest in the country for video game development, accounting for more than 70 game-affiliated companies. Students explore and analyze professional game engines, scripting languages, graphics, networks, physics, and other components of game development. Most coursework takes place in a studio using regularly updated professional-quality hardware and software on PC computer platforms. Moreover, in their last year of study, Game Programming students collaborate with students from the Game Design program to produce a full, playable video game.

Successful graduates of the Game Programming program will be able to:
- understand the historical development of games;
- describe and reference industry trends and technologies in video gaming;
- apply the design process to research and develop professional video game concepts;
- create diagrams and prototypes to specify game design concepts;
- create a professional sales pitch for a game concept;
- program game engine components such as resource management, entity-based systems, physics simulation, and user interfaces;
- create a custom 2-D game engine;
- develop skills to be a self-learner and problem solver;
- work effectively on interdisciplinary teams producing functioning games and levels.

The Game Programming program may be pursued full-time or part-time. Admission requires a high school diploma or its equivalent and competency in English and mathematics as demonstrated by placement testing.

GAME PROGRAMMING
REQUIREMENTS

Curriculum

Code	Course (lecture/lab hours)	Credits
COS 101	Introduction to Computer Science (3/2)	4
ENG 101	English Composition I (3/0)	3
HPE 110	Concepts of Health and Fitness (1/2)†	2
IST 107	Introduction to C/C++ Programming (1/4)	3
MAT 146	Pre-Calculus (4/0)[1]	4
COS 102	Computer Science I – Algorithms and Programming (3/2)	4
DMA 105	Introduction to Computer Art (1/4)	3
ENG 102	English Composition II (3/0)	3
GAM 120	Game Design Theory and Culture (1/4)	3
GAM 145	Game Programming I (2/2)	3
COS 210	Computer Science II – Data Structures (3/2)	4
DMA 140	Interactive Web Animation (1/4)	3
GAM 245	Game Programming II (2/2)	3
— —	Technical elective[2]	3-4
— —	General Education elective[3]	3
DMA 245	Web Design II (1/4)	3
GAM 260	Game Development (1/4)	3
— —	Technical elective[2]	3-4
— —	General Education elective	3
— —	General Education elective	3
		63-65

[1] Or higher-level mathematics course.

[2] Select from CMN 153; COS 204, 231; DMA 120, 135, 225; MAT 151, 208.

[3] Select course from the following general education categories: Social Science, Humanities, Historical Perspective.

†HPE 111 is an acceptable alternative.

→ → → →