

GAME SIMULATION & DEVELOPMENT

 Frederick Community College



Program Contact:

Dr. Andy Yao • 301.846.2410 • ayao@frederick.edu

Game Simulation & Development

Game Simulation and Development professionals hold positions in animation, design, development, engineering, and programming. They may possess a variety of skills including animation, graphics, 3D modeling and simulation, game engines, user interfaces, game scripting, and game programming.

The Program

The Game Simulation and Development A.A.S. program prepares graduates for a career in the interactive technology capacities, such as Multimedia Artist, Visual Effects Artist, Interactive Content Designer, Interactive Media Designer, Digital Animator, Graphic Designer, Modeling & Simulation Engineer, Simulation Application Developer, Web Developer, Game Designer, Game Developer, and Application Programmer. Game design and development skills covered include animation, graphics, 3D modeling and simulation, game engines, user interfaces, game scripting, and game programming. Students will also learn programming languages, such as Java, C++, C#, and Python.

Frederick Community College offers certificate programs in Game Programming and Computer Animation. The Game Programming Certificate prepares students to develop interactive computer games on the Internet, mobile computers, and personal computers. This certificate targets students who wish to obtain the skills necessary to develop computer games using programming language, such as Java, C++, C#, and Python. The Computer Animation certificate introduces students to the current animation and modeling software, such as Blender, Autodesk 3ds Max, and Autodesk Maya. This certificate covers animation production, computer graphics, interactive 3D foundations, and 3D modeling & animation. Students will learn the skills necessary to work as a Digital Graphic Designer, Multimedia Designer, Digital Animator, or Character Rigger.

Estimated Salaries & Growth Potential

The median annual wage for multimedia artists and animators was \$63,970 in May 2015. Employment of multimedia artists and animators is projected to grow 6 percent from 2014 to 2024. Projected growth will be due to increased demand for animation and visual effects in video games, movies, and television. Consumers will continue to demand more realistic video games, movie and television special effects, and three-dimensional movies. Video game studios will require additional multimedia artists and animators to meet this increased demand.

The median annual wage for computer programmers was \$79,530 in May 2015. Employment of computer and information technology occupations is projected to decline 8 percent from 2014 to 2024.

Source: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2016-17 Edition, Multimedia Artists and Animators, and Computer Programmers

Financial Assistance

As FCC participates in federal, state and local financial aid programs, students are encouraged to apply for these opportunities offered by the College and community. Financial aid applications are available in the Financial Aid Office (J301), or online at www.fafsa.ed.gov, and scholarships applications are accessible online at www.frederick.edu.

For more information on Game Simulation and Development:

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GAME PROGRAMMING

Certificate

Course	Credits
Requirements	
CIS 106 Introduction to Object Design & Programming	3
CIS 226 Game Scripting	3
CIS 227 Game Programming	4
CIS 228 Game Simulation & Game Development	4
CIS 208 C++ Programming OR	
CIS 225C Mobile app Development	3
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COMPUTER ANIMATION

Certificate

Course	Credits
Requirements	
CIS 106 Introduction to Object Design & Programming	3
CIS 175 Game Theory and Design	3
CIS 176 Game Creation	3
CIS 177 Interactive 3D Technology	3
CIS 178 3D Modeling & Animation	3
Complete one of the following courses:	
CAD 101 Introduction to AutoCAD I	
CMM 111 Communications Graphics I	
CIS 101 Information Systems & Technology	
CIS 140 Java Programming	
CIS 208 C++ Programming	
CIS 226 Game Scripting.....	3
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For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at www.frederick.edu/gainful employment.

Frederick Community College prohibits discrimination against any person on the basis of age, ancestry, citizenship status, color, creed, ethnicity, gender identity and expression, genetic information, marital status, mental or physical disability, national origin, race, religious affiliation, sex, sexual orientation, or veteran status in its activities, admissions, educational programs, and employment. Frederick Community College makes every effort to accommodate individuals with disabilities for College-sponsored events and programs. If you have accommodation needs, please call 301-846-2408. To request a sign language interpreter, please call 240-629-7819 or 301-846-2408 (Voice) or email Interpreting@frederick.edu. Sign language interpreters will not be automatically provided for College-sponsored events without a request for services. To guarantee accommodations, requests must be made at least five workdays in advance of a scheduled event.

Course	Credits
English	
EN 101 English Composition	3
Mathematics	
Mathematics Elective (GenEd course list, MA 206 - Elementary Statistics recommended)	3/4
Social & Behavioral Sciences	
Social & Behavioral Sciences Elective (GenEd course list, HS 102-Human Relations recommended)	3
Arts & Humanities	
Arts, Humanities, or Communications Elective (GenEd course list PH 208 or PH 101 recommended) ..	3
Biological & Physical Sciences	
Biological or Physical Sciences Elective (GenEd course list)	3/4
General Education Elective	
Interdisciplinary & Emerging Issues	3
CIS 106 Introduction to Object Design & Programming	3
PE/Health Requirement	
Departmental Requirements	
CIS 175 Game Theory & Design	3
CIS 176 Game Creation	3
CIS 177 Interactive 3D Technology	3
CIS 178 3D Modeling & Animation	3
CIS 203 Systems Analysis & Design	3
CIS 225C Mobile App Programming	3
CIS 226 Game Scripting	3
CIS 227 Game Programming	4
CIS 228 Simulation & Game Development	4
Other Requirements (select 9 credits from the following list of approved electives)	
CAD 101 Introduction to AutoCAD I	3
CIS 101 Information Systems and Technology	3
CIS 111J Web Page Development	3
CIS 111L UNIX/Linux Operating System	3
CIS 116P Photoshop	1
CIS 140 Java Programming	3
CIS 201 Computer Science I	4
CIS 202 Computer Science II	4
CIS 208 C++ Programming	3
CIS 222 Computer Organization	4
CIS 225A Computer Programming Language: PHP	3
CIS 230 Database Management Systems	3
CMM 111 Communications Graphics I	3
INTR 101/INTR 102/INTR 103 Internship	1/3