Lehigh Carbon COMMUNITY COLLEGE

# Computer Game and Simulation Development – Digital Arts Track A.A. (CGSA)



The degree is designed for students interested in the computer video game and simulation industries or related fields. Program work introduces students to core principles of game design, along with a strong foundation in the digital arts concepts and techniques necessary to create artistic assets. This degree can be used for transfer to a four-year institution or to prepare graduates for entry-level work in a variety of positions including, but not limited to, animator, 2D sprite artist, 3D modeler, texture artist, character rigger, game-environment designer, and user experience designer. Students utilize industry-standard software and game engines, produce game assets and animations, and gain practical experiences working with programming students in team environments to produce game and simulation projects. Effective project management techniques are used as games are developed collaboratively. Skills learned in this degree may be leveraged into other artistic careers or fields of study.

**Upon successful completion of this program, graduates will be able to:**

- transfer to a four-year college or university for further study.
- design engaging mechanics and systems for game projects.
- develop user experiences in a computer video game, from concept to completion, using two- and three-dimensional game engines in a team-based work environment using appropriate project management techniques.
- create visual artistic assets for use in computer game and simulation projects, often developed collaboratively with the programming track students.
- produce effective and efficient 3D models and textures for use in game projects.
- understand and implement the Principles of Animation, in both two- and three-dimensional animation.

Students should consult the catalog of the four-year college or university to which he or she plans to transfer to ensure that degree requirements are being properly met. Transfer information for this program is on file in the Transfer and University Center. For more information, contact an academic advisor or counselor.

| **First Semester** | | **Credits** |
|---|---|---|
| ART 107 | Digital Design | 3 |
| ART 110 | Drawing I | 3 |
| CIS 105 | Introduction to Computers and Applications | 3 |
| CIS 112 | Computational Thinking and Programming Logic | 3 |
| ENG 105 | Research and Composition | 3 |
| | | 15 |
| **Second Semester** | | |
| ART 118 | 2D Game and Simulation Graphics | 3.5 |
| ART 132 | Principles of 3D Modeling and Texturing | 3 |
| CIS 118 | Game and Simulation Programming Fundamentals | 3.5 |
| CIS 133 | User Experience Design | 3 |
| ENG 106 | Introduction to Literature | 3 |
| | | 16 |
| **Summer Semester** | | |
| Elective | Humanities/Social Science | 3 |
| | | 3 |
| **Third Semester** | | |
| ART 181 | Advanced Modeling 3D Modeling and Texturing | 3.5 |
| ART 247 | Introduction to Animation | 3 |
| CIS 114 | Introduction to Game Design | 3 |
| CIS 180 | Introduction to Project Management | 3 |
| Elective | Mathematics | 3-4 |
| | | 15.5 |
| **Fourth Semester** | | |
| ART 251 | Character Rigging and Animation | 3 |
| DMP 116 | Sound Design for Animation | 3 |
| Elective | Physics | 4 |
| Elective | Humanities/Social Science | 6 |
| | | 16 |
| | **Credit Total** | **65.5** |

**Prior Learning Assessment:** Previous job training, certificates and work experience that may qualify for college credit *(see academic advisor)*.

**Gateway Courses:** Based on placement testing in reading, writing and math, these prerequisite courses may have to be taken before placement in College English or Mathematics beginning the first semester and concurrently.

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|---|---|---|
| RSS 099 | Basic Skills Reading | 3 |
| RSS 100 | Critical Reading | 3 |
| ENG 099 | Basic Skills Writing | 3 |
| ENG 100 | Fundamentals of Writing | 3 |
| MAT 090 | Mathematical Literacy | 6 |
| ESL 251 | English for Academic Purpose *(Required for ESL students only.)* | 6 |

Please note, taking gateway courses will increase your time for completion.