Computer Game Design and Development, BSCGDD

Program Description

The Bachelor of Science in Computer Game Design and Development equips students and graduates with the skills and knowledge to apply computing and software engineering techniques to the design and production of digital media for entertainment, research, and education. As a specialization within the field of computing, game design and development builds on and applies expertise in computing hardware and software to create engaging and immersive multimedia systems.

 This program is a part of the College of Computing and Software Engineering.

Accreditation

The Bachelor of Science in Computer Game Design and Development program is accredited by the Computing Accreditation Commission of ABET, https://www.abet.org/

Admission, Enrollment, and Graduation Policies

Admission Requirements

This program does not have specific admission requirements and only admission to Kennesaw State University is required.

Enrollment Requirements

Progression through the program requires students to successfully complete or transfer the equivalent of CSE 1321, CSE 1321L, CSE 1322, and CSE 1322L with a grade of "B" or better in all four courses.

Graduation Requirements

Each student is expected to meet the requirements outlined in Academic Policies: 5.0 PROGRAM REQUIREMENTS & GRADUATION.

Program Course Requirements

Core IMPACTS Curriculum (42 Credit Hours)

General Education Core IMPACTS Curriculum

Core IMPACTS Curriculum Requirements Specific to This Major

Science Majors: Must take MATH 1113 or higher in Mathematics & Quantitative Skills and MATH 1179 or higher in Applied Math.

Science and Engineering Majors: Must take two four-hour laboratory sciences in the General Education Core IMPACTS: Natural Sciences. Students must choose from CHEM 1211 / 1211L , CHEM 1212 / 1212L , PHYS 1111 / 1111L *, PHYS 1112 / 1112L , PHYS 2211 / 2211L *, PHYS 2212 / 2212L , BIOL 1107 / 1107L , or BIOL 1108 / 1108L .

*Students cannot take both PHYS 1111/L and PHYS 2211/L nor PHYS 1112/L and PHYS 2212/L.

Core Field of Study (18 Credit Hours)

Students must earn a grade of "C" or better in these courses.

- CSE 1321: Programming and Problem Solving I
- CSE 1321L: Programming and Problem Solving I Laboratory
- CSE 1322: Programming and Problem Solving II
- CSE 1322L: Programming and Problem Solving II Laboratory
- CSE 2300: Discrete Structures for Computing
  or
- MATH 2345: Discrete Mathematics
- STAT 2332: Probability and Data Analysis
- CGDD 2012: Fundamentals of Game Design
- CGDD 2014: Fundamentals of Digital Game Development
  One (1) credit hour carried over from Natural Sciences.

Major Requirements (46 Credit Hours)

Students must earn a grade of "C" or better in these courses.

- CSE 3153: Database Systems
- CSE 3801: Professional Practices and Ethics
- CS 3305: Data Structures
- CS 4306: Algorithm Analysis
- CS 4722: Computer Graphics and Multimedia
- SWE 3313: Introduction to Software Engineering
- SWE 3643: Software Testing & Quality Assurance
- SWE 4324: User-Centered Design
- CGDD 4242: Agent-Based Artificial Intelligence

- CGDD 3103: Application Extension and Scripting
- CGDD 4003: Digital Media and Interaction
- CGDD 4203: Introduction to Mobile and Immersive Gaming
- CGDD 4303: Educational and Serious Game Design
- CGDD 4803: Studio
- CGDD 4814: Studio 2
  One (1) credit hour carried over from Applied Mathematics

Major Concentrations (14 Credit Hours)
Students must earn a grade of "C" or better in these courses.

Custom Concentration
University Electives (14 Credit Hours)
In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining at least an overall 2.0 GPA.

Upper-Division Electives (9 Credit Hours)
Select 9 credit hours of 3000-4000 level coursework from the University Catalog. Please see an advisor for course selection. *Note: Students are encouraged to consider Special Topics, Internships, and/or Directed Studies courses from the following list of courses:

- CGDD 4400: Directed Study
- IT 4490: Special Topics in Information Technology
- SWE 4490: Special Topics
- CSE 4983: CSE Computing Internship

Free Electives (5 Credit Hours)Select 5 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Creative Content Concentration

Required Courses (6 Credit Hours)

- CGDD 4113: 3D Modeling and Animation
- MEBU 2270: Entertainment Media Production

Elective Courses (6 Credit Hours)
Select 6 credit hours from the following list of courses:

- MEBU 3370: Fundamentals of Audio Production and Technology
- MEBU 4470: Advanced Audio Production and Technology
- MEBU 4490: Special Topics in the Music and Entertainment Business
  Contact MEBUS Program for other available course options

Free Electives (2 Credit Hours)
Select 2 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Computer Science Concentration
Elective Courses (9 Credit Hours)
Select 9 credit hours of 3000-4000 level CS coursework not already used as a requirement in the major or concentration.

Free Electives (5 Credit Hours)
Select 5 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Educational Serious Concentration
Required Courses (6 Credit Hours)

- CGDD 4313: Designing Online Learning Content and Environments
- TCOM 2010: Technical Writing

Elective Courses (6 Credit Hours)
Select 12 credit hours of 3000-4000 level TCOM coursework not already used as a requirement in the major or concentration.

Free Electives (2 Credit Hours)
Select 2 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Media Production Concentration
Required Courses (9 Credit Hours)

- MATH 3260: Linear Algebra I

- CGDD 4113: 3D Modeling and Animation
- CGDD 4603: Production Pipeline and Asset Management

Free Electives (5 Credit Hours)
Select 5 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Planning Management Concentration
Elective Courses (9 Credit Hours)
Select 9 credit hours from the following list of courses:

- MGT 3100: Management and Behavioral Sciences
- MGT 4185: Technology and Innovation Management
- ENTR 4122: Venture Analysis
- ENTR 4490: Special Topics in Entrepreneurship
- SWE 3623: Software Systems Requirements
- SWE 4663: Software Project Management

Free Electives (5 Credit Hours)
Select 5 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Simulations Informatics Concentration
Required Courses (3 Credit Hours)

- CGDD 4703: Data Modeling and Simulation

Elective Courses (3 Credit Hours)
Select 3 credit hours of 3000-4000 level coursework from the following prefixes: CSE, CGDD, SWE, CS, IT, Special Topics, Internship, Directed Study as approved by an advisor.

Free Electives (8 Credit Hours)
Select 8 credit hours of 1000-4000 level coursework from the University Catalog. In accordance with KSU Graduation Policy, students must earn a grade of "D" or better in these courses while maintaining a minimum 2.00 cumulative GPA.

Program Total (120 Credit Hours)