

GAME - DESIGN AND SIMULATION

Program: GAME

Credential: Ontario College Diploma

Delivery: Full-time + Part-time

Length: 4 Semesters

Duration: 2 Years

Effective: Fall 2023

Location: Barrie

Description

The field of game design and simulation brings worlds to life digitally by creating re-playable scenarios and combining creative, technical and artistic skills to produce interactive environments for players. Game designers support the creation of unique gaming environments that combine levels, characters, assets, props, and systems for a variety of platforms, including computer, console, mobile and wearable devices.

In the Game – Design and Simulation program, students learn how to take a game idea or simulation concept to create compelling experiences as they develop narratives, create and manage 2D and 3D digital assets, and apply the concepts of lighting, animation, cinematography, sound design, and rendering.

Students gain experience with design and simulation tools and techniques that utilize the latest generation of game engines and apply principles of game mechanics and dynamics. This experience can be applied to develop simulations for various industries, such as architecture, engineering, health care, manufacturing, and education and training.

Career Opportunities

Graduates of this program can apply a variety of game design concepts to support the design and development of games. Graduates contribute to the overall game development process by supporting the creation of comprehensive game design documents, developing and executing iterative design procedures, and contributing to world-building and level design in a game or simulation. There is a strong demand for both video game and simulation world-building, and graduates can enter into a variety of different career opportunities within this field.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. identify the differences in game genres in order to develop games that meet the needs of specific markets;
2. situate emerging trends within a historical context of games and interactive media to adapt relevant concepts, vocabulary and frames of reference;
3. identify and relate concepts from a range of industry roles, including programming, design and art to support the development of games;
4. contribute as an individual and a member of a game development team to the effective completion of a game development project;
5. develop strategies for ongoing personal and professional development to enhance work performance in the games industry;

6. perform all work in compliance with relevant statutes, regulations, legislation, industry standards and codes of ethics;
7. use game concepts to support the ongoing iteration, creation, design and development of games;
8. apply game design elements to support the ongoing iteration and creation of unique gaming environments, levels, characters, assets and props;
9. support the development of evolving and iterative game design documents that align with standard industry expectations and/or company practices;
10. conceive, prototype, develop, test and evaluate procedures for the ongoing iteration, creation, design and development of games;
11. contribute to world-building and level design in a game engine;
12. create video game and simulation environments that embrace equity and diversity to be inclusive of all audience members;
13. apply entrepreneurial principles to identify and respond to new opportunities in video game and simulation development environments;
14. utilize game design concepts and techniques to create virtual simulations that emulate real-world situations and/or environments that are either hazardous or cost-prohibitive;
15. create immersive environments using extended reality technologies in the development of game and simulation applications.

Program Progression

The following reflects the planned progression for full-time offerings of the program.

Fall Intake

- **Sem 1:** Fall 2023
- **Sem 2:** Winter 2024
- **Sem 3:** Fall 2024
- **Sem 4:** Winter 2025

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent, or mature student status
- Grade 12 English (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: www.georgiancollege.ca/admissions/academic-regulations/ (<https://www.georgiancollege.ca/admissions/academic-regulations/>)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit for Prior Learning website for details:

www.georgiancollege.ca/admissions/credit-transfer/ (<https://www.georgiancollege.ca/admissions/credit-transfer/>)

Graduation Requirements

23 Program Courses

2 Communications Courses

3 General Education Courses

Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, from year to year, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

Program Tracking

The following reflects the planned course sequence for full-time offerings of the Fall intake of the program. Where more than one intake is offered contact the program co-ordinator for the program tracking.

Semester 1		Hours
Program Courses		
COMP 1115	Game Programming	42
GAME 1000	Game Art	42
GAME 1001	Game Design 1	42
GAME 1002	Narrative Design and Digital Storytelling	42
MATH 1043	Mathematics and Physics for Game Design	42
MGMT 2028	Project Management for Game Design	42
Communications Course		
Select 1 course from the communications list during registration		42
Hours		294
Semester 2		
Program Courses		
COMP 1117	Unity Programming	42
GAME 1004	Game Engines	42
GAME 1006	Game Texturing and Modelling	42
GAME 1007	World and Interface Design	42
GAME 2000	Game Animation and Motion	42
GAME 2006	Game Publishing	42
Communications Course		
Select 1 course from the communications list during registration.		42
Hours		294
Semester 3		
Program Courses		
COMP 1116	Visual Scripting in Unreal	42
GAME 1003	Game Design 2	42
GAME 1005	Lighting and Rendering for Games	42
GAME 2001	Game Design Portfolio 1	42
GAME 2002	Game Sound Design	42
GAME 2003	World and Level Building	42
General Education Course		
Select 1 course from the general education list during registration		42
Hours		294
Semester 4		
Program Courses		
COMP 2141	Interactive Simulation Programming	42
COMP 2142	Game Artificial Intelligence	42
GAME 2004	Game Production	42
GAME 2005	Game Design Portfolio 2	42
GAME 2007	Mobile Game Design	42
General Education Course		
Select 2 courses from the general education list during registration		84
Hours		294
Total Hours		1176

Graduation Window

Students unable to adhere to the program duration of two years (as stated above) may take a maximum of four years to complete their credential. After this time, students must be re-admitted into the program, and follow the curriculum in place at the time of re-admission.

Disclaimer: *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.