GAME - DEVELOPMENT

Program: GAMD
Credential: Ontario College Advanced Diploma
Delivery: Full-time + Part-time
Length: 6 Semesters
Duration: 3 Years
Effective: Fall 2026
Location: Barrie Downtown

Description

The field of game development is all about breathing life into digital worlds. It combines creative, technical, and artistic skills to craft interactive environments for players. Game developers create unique gaming realms by integrating levels, characters, assets, props, and systems for various platforms, including computers, consoles and mobile devices.

In the Game - Development program, you will embark on a journey from concept to reality, transforming game ideas and simulation concepts into compelling experiences. You learn to develop narratives, create and manage 2D and 3D digital assets, and master techniques in lighting and rendering, game artificial intelligence, and multiplayer networking. Additionally, you explore the development of serious games and emerging technologies, ensuring that, as a graduate, you are at the forefront of innovation and capable of creating immersive and visually stunning game worlds.

Through hands-on experience with cutting-edge game engines and design tools, you gain practical skills in game mechanics and dynamics. These skills are not limited to gaming; they can also be applied to developing simulations for industries such as architecture, engineering, healthcare, manufacturing, and education and training. By the end of the program, you are well-prepared to enter the gaming industry or explore diverse career opportunities in various fields.

Career Opportunities

Graduates of the Game - Development program are well-equipped to support the technical and programming aspects of game creation, including coding, game logic, artificial intelligence, and multiplayer networking. They work collaboratively in teams to create immersive game worlds and simulations, utilizing cutting-edge game engines and design tools. The expertise gained in the program extends beyond gaming, benefiting industries like architecture, engineering, healthcare, manufacturing, and education. By the end of the program, students are prepared to embark on careers in the gaming industry or pursue opportunities in various other fields that value simulation and technical skills.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. analyze the differences in game genres in order to develop games that meet the needs of specific markets;
2. analyze the history of video games to compare various approaches to game development;
3. support the development of games by identifying and relating concepts from a range of industry roles-programming, design, and art;
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. apply conceptual game design elements to support the ongoing iteration, creation, programming, design, and development of games;
8. apply practical game design elements to support the ongoing iteration, creation, programming, design and developing of unique gaming environments, levels, characters, assets and props;
9. apply programming principles and techniques to create operational games or game components;
10. apply artificial intelligence and/or network implementation strategies to support real-time game environments and simulations;
11. utilize game engine functionality at an advanced level to support real-time games and simulations;
12. create original game props, characters and assets based on the concepts and requirements outlined in game design documents;
13. contribute to world building and level design, including using a game engine;
14. conceive, prototype, develop, test and evaluate procedures for the creation, design, programming, production and testing of games in a group environment;
15. test, debug and correct game components to ensure efficient and appropriate game functionality.

Program Progression

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

Fall Intake

- **Semester 1**: Fall 2026
- **Semester 2:** Winter 2027
- **Semester 3**: Fall 2027
- **Semester 4:** Winter 2028
- **Semester 5**: Fall 2028
- **Semester 6**: Winter 2029

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/)

Additional Information

To be successful in this program, students are required to have a personal laptop computer prior to the start of the program that meets or exceeds the following hardware specifications:

Minimum Specifications:

- **CPU**: Intel i7 or AMD Ryzen 9 7900X
- **GPU**: NVIDIA RTX 3070 or AMD RX6800
- **RAM**: 16GB of memory
- **Storage**: 1TB SSD (minimum)
- **OS**: Windows 11 (Home / Education)
- **Peripherals**: Webcam (720p), Microphone, 3-button mouse (left, middle right), PlayStation or Xbox game controller

Recommended Specifications:

- **CPU**: Intel Core Ultra 9 or AMD Ryzen 9 9950X3D
- **GPU**: NVIDIA RTX 4070 or AMD RX7800XT
- **RAM**: 32GB of memory
- **Storage**: 2TB SSD
- **OS**: Windows 11 (Pro)
- **Peripherals**: Webcam (1080p), Microphone, 3-button mouse (left, middle right), PlayStation or Xbox game controller

Note: The following are not supported by this program:

- Any ARM processor-based machine (Chromebooks, Microsoft Surface)
- Any MacOS devices (MacBook, MacBook Pro, etc.)

Graduation Requirements

35 Program Courses
1 Communications Course
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 1	42
GAME 1000	Game Art 1	42
GAME 1001	Game Design 1	42
GAME 1008	Game Fundamentals 1	42
GAME 1009	Game Production 1	42
MATH 1043	Math for Games 1	42
Communications Course		42
Select 1 course from the Communications list during registration.		
	Hours	**294**
Semester 2		
Program Courses		
COMP 1121	Game Programming 2	42
GAME 1006	Game Art 2	42
GAME 1007	Game Design 2	42
GAME 1010	Game Fundamentals 2	42
GAME 2006	Game Production 2	42
MATH 1053	Math for Games 2	42
	Hours	**252**
Semester 3		
Program Courses		
COMP 1116	Game Programming 3	42
GAME 1003	Game Design 3	42
GAME 1005	Introduction to Graphics	42
GAME 2001	Game Production 3	42
GAME 2003	Game Fundamentals 3	42
GAME 2008	Game Art 3	42
General Education Course		
Select 1 course from the General Education list during registration.		42
	Hours	**294**
Semester 4		
Program Courses		
COMP 2142	Game Artificial Intelligence 1	42
GAME 2005	Game Production 4	42
GAME 2009	Multiplayer Game Design 1	42
GAME 2010	Game Fundamentals 4	42
GAME 2011	Game Design 4	42
General Education Courses		
Select 2 courses from the General Education list during registration.		84
	Hours	**294**
Semester 5		
Program Courses		
GAME 3000	Game Design 5	42
GAME 3001	Multiplatform Game Development 1	42
GAME 3002	Multiplayer Game Design 2	42
GAME 3003	Game Artificial Intelligence 2	42
GAME 3004	Game Production 5	56
GAME 3005	Game Engine Architecture 1	42
	Hours	**266**
Semester 6		
Program Courses		
GAME 3006	Game Design 6	42
GAME 3007	Multiplatform Game Development 2	42
GAME 3008	Advanced Graphics	42
GAME 3009	Game Artificial Intelligence 3	42
GAME 3010	Game Production 6	56
GAME 3011	Game Engine Architecture 2	42
	Hours	**266**
	Total Hours	**1666**

Graduation Window

Students unable to adhere to the program duration of three years (as stated above) may take a maximum of six 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.