

GAME – PROGRAMMING PROGRAM (T163)

PROGRAM NAME	Game – Programming	TUITION	\$4,256.00 *
COURSE CODE	T163	ADDITIONAL COST	
SCHOOL	School of Computer Technology		
CENTRE	Arts, Design and Information Technology		
LOCATION	Casa Loma Campus		
DURATION	3 years (6 semesters)		
STARTING MONTH	September, January		
CREDENTIAL	Ontario College Advanced Diploma		
YEAR OF STUDY	2018-2019		
METHOD OF STUDY	FT		
APPLY TO	Ontario Colleges ¹		

* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.

International students: Visit the International Fees and Related Costs² page for more information.

Whether it's online or console, cell phone or PC-based, the game industry in Canada is large and growing rapidly. Game developers and publishers in the Greater Toronto Area range from small specialized units to mid-sized companies to Microsoft, Nintendo and other industry leaders.

Computer and game programmers are the fundamental resource for companies that develop, produce, distribute and market computer-based games. In fact, our industry advisors tell us it is the technical skills that are most in demand – a demand that this George Brown program is focused on meeting.

Students in George Brown's three-year **Game – Programming** advanced diploma program will learn the technical skills they need to be successful in the job market by learning "the language of gaming" (C and C++), as well as artificial intelligence, 3D graphics and much more.

The added advantage of this program is that students will also be taught by George Brown's School of Design faculty throughout the program, working closely with design students to create games, explore all aspects of the game industry, and learn to work in teams, just as they will in industry. Classes take place at George Brown's Waterfront and St. James Campuses. Some courses are offered online, and in some semesters, evening courses may be required.

Note: Students who start the program in January (Winter term) will be required to attend classes during the summer months (May to August).



THE INDUSTRY

"Canada's video game industry is recognized as a global powerhouse for game development and has played a significant role in shifting what was once a 'niche industry' into a blockbuster industry and driver of innovation. In 2015, the industry contributed more than \$3 billion to the Canadian economy and provided 20,400 full-time equivalent (FTE) jobs across the country, representing an increase of 31 percent and 24 percent respectively since 2013.

"Industry growth both globally and in Canada has been explosive and is expected to continue into the future. Canada's video game industry crosses the country with 472 active studios that develop, publish, and distribute video games. The sector is mainly concentrated in the provinces of Quebec (29.4 percent), British Columbia (27.1 percent), and Ontario (22.9 percent)."

Entertainment Software Association of Canada

PROGRAM STANDARDS AND 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.

REQUIRED COURSES

SEMESTER 1

Code	Course name
GAME 1001	Introduction to Programming
GAME1007	Game Fundamentals I
GAME 1005	Game Production I
GSSC 1045	Business Applications for Information Technology
MATH 1180	Math for Game Development
COMM 1007 [^]	College English

SEMESTER 2

Code	Course name
GAME 1011	Advanced Programming
GAME 1017	Game Fundamentals II
GAME 3001	Artificial Intelligence
GAME 1014	Game Production II
MATH 1107	Linear Algebra and Geometry
GSSC 1027	Personal Finance

SEMESTER 3

Code	Course name
GAME 2020 ^{**}	Game Production III
GAME2001	Data Structures & Algorithms
GAME 2005	Game Physics
GAME 2012	3D Graphics Programming
GAME 2013	Game Engine I
GNED	General Education Elective (Select One)

SEMESTER 4

Code	Course name
GAME 2030 ^{**}	Game Production IV
GAME 2031	Advanced Topics in Programming Languages
GAME 3111	Advanced Graphics Programming
GAME 3002	Physics Engines
GAME 2023	Game Engines II
COMP 2148	Professional workplace competencies
GNED	General Education Elective (Select One)

SEMESTER 5

Code	Course name
GAME 3020 ^{**}	Game Production V
GAME 2014	Mobile Game Development I
GAME 3003	Console Game Development I
GAME 3110	Multiplayer Systems
GAME 3023	Game Engines III
GAME 3121	Game Engine Development I

SEMESTER 6

Code	Course name
GAME 3030 ^{**}	Game Production VI
GAME 3004	Mobile Game Development II
GAME 3011	Advanced Game Programming
GAME 3015	Game Engine Development II
GAME 3033	Game Engines IV
GAME 3112	Console Game Development II

†Based on the results of your placement test, you may be required to take COMM1003 (English Skills) or CESL1003 (English Skills – ESL) before progressing to COMM1007. COMM1003/CESL1003 does not count as a course required for graduation, and you will be charged for this extra course. Please visit georgebrown.ca/assessment for more information.

**Course delivered at the St. James Campus. All other courses are delivered at the Waterfront Campus.

ELECTIVES

ALTERNATIVE STUDY OPTIONS

Students looking to focus more on the art/asset development aspect of game development may be more interested in our Game – Art advanced diploma program (G119), which is centred in the George Brown School of Design. Even though several courses are co-delivered in both programs, we encourage you to consider which program most closely suits your goals prior to making a final decision.

YOUR CAREER

Our graduates will be able to work in many areas of the digital game industry, including:

- software or hardware development
- publisher
- ISP and game portal development and maintenance
- website development
- distribution middleware and tool provider
- production servicer
- content/IP owner

EDUCATIONAL/DEGREE PATHWAY

Graduates of Game – Programming have the opportunity to apply to the BSc (Honours) Computer Games Design program at the University of Gloucestershire, beginning in level 6. For more information about this program, visit www.glos.ac.uk/courses/undergraduate/cgs/pages/computer-games-design-bsc.aspx³.

ADMISSION REQUIREMENTS

Applicants are selected on the basis of their academic achievement, including the required courses, and any other selection criteria outlined below.

- Ontario Secondary School Diploma or equivalent**
- Grade 12 English (C or U)
- Grade 11 Math (M or U) or Grade 12 (C or U)
- Attending a Program Information Session is highly recommended

**** MATURE STUDENT STATUS (19 YEARS OF AGE OR OLDER AND NO OSSD)**

Mature Students may take the Admissions Assessment⁴ for English and Math, OR may consider upgrading to achieve the credit(s) needed in English⁵ and Math⁶.

Please note that George Brown is committed to ensuring that applicants will succeed in their program of choice and meeting the minimum requirements does not guarantee admission to the program. Applicants may be required to have grades higher than the minimum requirements stated.

COURSE EXEMPTIONS

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

INTERNATIONAL STUDENTS

Visit the International Admissions⁷ page for more information.

CONTACT US

School of Computer Technology⁸

Phone: 416-415-5000, ext. 4287

Email: computertechnology@georgebrown.ca

The office hours are 9 a.m. – 4 p.m.

Program coordinator: Alexander Richard

Phone: 416-4155000 x

4232Email: arichard6@georgebrown.ca

For more information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

VISIT OUR CAMPUS

Classes in the Game Programming program take place at our Casa Loma⁹ and Waterfront¹⁰ Campuses. Sign up for an Information Session¹¹ or Campus Tour¹² to learn more about George Brown College and the program. You can also explore our virtual tour.¹³

LINKS REFERENCE

¹<https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T163&lang=en>

²<http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

³<http://www.glos.ac.uk/courses/undergraduate/cgs/pages/computer-games-design-bsc.aspx>

⁴<http://www.georgebrown.ca/assessment/admi-pre/>

⁵<http://www.georgebrown.ca/upgrading-credits/english-diploma/>

⁶<http://www.georgebrown.ca/upgrading-credits/math-diploma/>

⁷<http://www.georgebrown.ca/international/futurestudents/applynow/>

⁸<http://www.georgebrown.ca/computertechnology/>

⁹<http://www.georgebrown.ca/campuses/casa-loma/>

¹⁰<http://www.georgebrown.ca/campuses/waterfront/>

¹¹http://www.georgebrown.ca/computertechnology_info/

¹²http://www.georgebrown.ca/campus_tours/

¹³<http://vt.georgebrown.ca/>

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