

GAME PROGRAMMING PROGRAM (T163)

PROGRAM NAME	Game Programming
COURSE CODE	T163
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	2016-2017
METHOD OF STUDY	FT
APPLY TO	Ontario Colleges ¹

TUITION

\$4,014.00 *

ADDITIONAL COST

* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall **2015**. Fees are subject to change for programs starting in fall 2016 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. In the Greater Toronto Area, developers and publishers of games range in size from small specialized units to mid-sized companies to Microsoft, Nintendo and other industry leaders.

Computer 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 this George Brown program is focused on filling.

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 Casa Loma and St. James campuses. Some courses are offered online, and in some semesters evening courses may be required.

*If you enrol in the program in January, you must complete semester 2 in the summer (May to August) of the same year.



THE INDUSTRY

"Canada is the globe's third-largest video-game producing country with hundreds of world-class companies continuing to benefit from the Canadian advantage. In 2009, Canada's video-game industry accounted

for more than \$2 billion in retail sales of entertainment software and hardware, generating \$1.7 billion in direct economic activity for the Canadian economy. The Canadian industry employs over 14,000 people and is continuing to grow at a record pace."

Entertainment Software Association of Canada

PROGRAM STANDARDS AND LEARNING OUTCOMES

Each George Brown College certificate, diploma, advanced diploma and graduate certificate program is expected to deliver specific program learning outcomes. Program learning outcomes are statements that describe the knowledge and skills that students are expected to demonstrate by the end of their program of study. Programs are designed to deliver both vocation or discipline-specific learning outcomes and more generic essential employability skills (including communication, numeracy, critical thinking and problem solving, information management, interpersonal and personal skills).

In addition to the aforementioned learning outcome requirements, College programs are required to provide students with exposure to a breadth of learning beyond their vocational field, to increase their awareness of the society and culture in which they live and work. This breadth requirement is addressed through additional mandatory General Education courses in the program curriculum.

To see the relevant program learning outcomes for your specific program of study, please visit georgebrown.ca/programs/learning-standards-and-outcomes

REQUIRED COURSES

SEMESTER 1

Code	Course name
GAME1001	Introduction to Programming
GAME1003	Web Game Development
GAME1005	Game Production I
GSSC1045	Business Applications for Information Technology
MATH1162	Mathematics for Computer Technology I
COMM1007	College English†

SEMESTER 2

Code	Course name
GAME1011	Object-Oriented Programming
GAME1012	Game Engine Scripting
GAME1013	Graphical User Interface Development
GAME1014	Game Production II
MATH1107	Linear Algebra and Geometry
GSSC1027	Personal Finance

SEMESTER 3

Code	Course name
DESN2013**	Game Project Development I
GAME2001	Data Structures and Algorithms
GAME2005	Game Physics
GAME2013	Game Engine Fundamentals
GAME2016	Graphics Programming Fundamentals
GAME3001	Artificial Intelligence
GNED	General Education Elective

SEMESTER 4

Code	Course name
DESN2017**	Game Project Development II
GAME2002	Multimedia Systems Development
GAME2011	Mobile Game Fundamentals
GAME2012	3D Graphics Programming
GAME2015	Virtual Reality Development
COMP2148	Technical Writing and Professional Portfolio Development
GNED	General Education Elective

SEMESTER 5

Code	Course name
DESN3010**	Game Project Development III
GAME2014	Android Game Development
GAME3002	Physics Engines
GAME3003	Console Game Development I
GAME3111	Advanced Graphics Programming
GAME3121	Game Engine Development I

SEMESTER 6

Code	Course name
DESN3012**	Game Project Development IV
GAME3004	iOS Game Development
GAME3011	Advanced Game Programming
GAME3015	Game Engine Development II
GAME3110	Multiplayer Systems
GAME3112	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 <http://www.georgebrown.ca/assessment> for more information.

**Course delivered at the St. James Campus. All other courses are delivered at the Casa Loma 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 Development advanced diploma program (G109), 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 the program that 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, or even content/IP owner.

EDUCATIONAL/DEGREE PATHWAY

Graduates of Game Programming have the opportunity to apply to the BSc (Honours) Computer Games Design 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)

** Mature Student status (19 years of age or older and no OSSD)

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 Admissions⁴ page for more information.

CONTACT US**School of Computer Technology**

Phone: 416-415-5000, ext. 4287

Email: computertechnology@georgebrown.ca

The office hours are 8 a.m. – 4 p.m.

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.

LINKS REFERENCE

¹http://www.georgebrown.ca/apply_now_at_ontario_colleges/

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/international/futurestudents/applynow/>

George Brown College is continually striving to improve its programs and their delivery. The information contained in this calendar is subject to change without notice. It should not be viewed as a representation, offer or warranty. Students are responsible for verifying George Brown College admission, graduation, and fee requirements as well as any requirements of outside institutions, industry associations, or other bodies that may award additional designations concurrently with, or after completion of, a George Brown College program.