

# Applied Computer Science (Games Development Option)

Bachelor of Science Full-time [School of Computing and Academic Studies](#)

## Overview

The Bachelor of Science in Applied Computer Science (BScACS) degree equips you with advanced computing skills for careers in the tech sector. Within the Games Development Option, you'll integrate creativity with advanced knowledge in various computer programming areas, such as game design, mathematics, and artificial intelligence concepts.

Delivery: in person. [See details](#).

## About the option

The Games Development option integrates theory and practice, fostering critical thinking, problem-solving, and creativity. It is designed to equip you with the critical skills to succeed in the fast-paced and rapidly growing gaming industry. All tools and frameworks are put to practical use in developing, testing, and managing game applications, culminating in a major project showcasing students' skills.

## About the program

- [BScACS \[1\]](#) employs a cohort model, where you have the same classmates in all courses. This allows you to work through this intensive program with your fellow students, share your experience and expertise, and build a professional network that will last long after graduation
- 1 intake: September
- Four 15-week terms
- Monday to Friday, 8:30 until 5:30 pm
- Optional (competitive) Co-op opportunities
- Provides excellent academic foundation for graduate studies in either computer science or applied computing
- Offered in-person at the [Burnaby Campus \[2\]](#)

See the [Program Details \[3\]](#) to learn more about what you can expect from BScACS and how you can prepare for a career in Computing.

## Who should complete the BScACS degree (Games Development Option)?

This program might be for you if you:

- Have completed the [Computer Systems Technology \(CST\) \[4\]](#) Diploma (or equivalent of 60.0 credits of post-secondary education in Computing)
- Are interested in learning topics such as game design (including visuals and audio), higher-level mathematics (3D graphics, calculus, analytical geometry, linear algebra), physics, and artificial intelligence concepts
- Enjoy working with tools and frameworks used in the industry, such as Unity3D, and OpenGL
- Want to deepen theoretical knowledge and develop advanced computing skills

If any of these sound like you, please check the [Entrance Requirements \[5\]](#) to ensure you can apply and start your new Computing career!

# What Bachelor of Science in Applied Computer Science grads can do

By earning your BCIT Degree, you'll be honing your computing skills and mastering industry-recognized technologies.

You'll have developed highly marketable and transferable skills, giving you the flexibility to pursue careers in game development and other areas of software development, such as computer programming or software engineering.

Vancouver is home to over 170 game development studios, from industry giants to indies with one title.

And you also have the option to continue your education, including by applying to the [BCIT Master of Science in Applied Computing \[6\]](#).

Learn more about future opportunities on the [Graduating and Jobs page \[7\]](#).

## Entrance Requirements

The Bachelor of Science in Applied Computer Science (BScACS) is a two year degree completion program, meant to be taken after two years of post-secondary education in computing.

External applicants will apply based on the pre-entry assessment. BCIT CST Diploma Graduates who graduated in the last **five** (5) years may apply directly to the program at [bcit.ca/apply \[8\]](#) without a pre-entry or departmental assessment. CIT and FSWD Diploma Graduates will apply based on the pre-entry assessment.

## Application processing

Open to applications beginning January 15th (or next business day).

**Indigenous applicants:** Read about [Indigenous student support \[9\]](#) available for BCIT Computing programs.

## Entrance requirements

This program has a two-step admission process. Applicants must meet all entrance requirements to be accepted.

### Step 1: Pre-entry assessment

Applicants must have a pre-assessment with the program area to identify pre-entry courses and have their work experience reviewed and assessed prior to applying. Please email the completed [Pre-entry Assessment Request form \[PDF\] \[10\]](#) along with your resume and official sealed transcript(s) to the [program coordinator](#).

You can apply once you have completed any necessary pre-entry courses. A completed pre-entry assessment document from the program area must be uploaded with your application.

### Step 2: Meet the following entrance requirements

- **English language proficiency:** [Category 2 \[11\]](#) – English Studies 12 (67%) or equivalent
- **Post-secondary education:** A minimum of 60.0 credits of post-secondary education in Computing from a recognized institution, which consists of:
  - 6.0 credits of English or communications
  - 6.0 credits of math, with a minimum of 3.0 credits in discrete math
  - 3.0 credits of statistics
  - 27.0 credits of computing, with a minimum of 3.0 credits in each of the following seven courses:
    - Algorithms and data structures
    - Computer architecture
    - Database

- Data communications and networking
- Object-oriented programming
- Procedural programming
- Systems analysis and design

In addition to the above, acceptance into the following options is subject to the following requirements:

- Games Development Option requires familiarity with C++.
- Network Security Development Option requires familiarity with C.
- 18.0 of general education and/or other computing courses:
  - The BScACS Program Head will assess the equivalency of credits obtained from other institutions to ensure that graduation requirements are met.

Applicants who have completed post-secondary studies outside of Canada, the United States, the United Kingdom, Australia or New Zealand will require a comprehensive evaluation of their credentials by the [International Credential Evaluation Service \(ICES\)](#) [12]. Credential evaluation reports from other [Canadian services](#) [13] may be considered. These reports must include course-by-course evaluations and GPA calculations.

[Read more about how to meet BCIT's entrance requirements](#) [14]

## International applicants

This program is available to international applicants. A valid [study permit](#) [15] is required prior to starting the program.

Students enrolled in this program must complete the mandatory work component to qualify for graduation. A co-op work permit is required prior to starting the work component.

## Apply to program

To submit your application:

- Include proof of meeting all entrance requirements.
- Convert all transcripts and supporting documents to [PDF files](#) [16].
- Have a credit card ready to pay the application fee.

[Learn more about how to apply](#) [18]

## Scheduled Intakes

September each year.

## myCommunication

Within two business days of submitting your completed application, BCIT will send a message to your personal and myBCIT email addresses. All correspondence regarding your application will be posted to your online [myCommunication](#) [19] account at [my.bcit.ca](#) [20]. We will send you an email when a new message is posted. It is important to watch for these emails or regularly check your account online.

You can expect to receive communication concerning the status of your application within four weeks.

## Costs & Supplies

Learn about [entrance awards](#) [21], including awards for women and [Indigenous students](#) [22] entering computing.

## Tuition fees

Use our [tuition estimator \[23\]](#) to find tuition and fees for this program.

For more information on full-time tuition and fees, visit:

- [Full-Time Studies Tuition & Fees \[24\]](#)
- [International Tuition & Fees \[25\]](#)

## Books & supplies

Level 5: \$1100; Level 6: \$1100; Level 7: \$1100; Level 8: \$800  
(general estimated cost, subject to change)

## Financial assistance

Financial assistance may be available for this program. For more information, please contact [Student Financial Aid and Awards \[26\]](#).

## Courses

The Bachelor of Science in Applied Computer Science (Games Development) curriculum has been revised effective for the September 2023 intake. Students who began the program under Bachelor of Technology in Computer Systems (Games Development) prior to September 2023 should refer to the [September 2022 cohort matrix \[PDF\] \[27\]](#).

## Program matrix

		Credits
<b>September 2023 Matrix</b>		
The below program matrix is effective for students entering the program in September 2023 and later.		
<b>Level 5 (15 weeks)</b>		
COMP 7035	Operating Systems	3.0
COMP 7051	Introduction to Computer Games Development	3.0
COMP 7082	Software Engineering	3.0
COMP 7903	Games Design Fundamentals	3.0
MATH 7808	Calculus for Computing	4.0
<b>Level 6 (15 weeks)</b>		
COMP 7905	Art in Game Development	3.0
COMP 8042	Advanced Algorithms and Data Structures Design and Analysis	3.0
COMP 8051	Advanced Games Architecture	3.0

COMP 8082	<b>Project Management</b>	3.0
MATH 7908	<b>Linear Algebra and Applications for Computing</b>	4.0
<b>Level 7 (15 weeks)</b>		<b>Credits</b>
COMP 7003	<b>Introduction to Information and Network Security</b>	3.0
COMP 8085	<b>Artificial Intelligence</b>	3.0
COMP 8552	<b>Advanced Games Programming Techniques</b>	3.0
COMP 8800	<b>Major Project 1</b>	3.0
LIBS 7001	<b>Critical Reading and Writing</b>	3.0
LIBS 7002	<b>Applied Ethics*</b>	3.0
*Students who have completed the Computer Systems Technology (CST) Diploma are exempt from taking LIBS 7002 Applied Ethics since they have already taken the equivalent course, LIBS 7102 Ethics for Computing Professionals.		
<b>Level 8 (15 weeks)</b>		<b>Credits</b>
COMP 7012	<b>Interaction Design</b>	3.0
COMP 8900	<b>Major Project 2</b>	3.0
<b>General Education Electives (9.0 credits):</b> Will be offered in Level 8. Specific course offerings will be determined by the department.		
<b>Co-op work term courses (competitive entry)</b>		<b>Credits</b>
Complete between Levels 6 and 7.		
COMP 7990	<b>Cooperative Education Workterm 1*</b>	16.0
COMP 8990	<b>Cooperative Education Workterm 2**</b>	16.0
*Fall intake: September through December **Winter intake: January through April		
<b>Total Credits:</b>		<b>65.0</b>

## Transfer credit

Do you have credits from another BC/Yukon post-secondary school? Do you want to know if they transfer to courses here at BCIT? Check out BCIT's [Transfer Equivalency Database \[48\]](#) to find out.

## Program Details

## Program length

Two years, full-time

Students are required to complete this program within seven years starting from the date of their first technical degree-level course or the date of acceptance to the bachelor program, whichever comes first. General Education Electives cannot be older than five years from the date of acceptance to be used toward the degree.

## Exception to Section 5 of Policy 5103:

Extensions beyond the maximum time limit will not be allowed. However, students may request a timeshift. A timeshift moves the program start date to one year later and the program completion date to one year later. With a timeshift, any COMP 7xxx and COMP 8xxx courses taken before the new start date will not apply towards the credential. Students will need to re-take or challenge the expired courses if they wish to use them towards fulfilling program requirements. In the event of a major program change, students who timeshift will be required to follow the new program matrix. Some exemptions of equivalent courses may apply. Student requests for a timeshift shall be reviewed and approved by the Program Head and the Registrar's Office.

## Grading

A minimum passing grade of 60 percent is required for all COMP courses at the 7000 and 8000 level.

## Program delivery

In person: This program is delivered on campus.

## Program location

Burnaby Campus [49]  
3700 Willingdon Avenue  
Burnaby, BC

## Program structure

Courses	Credits
Computer Science	21.0
Mathematics	8.0
Computer Specialization	15.0
Communications, Applied Ethics and General Education	15.0
Major Project	6.0

Competitive co-operative education (co-op) component	
Total credits:	65.0

## Continue your education

Graduates of the Bachelor of Science in Applied Computer Science program can apply to continue their studies with the [Master of Science in Applied Computing \[50\]](#). Through an interdisciplinary and rigorous full-time curriculum, the MSc helps develop technical leadership and research skills for a professional setting or for further academic study. Students select a Project & Internship Path or Thesis Path, and have opportunities to apply computing solutions to industry challenges.

## Co-operative education

The [Co-operative Education \(co-op\) stream \[51\]](#) of the BSc ACS program provides students with substantial benefits in their career preparation, given that employers are more eager to hire graduates who have had some industry experience. Students who apply to the co-op stream are required to meet year one performance qualification criteria. Acceptance into the program is competitive based on Level 5 GPA. Students will require two four-month co-op terms to graduate with a co-op designation on their BSc ACS degree. These co-op terms are back-to-back and are completed between Levels 6 and 7.

Co-op students will be provided full support in their employment search, career development, and during their work terms. They will be assisted with securing employment with one employer for a minimum of eight months.

## Graduating & Jobs

### Sector snapshot

### Graduate employment outcomes

The BCIT student outcomes report presents summary findings from the annual survey of former students administered by BC Stats one to two years after graduation. These reports combine the last three years of available results for the 2021-2023 BCIT Outcomes Surveys of 2020-2022 graduates and for Degree 2019-2021 graduates. The reports are organized into three-page summaries containing information on graduates' labour market experiences and opinions regarding their education. More detailed information can be accessed at the [BC Student Outcomes \[52\]](#) website.

To view these results, you may need to have the [Adobe Acrobat Reader \[53\]](#) installed in your Web browser.

- [Applied Computer Science \(Games Development Option\) \[54\]](#)

## Faculty, Advisors & Staff

### Student Inquiries

Email: [compBSc@bcit.ca](mailto:compBSc@bcit.ca)

### Full-time faculty

**Mirela Gutica**

- Program Head – Curriculum Leadership, Bachelor of Science in Applied Computer Science (BScACS)
- Option Head – Technical Programming, Computing

**Maryam Tanha**

- Program Head – Student Success, Bachelor of Science in Applied Computer Science (BScACS)

**Aman Abdulla**, Instructor

**Borna Nouredin**, Instructor

**Jeff Yim**, Instructor

**Rahul Kukreja**, Instructor

**Sayyedhassan Shavarani**, Instructor

**Takashi Nakamura**, Instructor

**Tejinder Randhawa**, Instructor

## Advisory committee

BCIT is well-respected by employers for its ties to industry. In Computing, this connection is formalized through a Program Advisory Committee (PAC) [55], comprised of experts in a range of roles from a cross-section of companies. The department consults regularly to ensure program currency and relevance.

## Contact Us

Email: [compBSc@bcit.ca](mailto:compBSc@bcit.ca)

Tel: 604-432-8644

Programs and courses are subject to change without notice.

## List of links found on this page

This list includes all links found on this page for your reference.

- [1] <https://www.bcit.ca/programs/bachelor-of-science-in-applied-computer-science/>
- [2] <https://www.bcit.ca/about/visit/campuses-directions/burnaby/>
- [3] <https://www.bcit.ca/programs/applied-computer-science-games-development-option-bachelor-of-science-full-time-867absc/#details>
- [4] <https://www.bcit.ca/programs/computer-systems-technology-diploma-full-time-5500dipma/>
- [5] <https://www.bcit.ca/programs/applied-computer-science-games-development-option-bachelor-of-science-full-time-867absc/#entry>
- [6] <https://www.bcit.ca/programs/applied-computing-master-of-science-full-time-m600msc/>
- [7] <https://www.bcit.ca/programs/applied-computer-science-games-development-option-bachelor-of-science-full-time-867absc/#graduating>
- [8] <https://secure.bcit.ca/sis/apply/>
- [9] <https://www.bcit.ca/computing-academic-studies/computing/indigenous-student-support/>
- [10] <https://www.bcit.ca/files/cas/computing/pdf/bscacsadmissionsprocedures.pdf>
- [11] <https://www.bcit.ca/admission/entrance-requirements/english-language-proficiency/#category2>
- [12] <https://www.bcit.ca/ices/>
- [13] <https://www.cicic.ca/1374/obtain-an-academic-credential-assessment-for-general-purposes/index.canada>
- [14] <https://www.bcit.ca/admission/entrance-requirements/>
- [15] <https://www.bcit.ca/international-students/permits-visas-status/study-permits/>



- [16] <https://www.bcit.ca/admission/how-to-apply/submitting-transcripts-supporting-documents/#documents>
- [17] <https://secure.bcit.ca/sis/apply/>
- [18] <https://www.bcit.ca/admission/how-to-apply/>
- [19] <https://www.bcit.ca/admission/after-you-apply/communicating-with-bcit/>
- [20] <https://my.bcit.ca/>
- [21] <https://www.bcit.ca/financial-aid/awards-scholarships-bursaries/entrance-awards/>
- [22] <https://www.bcit.ca/computing-academic-studies/computing/indigenous-student-support/>
- [23] <https://www.bcit.ca/admission/tuition-fees/estimator/?ref=catalogue>
- [24] <https://www.bcit.ca/admission/tuition-fees/full-time-studies/>
- [25] <https://www.bcit.ca/admission/tuition-fees/international-fees/#fulltimetech>
- [26] <https://www.bcit.ca/financial-aid/>
- [27] <https://www.bcit.ca/files/admission/pdf/matrix-cstbtech-games-sep2022.pdf>
- [28] <https://www.bcit.ca/outlines/comp7035/>
- [29] <https://www.bcit.ca/outlines/comp7051/>
- [30] <https://www.bcit.ca/outlines/comp7082/>
- [31] <https://www.bcit.ca/outlines/comp7903/>
- [32] <https://www.bcit.ca/outlines/math7808/>
- [33] <https://www.bcit.ca/outlines/comp7905/>
- [34] <https://www.bcit.ca/outlines/comp8042/>
- [35] <https://www.bcit.ca/outlines/comp8051/>
- [36] <https://www.bcit.ca/outlines/comp8082/>
- [37] <https://www.bcit.ca/outlines/math7908/>
- [38] <https://www.bcit.ca/outlines/comp7003/>
- [39] <https://www.bcit.ca/outlines/comp8085/>
- [40] <https://www.bcit.ca/outlines/comp8552/>
- [41] <https://www.bcit.ca/outlines/comp8800/>
- [42] <https://www.bcit.ca/outlines/libs7001/>
- [43] <https://www.bcit.ca/outlines/libs7002/>
- [44] <https://www.bcit.ca/outlines/comp7012/>
- [45] <https://www.bcit.ca/outlines/comp8900/>
- [46] <https://www.bcit.ca/outlines/comp7990/>
- [47] <https://www.bcit.ca/outlines/comp8990/>
- [48] <https://www.bcit.ca/admission/entrance-requirements/transfer-credit/>
- [49] <https://www.bcit.ca/about/visit/campuses-directions/burnaby/>
- [50] <https://www.bcit.ca/programs/applied-computing-master-of-science-full-time-m600msc/>
- [51] <https://www.bcit.ca/workplace-education/work-experience-programs/co-op-programs/bachelor-of-science-in-applied-computing-science/>
- [52] [https://bcstats.shinyapps.io/so\\_data\\_viewer/](https://bcstats.shinyapps.io/so_data_viewer/)
- [53] <https://get.adobe.com/reader/>
- [54] <https://www.bcit.ca/files/ir/gp/8620btech.pdf>
- [55] <https://commons.bcit.ca/news/2020/02/fariba-pacheleh/>
- [56] <https://www.bcit.ca/international-students/>
- [57] <https://www.bcit.ca/financial-aid/>
- [58] <https://secure.bcit.ca/sis/apply/>