Applied Computer Science (Database Option)

Bachelor of Science Full-time/Part-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 Database Option, you'll learn how to build, optimize, and manage commercial and open-source databases and conduct data analysis for actionable insights.

Delivery: blended and in person options. See details.

About the option

The Database Option provides training on designing and implementing solutions that address the transactional and/or analytical processing needs of data applications by utilizing commercial and open-source relational and non-relational database management systems.

Now accepting applications for the **new** full-time January 2025 intake.

About the program

Full-time

- 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: January
- 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]

Part-time

- Course-by-course registration
- 3 intakes: January, April, and September [3]
- Offered evenings and weekends
- Up to 7 years to complete the program
- Blended delivery: on-campus (Downtown [4] and/or Burnaby [5]) and online
- Provides excellent academic foundation for graduate studies in either computer science or applied computing

See the Program Details [6] to learn more about what you can expect from BScACS [7] and how you can prepare for a career in Computing.

Who should complete the BScACS degree (Database Option)?

This program might be for you if you:

- Have completed the Computer Systems Technology (CST) Diploma (or equivalent of 60.0 credits of post-secondary education in Computing)
- Want to design large databases
- Are interested in combining different types of data analysis methods, including describing past trends, predicting future outcomes, and suggesting actions
- Enjoy figuring out ways to ensure databases work well, store data effectively, and find information quickly, whether it's on one computer or spread across multiple computers

If any of these sound like you, please check the Entrance Requirements [8] 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 gaining knowledge of various industry-recognized technologies.

After graduating, you'll be able to develop and oversee databases, including:

- Identify and explain the application of advanced database concepts, such as concurrency control, query optimization, parallel processing, and distributed processing
- Break down and describe how to use advanced database ideas, such as making sure multiple people can use the database simultaneously and improving how requests for information (queries) are handled
- Develop data engineering solutions by integrating data analytics with big data

Vancouver has been home to Canada's fastest-growing tech force for multiple years now, and you'll have the chance to join one of the 4,500 local tech companies or one of many international titans with Vancouver development studios.

And you also have the option to continue your education, including by applying to the BCIT Master of Science in Applied Computing [9] .

Learn more about future opportunities on the Graduating and Jobs page [10] .

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 [11] without a pre-entry or departmental assessment. CIT and FSWD Diploma Graduates will apply based on the pre-entry assessment.

Application processing

Full-time

Open to applications beginning May 1st (or next business day).

Part-time

Applications are accepted throughout the year.

Indigenous applicants: Read about Indigenous student support [12] available for the 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] [13] 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 [14] – 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) [15]. Credential evaluation reports from other Canadian services [16] may be considered. These reports must include course-by-course evaluations and GPA calculations.

Read more about how to meet BCIT's entrance requirements [17]

International applicants

Full-time

The full-time option is available to international applicants. A valid study permit [18] is required prior to starting the program.

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

Part-time

The part-time option is available to international applicants who currently have a valid status in Canada [19]. A valid study permit [20] is required prior to starting the program.

Apply to program

To submit your application:

- Include proof of meeting all entrance requirements.
- Convert all transcripts and supporting documents to PDF files [21].
- Have a credit card ready to pay the application fee.

Learn more about how to apply [23]

Scheduled Intakes

Full-time intake: January 2025

Ongoing Flexible Learning (Part-time Studies) intakes: January, April, and September [24].

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 [25] account at my.bcit.ca [26]. 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

Tuition fees

Full-time Studies

Use our tuition estimator [27] to find tuition and fees for this program.

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

- Full-time Studies Tuition & Fees [28]
- International Tuition & Fees [29]

Flexible Learning

Flexible Learning (Part-time Studies) tuition is charged on a course-by-course basis. Please see the Flexible Learning Tuition & Fees [30] page for more information on domestic and international tuitions.

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 [31] .

Courses

The Bachelor of Science in Applied Computer Science (Database) curriculum has been revised effective for the January 2025 intake. Students who began the Bachelor of Science in Applied Computer Science (Database) program prior to January 2025 should refer to the September 2023 cohort matrix [PDF] [32] .

Program matrix

Check current availability of courses [33] for this program.

		Credits
January 2025 Matrix		
The below program matrix is effective for students entering the program in January 2025 and later.		
Level 5 (15 weeks)		
COMP 7003 [34]	**Introduction to Information and Network Security**	3.0
COMP 7035 [36]	**Operating Systems**	3.0
COMP 7071 [38]	**Database Applications Development and Optimization**	3.0
COMP 7082 [40]	**Software Engineering**	3.0
MATH 7808 [42]	**Calculus for Computing**	4.0
Level 6 (15 weeks)		**Credits**
COMP 7171 [44]	**Data Center Design**	3.0
COMP 8042 [46]	**Advanced Algorithms and Data Structures Design and Analysis**	3.0
COMP 8071 [48]	**Data Warehousing**	3.0
COMP 8082 [50]	**Project Management***	3.0
MATH 7908 [52]	**Linear Algebra and Applications for Computing**	4.0
*This course fulfils the management component requirement.		
Level 7 (15 weeks)		**Credits**
COMP 8085 [54]	**Artificial Intelligence**	3.0
COMP 8171 [56]	**Database Systems Security**	3.0
COMP 8575 [58]	**Data Mining and Analytics**	3.0

COMP 8800 [60]	**Major Project 1**	3.0
LIBS 7001 [62]	**Critical Reading and Writing**	3.0
LIBS 7002 [64]	**Applied Ethics**	3.0
Level 8 (15 weeks)		**Credits**
COMP 7012 [66]	**Interaction Design**	3.0
COMP 8900 [68]	**Major Project 2**	3.0
General Education Electives (9.0 credits):		
Specific course offerings for the Computer Systems General Education Requirements [PDF] [70] will be determined by the department.		
Co-op work term courses (competitive entry)		**Credits**
Complete between Levels 6 and 7.		
COMP 7990 [71]	**Cooperative Education Workterm 1***	16.0
COMP 8990 [73]	**Cooperative Education Workterm 2****	16.0
*Winter intake: January through April **Fall intake: September through December		
Total Credits:		**65.0**

Check current availability of courses [75] for this program.

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 [76] 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 limitation will not be allowed. However, students may request a timeshift. A timeshift moves the program start year to one year later and the program completion year to one year later. With a timeshift, any COMP 7xxx and COMP 8xxx courses taken prior to the new start date will become stale-dated and 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.

Additional program options

- Human Computer Interface Option [77]
- Network Security Administration Option [78]
- Network Security Applications Development Option [79]
- Wireless and Mobile Applications Development Option [80]

Program delivery

Full-time

In-person: The full-time program is delivered on campus.

Part-time

Blended: This program is delivered partly on campus and partly online.

Once accepted into the flexible learning program, students register and complete classes on a course-by-course basis. Flexible learning courses are taught in our Downtown Vancouver Campus, Burnaby Campus, and online on weekday evenings and weekends.

Program location

Courses may be offered at the following locations:

Burnaby Campus [81]
3700 Willingdon Avenue
Burnaby, BC

Downtown Campus [82]
555 Seymour Street
Vancouver, BC

Online Learning [83]

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
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 [84] . 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.

Graduating & Jobs

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 [85] website.

To view these results, you may need to have the Adobe Acrobat Reader [86] installed in your Web browser.

- Applied Computer Science (Database Option) [87]

Faculty, Advisors & Staff

Student Inquiries

Email: 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)

D'Arcy Smith, Instructor

Sayyedhassan Shavarani, Instructor

Takashi Nakamura, Instructor

Tejinder Randhawa, Instructor

Contact Us

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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/flexible-learning/part-time-courses-programs/flexible-learning-key-registration-dates/
[4] https://www.bcit.ca/about/visit/campuses-directions/downtown/
[5] https://www.bcit.ca/about/visit/campuses-directions/burnaby/
[6] https://www.bcit.ca/programs/applied-computer-science-database-option-bachelor-of-science-part-time-867cbsc/#details
[7] https://www.bcit.ca/programs/bachelor-of-science-in-applied-computer-science/
[8] https://www.bcit.ca/programs/applied-computer-science-database-option-bachelor-of-science-part-time-867cbsc/#entry
[9] https://www.bcit.ca/programs/applied-computing-master-of-science-full-time-m600msc/
[10] https://www.bcit.ca/programs/applied-computer-science-database-option-bachelor-of-science-part-time-867cbsc/#graduating
[11] https://secure.bcit.ca/sis/apply/
[12] https://www.bcit.ca/computing-academic-studies/computing/indigenous-student-support/
[13] https://www.bcit.ca/files/cas/computing/pdf/bscacsadmissionsprocedures.pdf
[14] https://www.bcit.ca/admission/entrance-requirements/english-language-proficiency/#category2
[15] https://www.bcit.ca/ices/
[16] https://www.cicic.ca/1374/obtain-an-academic-credential-assessment-for-general-purposes/index.canada
[17] https://www.bcit.ca/admission/entrance-requirements/
[18] https://www.bcit.ca/international-students/permits-visas-status/study-permits/
[19] https://www.bcit.ca/international-students/permits-visas-status/status-in-canada/
[20] https://www.bcit.ca/international-students/permits-visas-status/study-permits/
[21] https://www.bcit.ca/admission/how-to-apply/submitting-transcripts-supporting-documents/#documents
[22] https://apply.educationplannerbc.ca/bcit
[23] https://www.bcit.ca/admission/how-to-apply/
[24] https://www.bcit.ca/flexible-learning/part-time-courses-programs/flexible-learning-key-registration-dates/
[25] https://www.bcit.ca/admission/after-you-apply/communicating-with-bcit/
[26] https://my.bcit.ca/
[27] https://www.bcit.ca/admission/tuition-fees/estimator/?ref=catalogue
[28] https://www.bcit.ca/admission/tuition-fees/full-time-studies/
[29] https://www.bcit.ca/admission/tuition-fees/international-fees/#fulltimetech
[30] https://www.bcit.ca/admission/tuition-fees/flexible-learning/
[31] https://www.bcit.ca/financial-aid/
[32] https://www.bcit.ca/wp-content/uploads/2024/05/Existing-Database-Flexible-Learning-Matrix-Prior-to-202510.pdf
[33] https://www.bcit.ca/courses/comp7003,comp7012,comp7035,comp7071,comp7082,comp7171,comp7990,comp8042,comp8071,comp8082,comp8085,comp8171,comp8575,con
[34] https://www.bcit.ca/courses/introduction-to-information-and-network-security-comp-7003/
[35] https://www.bcit.ca/outlines/comp7003/
[36] https://www.bcit.ca/courses/operating-systems-comp-7035/
[37] https://www.bcit.ca/outlines/comp7035/
[38] https://www.bcit.ca/courses/database-applications-development-and-optimization-comp-7071/
[39] https://www.bcit.ca/outlines/comp7071/
[40] https://www.bcit.ca/courses/software-engineering-comp-7082/
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[42] https://www.bcit.ca/courses/calculus-for-computing-math-7808/
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[44] https://www.bcit.ca/courses/data-center-design-comp-7171/
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[46] https://www.bcit.ca/courses/advanced-algorithms-and-data-structures-design-and-analysis-comp-8042/
[47] https://www.bcit.ca/outlines/comp8042/
[48] https://www.bcit.ca/courses/data-warehousing-comp-8071/
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[50] https://www.bcit.ca/courses/project-management-comp-8082/
[51] https://www.bcit.ca/outlines/comp8082/
[52] https://www.bcit.ca/courses/linear-algebra-and-applications-for-computing-math-7908/
[53] https://www.bcit.ca/outlines/math7908/
[54] https://www.bcit.ca/courses/artificial-intelligence-comp-8085/
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[56] https://www.bcit.ca/courses/database-systems-security-comp-8171/
[57] https://www.bcit.ca/outlines/comp8171/
[58] https://www.bcit.ca/courses/data-mining-and-analytics-comp-8575/
[59] https://www.bcit.ca/outlines/comp8575/
[60] https://www.bcit.ca/courses/major-project-1-comp-8800/
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[62] https://www.bcit.ca/courses/critical-reading-and-writing-libs-7001/
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[68] https://www.bcit.ca/courses/major-project-2-comp-8900/
[69] https://www.bcit.ca/outlines/comp8900/
[70] https://www.bcit.ca/files/cas/computing/pdf/cstbtechgeneraleducation.pdf

[71] https://www.bcit.ca/courses/cooperative-education-workterm-1-comp-7990/
[72] https://www.bcit.ca/outlines/comp7990/
[73] https://www.bcit.ca/courses/cooperative-education-workterm-2-comp-8990/
[74] https://www.bcit.ca/outlines/comp8990/
[75] https://www.bcit.ca/courses/comp7003,comp7012,comp7035,comp7071,comp7082,comp7171,comp7990,comp8042,comp8071,comp8082,comp8085,comp8171,comp8575,con
[76] https://www.bcit.ca/admission/entrance-requirements/transfer-credit/
[77] https://www.bcit.ca/programs/applied-computer-science-human-computer-interface-option-bachelor-of-science-part-time-867dbsc/
[78] https://www.bcit.ca/programs/applied-computer-science-network-security-administration-option-bachelor-of-science-part-time-867ebsc/
[79] https://www.bcit.ca/programs/applied-computer-science-network-security-applications-development-option-bachelor-of-science-full-time-part-time-867bbsc/
[80] https://www.bcit.ca/programs/applied-computer-science-wireless-and-mobile-applications-development-option-bachelor-of-science-part-time-867fbsc/
[81] https://www.bcit.ca/about/visit/campuses-directions/burnaby/
[82] https://www.bcit.ca/about/visit/campuses-directions/downtown/
[83] https://www.bcit.ca/flexible-learning/distance-online-learning/
[84] https://www.bcit.ca/programs/applied-computing-master-of-science-full-time-m600msc/
[85] https://bcstats.shinyapps.io/so_data_viewer/
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[87] https://www.bcit.ca/files/ir/gp/8620btech.pdf
[88] https://www.bcit.ca/international-students/
[89] https://www.bcit.ca/financial-aid/
[90] https://secure.bcit.ca/sis/apply/