SFU’s Faculty of Applied Sciences is home to the cutting-edge School of Computing Science and is a leader in technology-centred innovation. With a strong emphasis on entrepreneurship, professional skills development and experiential learning opportunities, the faculty gives students the tools to be the technology leaders of tomorrow, placing graduates at the forefront of technological development in a variety of market sectors.

“My favourite thing about Computing Science at SFU is that you design your own program. You can organize your classes and co-op program in the way that works best for you and create a great balance of school and work experience, really making your degree your own.”

Shannon Juzenas
Computing Science Student
CONGRATULATIONS AND WELCOME TO THE SCHOOL OF COMPUTING SCIENCE AT SFU

SFU is a unique community built on innovation and collaboration. By joining the School of Computing Science, you join more than 1,000 undergraduates who chose our program for its international reputation and career preparation.

EXPLORE:

- Our award-winning Dual Degree Program (DDP), which gives students the opportunity to study for approximately two years at Zhejiang University, China
- Our joint programs with business, geography, molecular biology, philosophy, linguistics or math
- Our co-op work experience, with local and international opportunities
- Our Software Systems major, a program designed for students interested in becoming software engineers (For more information about this highly-employable Surrey-based program, contact the Surrey campus advisor at sysone@sfu.ca or call 778.782.8111.)

There are many opportunities to become involved in SFU’s computing science community. The Computing Science Student Society (csss.cs.sfu.ca) and Women in Computing Science Group (wics.cs.sfu.ca) network, support and organize events to help make university an enjoyable experience.

SFU’s School of Computing Science takes you further. Contact our Student Affairs Unit to plan your career. Phone 778.782.9256 or e-mail asadvise@sfu.ca.

Dr. Martin Ester
Professor and School of Computing Science Director
MORE THAN 1,300 UNDERGRADUATE STUDENTS ARE CURRENTLY TAKING COMPUTING SCIENCE PROGRAMS AT SFU’S SURREY AND BURNABY CAMPUSES.

MAJOR/HONOURS

From multi-media software and biomedical image analysis to artificial intelligence, algorithms and complexity theory, we offer a breadth of knowledge covering the major areas in computing science. For more information, see cs.sfu.ca/undergraduate/programs/computing-science-major.html

SOFTWARE SYSTEMS MAJOR

Software Systems (SoSy) is a four-year Bachelor of Science (B.Sc.) program offered exclusively at SFU’s state-of-the-art Surrey campus. This program will allow students to develop the skills and knowledge to become software engineers. Through this hands-on program, students will acquire the skills, knowledge and thought processes necessary for professional software production, while also acquiring a broad knowledge of various computing systems that graduates encounter in their careers.

The Software Systems major will equip students with both the conceptual foundations of computing science and the applied software development skills needed to create today’s software solutions, and propel tomorrow’s innovations. For more information: sfu.ca/surrey/programs/software-systems

SFU/ZJU DUAL DEGREE PROGRAM

The SFU-Zhejiang University Dual Degree Program in Computing Science is a unique cohort-based program developed by Simon Fraser University and Zhejiang University (also known as the “Cambridge of the East”) in Hangzhou, China.

The Dual Degree Program will provide you with a once-in-a-lifetime opportunity to live and study in Canada and China and earn two bachelor degrees from two universities with reputations for excellence. By the end of their studies, students will have mastered Mandarin – the must-learn language of the future.

Chinese language background is not a prerequisite for the program. Our curriculum consists of a series of progressive Mandarin courses to build your Mandarin proficiency. You are encouraged to join as long as you have a genuine interest in computing science and different cultures. For more information: cs.sfu.ca/zhejiang
FAS TECHCONNECT PROGRAM

The goal of the TechConnect Program is to ensure a smooth transition from high school to university. The Faculty of Applied Sciences advisors take care of your registration for the first semester. Your cohort will be enrolled in the same lectures, labs and tutorials. In addition to seeing your group during class time, you will also attend biweekly meetings led by a student mentor, take advantage of specialized workshops/advising sessions, and participate in social events. For more information: sfu.ca/fas/current-student/advising/mentors.html

“A techConnect Program is a great platform for incoming students to meet other get paired with a mentor, who is a senior student in the faculty. Mentees learn a lot more about campus life, co-op, course selection, study strategies, etc., and go to multiple social events to meet other friends who are in the same program. The TechConnect Program helps incoming students transition to SFU and prepare them for a fun and successful undergraduate time.”

Awin Ye
Computing Science and Business
Joint Major Student

CO-OP EDUCATION

Co-op provides you with the opportunity to gain applicable work experience during your studies. Employers appreciate and tend to hire graduates with co-op experience because they know these pros ’hit the ground running.’ For more information: sfu.ca/coop/programs/cmpt/home.html

JOINT MAJORS

SFU’s Computing Science program supports and encourages multi-disciplinary students. We have designed joint major programs with business, linguistics, math, and molecular biology and biochemistry. The program recognizes how computers have been embraced by all areas of society, so we encourage students to consider these joint majors. Interested in another subject like business or environmental science? You can connect your major in computing science with just about any subject taught at SFU by taking a minor in that area. For more information, see sfu.ca/computing/undergraduate/programs.html

GEOGRAPHIC INFORMATION SCIENCE PROGRAM

Geographic Information Systems is a collection of practices, hardware and software used to analyze spatial data primarily by layering information on top of maps. GIScience deals with the theoretical and intellectual issues that surround the use of GISystem technologies. Students will explore the merits of different methods for digital representation of spatial entities on the earth’s surface. They will learn how to model data effectively; how to visualize those models using computer graphics; and how to program in object environments. For more information: sfu.ca/students/calendar/2014/summer/programs/geographic-information-science/major/bachelor-of-science.html
GET TO KNOW YOUR ADVISING TEAM. WE ARE HERE TO HELP!

The Faculty of Applied Sciences at Simon Fraser University has a team of dedicated professionals here to help you transition from high school to university.

Academic support is provided for incoming Computing Science, Engineering Science, Geographic Information Science, and Bachelor of General Studies students.

Daniela Abasi, Nancy Bart, Stephen Price, Angelica Sypal-Kohout, Danyu Zhao
Applied Sciences Advisors
asadvise@sfu.ca
778-782-9256
Room - ASB 9941
SFU Burnaby Campus

DROP-IN OR BOOKED ADVISING
cs.sfu.ca/CC/adbooking/calendar.cgi

Important Links

Computing Science
sfu.ca

Getting Started
cs.sfu.ca/undergraduate/getting-started.html

Course Central
cs.sfu.ca/undergraduate/course-central.html

Student Services
sfu.ca/students

Important Deadlines
sfu.ca/students/deadlines

SFU Road Conditions
sfu.ca/security/sfuroadconditions

“I’ve always had an extremely positive experience with the advisors. Since I began at SFU, they have done their best to answer any questions I have had and have always done it with a smile. In my experience, they’ve been some of the most helpful people throughout my university career.”

Shannon Juzenas
Computing Science Student
FALL TERM (AUG-DEC, 2014)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 28</td>
<td>Burnaby Welcome Day</td>
</tr>
<tr>
<td>September 1</td>
<td>Labour Day. No classes, offices closed.</td>
</tr>
<tr>
<td>September 2</td>
<td>Classes start</td>
</tr>
<tr>
<td>October 9</td>
<td>Convocation</td>
</tr>
<tr>
<td>October 13</td>
<td>Thanksgiving. No classes, offices closed.</td>
</tr>
<tr>
<td>November 11</td>
<td>Statutory holiday in lieu of Remembrance Day. No classes, offices closed.</td>
</tr>
<tr>
<td>December 1</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>December 3 -14</td>
<td>Exams</td>
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</tbody>
</table>

SPRING TERM (JAN-APR, 2015)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 1</td>
<td>New Year’s Day. No classes, offices closed.</td>
</tr>
<tr>
<td>January 2-5 (Tentative)</td>
<td>Burnaby Welcome Day</td>
</tr>
<tr>
<td>January 6</td>
<td>Classes start</td>
</tr>
<tr>
<td>February 9</td>
<td>Family Day. No classes, offices closed.</td>
</tr>
<tr>
<td>February 10-14</td>
<td>Reading break. No classes.</td>
</tr>
<tr>
<td>April 3 and 6</td>
<td>Easter break. No classes, offices closed.</td>
</tr>
<tr>
<td>April 13</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>April 15-25</td>
<td>Exams</td>
</tr>
</tbody>
</table>
Activate your computing ID

After you pay your deposit, you will receive an email about your computing ID from SFU’s IT Services. If you are starting your studies in the Fall term, you will receive your email in late June.

New from high school?
View SFU 101

Coming straight from high school? Check your email for information on SFU 101. SFU 101 is a free online course designed to help you prepare for the year ahead and set you up for success.

Learn about:
- What university life is all about
- Degree requirements
- How to enroll in courses
- The wide range of opportunities and resources available to you

For more information:
sfu.ca/students/newundergrads

Register for Welcome Day

Students: Welcome Day is a great opportunity to meet other students in your faculty and make friends before classes start.

For more information:
sfu.ca/students/newundergrads

Parents, for more information:
sfu.ca/dashboard/parents-public.html

Contact your Applied Sciences advisors with questions

Daniela Abasi, Nancy Bart, Stephen Price, Angelica Sypal-Kohout, Danyu Zhao
778-782-9256
asadvise@sfu.ca

For more information:
sfu.ca/students/newundergrads
FIRST YEAR SCHEDULE & COURSE DESCRIPTIONS

Enroll in classes

1. Log in to your student account with your computing ID and password at go.sfu.ca
2. Check your enrollment appointment time, either in the enrollment dates box on the right side of the screen or under enrollment.
3. Check the class search/browse catalog to see if you have the prerequisites for the courses you are planning to enroll in and to check the time, day and location of your chosen courses.
4. Enroll in classes on or after your enrollment appointment date. It is recommended you enroll in classes as soon as possible after your enrollment date is active.

Transfer Credit – If you have been awarded transfer credit from previous studies, please contact your Faculty of Applied Sciences advisor for help with course scheduling.

Not sure what to do? Contact your Faculty of Applied Sciences advisor or check these helpful enrollment tips and tutorials available online: sfu.ca/students/advising-resources/help-videos.html
How many courses should I take per term?

It is usually recommended that students take four courses per term in their first year; however, students will eventually need to take five courses per term in their later years in order to graduate within four years. In general, students can choose to take four courses per term (courses split across three terms) or five courses per term (two terms with the summer off). Note that the suggested first year schedule shown below lists four courses per term.

What’s the difference between MATH 150 and MATH 151? Which course should I take?

MATH 150 is intended for students with no previous knowledge of calculus. Students in MATH 150 will have an additional lecture hour each week. Pre-Calculus 12 (or equivalent) with at least an A grade is required for entry into MATH 151, whereas at least a B+ grade is required for entry into MATH 150. Students can take the online practice calculus readiness test to determine whether they should take 150 or 151: sfu.ca/math/calculus_readiness_test/practice_test.html

### COMPUTING SCIENCE MAJOR: SUGGESTED FIRST YEAR

<table>
<thead>
<tr>
<th>For students with a strong math background</th>
<th>For students who want to build their math background</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERM 1</strong></td>
<td></td>
</tr>
<tr>
<td>CMPT 120</td>
<td>CMPT 120</td>
</tr>
<tr>
<td>MATH 151 or 150</td>
<td>MATH 150 or 151</td>
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<tr>
<td>MACM 101</td>
<td>One writing course (WQB)*</td>
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<tr>
<td>One writing course (WQB)*</td>
<td>One breadth course (WQB)*</td>
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<tr>
<td>CMPT 125 &amp; CMPT 127</td>
<td>CMPT 125 &amp; CMPT 127</td>
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<tr>
<td><strong>TERM 2</strong></td>
<td></td>
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<tr>
<td>CMPT 150</td>
<td>MATH 152</td>
</tr>
<tr>
<td>MATH 152</td>
<td>MACM 101</td>
</tr>
<tr>
<td>One breadth course (WQB)*</td>
<td>One breadth course (WQB)*</td>
</tr>
</tbody>
</table>

*sfu.ca/ugcr/for_students/wqb_requirements.html
COURSE DESCRIPTIONS

For complete course descriptions and other important information related to courses and deadlines, check out the academic calendar: sfu.ca/students/calendar

CMPT 120 - 3 Introduction to Computing Science and Programming I

An elementary introduction to computing science and computer programming, suitable for students with little or no programming background. Students will learn fundamental concepts and terminology of computing science, acquire elementary skills for programming in a high-level language and be exposed to diverse fields within, and applications of, computing science. Topics will include: pseudocode, data types and control structures, fundamental algorithms, computability and complexity, computer architecture, and history of computing science. Treatment is informal and programming is presented as a problem-solving tool.

Students with credit for CMPT 102, 125, 126, 128 or CMPT 200 or higher may not take this course for further credit. Prerequisite: BC Math 12 or equivalent is recommended. Quantitative.

CMPT 125 - 3 Introduction to Computing Science and Programming II

A rigorous introduction to computing science and computer programming, suitable for students who already have some background in computing science and programming. Intended for students who will major in computing science or a related program. Topics include: fundamental algorithms; elements of empirical and theoretical algorithmics; abstract data types and elementary data structures; basic object-oriented programming and software design; computation and computability; specification and program correctness; and history of computing science. Students with credit for CMPT 126, 128, 135 or CMPT 200 or higher may not take for further credit. Prerequisite: BC Math 12 (or equivalent, or any of MATH 100, 150, 151, 154, or 157) and CMPT 120. Quantitative.

CMPT 127 - 3 Computing Laboratory

Builds on CMPT 120 to give a hands-on introduction to programming in C and C++, the basics of program design, essential algorithms and data structures. Guided labs teach the standard tools and students exploit these ideas to create software that works. To be taken in parallel with CMPT 125. Prerequisite: CMPT 120 or CMPT 128 or CMPT 130. Corequisite: CMPT 125.

Note: students will be expected to write many programs in this course.
COURSE DESCRIPTIONS

CMPT 150 - 3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how basic logic blocks of a simple computer are designed. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language programming; combinational logic design; and sequential logic design. Students with credit for ENSC 150 or CMPT 290 may not take this course for further credit. Prerequisite: Strongly recommended: MACM 101 and either CMPT 120 or equivalent programming. Quantitative.

MACM 101 - 3 Discrete Mathematics I
Introduction to counting, induction, set theory, formal reasoning, modular arithmetic, functions, complexity theory, trees, boolean algebra. Prerequisite: BC Math 12 (or equivalent), or any of MATH 100, 150, 151, 154, 157. Quantitative/Breadth-Science.

MATH 150 - 4 Calculus I with Review
Designed for students specializing in mathematics, physics, chemistry, computing science and engineering. Topics as for Math 151 with a more extensive review of functions, their properties and their graphs. Recommended for students with no previous knowledge of Calculus. In addition to regularly scheduled lectures, students enrolled in this course are encouraged to come for assistance to the Calculus Workshop (Burnaby), or Math Open Lab (Surrey). Prerequisite: Pre-Calculus 12 (or equivalent) with at least a B+ grade, or MATH 100 with at least a B- grade, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 151, 154 or 157 may not take MATH 150 for further credit. Quantitative.

MATH 151 - 3 Calculus I
Designed for students specializing in mathematics, physics, chemistry, computing science and engineering. Logarithmic and exponential functions, trigonometric functions, inverse functions. Limits, continuity, and derivatives. Techniques of differentiation, including logarithmic and implicit differentiation. The Mean Value Theorem. Applications of Differentiation including extrema, curve sketching, related rates, Newton’s method. Antiderivatives and applications. Conic sections, polar coordinates, parametric curves. Prerequisite: Pre-Calculus 12 (or equivalent) with at least an A grade, or MATH 100 with at least a B grade, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 154 or 157 may not take MATH 151 for further credit. Quantitative.

MATH 152 - 3 Calculus II
Riemann sum, Fundamental Theorem of Calculus, definite, indefinite and improper integrals, approximate integration, integration techniques, applications of integration. First-order separable differential equations. Sequences and series, series tests, power series, convergence and applications of power series. Students with credit for MATH 155 or 158 may not take this course for further credit. Prerequisite: MATH 150 or 151; or MATH 154 or 157 with at least a B grade. Quantitative.
Get your student ID/library card

You can collect your library/iD card 24 hours after you have enrolled in a course. You will need to present valid photo ID (for example, government issued ID, driver’s license, or high school GoCard). See more at sfu.ca/students/newundergrads

Get to know SFU

For more information: students.sfu.ca/newundergrads.html

Maps of Campus
Burnaby: sfu.ca/sub/about/maps-and-directions/burnaby.html
Surrey: sfu.ca/campuses/maps-and-directions/surrey-map.html

Sign up for Academic Support Workshops: learningcommons.sfu.ca/services/about/locations/burnaby

Purchase textbooks and supplies

You can look up what textbooks you will need at my.sfu.ca. Log in using your computing ID and click on a class title to see what textbooks are required. The SFU Burnaby Bookstore is located on the 3000 level of the Maggie Benston Student Service Centre at the Burnaby campus. Another option is to order your books online through E-Service (free shipping within Canada).

Tuition and fees

sfu.ca/students/fees/howtopay.html
sfu.ca/students/fees.html

Other important information

Scholarships and financial Aid:
sfu.ca/students/financialaid/sabws/scholarships.html
sfu.ca/students/financialaid.html

Burnaby parking passes and lockers:
sfu.ca/parking/students.html
sfu.ca/students/recreation/merchandise/lockers.html

Resources

- Health and Counselling Services: sfu.ca/students/health.html
- Centre for Students with Disabilities: sfu.ca/students/disabilityaccess.html
- Student life: sfu.ca/computing/undergraduate/student-life.html
- Get involved: sfu.ca/students/get-involved.html
- Directory of clubs at SFU: go.sfss.ca/clubs/list
- SFU recreation: sfu.ca/students/recreation.html
GET INVOLVED!

“Getting involved with university outside of classes is a great way to meet new people and really learn who you are. Join a club, start a club, or run for a position in your student union; all provide numerous opportunities for personal growth. Attending the various social events hosted by diverse groups from SFU is good for relaxing and just having a great time with your fellow students, as well. I certainly don’t regret any of the things I have participated in at SFU, from volunteering and being an orientation leader to running a student society. In fact, I have met a lot of cool new people and learned some interesting things about my university in the process. All these opportunities and more are available at SFU for you to enrich your time attending university, beyond just taking classes and doing your work: you just have to look.”

Matt Mercer
Software Systems Student

For more information:
Computing Science Student Society (CSSS)
csss.cs.sfu.ca
csss-exec@sfu.ca

Women in Computing Science (WICS)
cgi.sfu.ca/~wics
wics-exec@sfu.ca

Student societies/groups

Computing Science is home to both the Computing Science Student Society (CSSS) and the Women In Computing Science (WICS) group. They are here to promote the interests of students in the School of Computing Science at Simon Fraser University. Through events, workshops and other services, they are here for you. Get involved and make the most of your university experience!
When should I enroll?

Classes fill up fast so enroll as soon as you are allowed to! Check your SFU email or your student account for your enrollment date and time.

How is my enrollment date determined?

Newly admitted students have top priority for enrollment, usually the first week. Transfer students are always in the middle of the second week. Beyond that, there are several factors that determine students’ enrollment dates, like scholarships and CGPA. The most important factor is the number of units completed. Generally, students who have completed more units get earlier enrollment dates.

Mac or PC?

This is entirely up to you, so choose whichever platform works best for you. If you ever need to run Windows or Linux on Mac, you can do so with dual booting or using a virtual machine program, such as VirtualBox or VMware. However, if you want more flexibility in software options and plan to customize your hardware, then a PC is usually recommended.

The SFU FAS CSIL lab offers Windows and Linux platforms. Look at the software to help determine if you prefer a PC or a Mac.

Software on Linux:
cs.sfu.ca/about/school-facilities/csил/unix/software.html

Software on Windows:
cs.sfu.ca/about/school-facilities/csил/windows/software.html

More on CSIL:
cs.sfu.ca/about/school-facilities/csил/windows/software.html

Do I need to purchase any software?

No, any software you need can be found on the computers in the CSIL labs. We also give you software! Every student who is registered in any CMPT course in the current semester can get copies of any software packages we have available in our repositories. We make this software available to CMPT students so they have the option of using their own computer. For more information including software at student rates, see cs.sfu.ca/about/school-facilities/csил/windows/how-to-get-software.html and services.cs.sfu.ca
Textbooks are pricey! Any tips to cut the costs?

**BuyBack**

Get cash for your books! The SFU Bookstore pays cash for your unwanted books. Bring them to the store and the wholesaler will quote a price. For more information: sfu.collegestoreonline.com/ (click on shop course materials→buyback)

**Buying Online**

Buying online can sometimes save you big bucks! Check out sites like amazon.ca, books2go.ca, locazu.com, and vancouver.en.craigslist.ca

**Student Forums**

Join the following groups to trade/sell/buy your books:

- SFU Textbook Trade Center Facebook Group
- Buy and Sell SFU Textbooks Facebook Group

Looking for more FAQs? sfu.ca/computing/undergraduate/frequently-asked-questions.html

Should I go to the Burnaby Welcome Day?

Yes! It is a great place to meet new friends and hear lots of useful information before classes start. Friends can be your support system at university; you can form study groups, help each other with coursework, work through problems and share good times together.
TIPS FOR SUCCESS FROM YOUR FELLOW STUDENTS

Check out your classes before the first day of school. It’s a lot less stressful when you don’t have to fight the crowd to get where you’re going.

Although class sizes are large, it’s a really good idea to get to know your professors and TAs. Swing by after class or during their office hours and say hello. Establishing a relationship now means they’ll be easier to find when you need extra help before exam time.

Time management is key. One of the biggest challenges of starting university is how much faster the pace is. One of the best courses of action is to simply think ahead. Write down a list of ALL the important stuff you have to do, then take a weekly calendar (Google has a good one) and write in when you’re going to do those things. Schedule in some fun, too. If you follow your schedule, you don’t have to worry about that “Friday night guilt” when you’re out with your friends.

It may sound silly, but be sure to attend lectures. While attendance is not mandatory and many instructors put notes online, they are often incomplete to encourage you to come to class. Instructors are also known to drop major hints on exam content during lecture. If you’re absent one day, be sure to ask a friend for notes. Also, if you find a particular tutorial helpful, take advantage of this dedicated time with the TA.

Just like the schooling you’re used to, you’ll get notes and assignments. Review your notes on a regular basis. Normally, assignments are due every week, and tackling them in small chunks at a time is much better than doing it all at once. Taking it in bit-by-bit means you don’t have to learn the whole course the night before the final.

Ask questions. If you have a question you want to ask during class, chances are your peers are wondering the same thing. On the whole, instructors enjoy questions because it shows that their students are engaged in the class. Don’t be intimidated.

Use the resources provided for you. In addition to seeing profs during office hours and workshops, academic advisors are there to help you. The Student Learning Commons also has several great resources. For more tips: sfu.ca/fas/current-student/resources/tips-for-first-years.html