FIRST-YEAR UNIVERSITY TRANSFER COMPUTING SCIENCE AND SOFTWARE SYSTEMS CERTIFICATE

Purpose

The First–year University Transfer Computing Science and Software Systems Certificate provides students with the opportunity to explore options and demonstrate success at the first year level of university studies. Students will gain transfer credits to the second year of the SFU Software Systems program. Students who have completed all program requirements must contact the Registrar's Office to apply for graduation. For 2nd year transfer agreements with other public, post-secondary colleges, institutes and universities, please see our website: www.vcc.ca (http://www.vcc.ca). Students will

- increase readiness for degree-level study
- gain advanced standing into specified university programs through signed articulation (transfer) agreements
- gain transfer credits to the SFU Software Systems degree program or other programs

Duration

The time limit on completion is sixteen months for assured admission to SFU. The time limit on completion is three years for competitive admission to SFU.

The maximum allowable time for students to complete the program is three years.

Learning Outcomes

Upon successful completion of this program, graduates will be able to:

1. Incorporate critical thinking into theoretical reasoning and decision making.

2. Work collaboratively in computing laboratory activities.

3. Utilize information literacy abilities to determine the nature and extent of information required.

4. Develop appropriate presentation styles to produce clear and accurate written, verbal, and visual communication for clients and other professionals.

5. Utilize accepted research processes and abilities in all professional enquiries, communications, and scholarship.

6. Apply scientific and quantitative methodology as well as analytical skills.

7. Apply problem-solving in math and computer programming.

Admission Requirements

- Grade 12 graduation, or equivalent
- Knowledge of English demonstrated by *one* of the following:
    - English 12 with a minimum 'C+' grade, or equivalent
    or
    - English Language Proficiency at a minimum English 12 'C+' level
- Knowledge of mathematics demonstrated by *one* of the following:
    - Precalculus 12 with a minimum 'B' grade, or equivalent
    or
    - Math 0983 and MATH 0993 both with a minimum 'B' grade, or equivalent
    or
    - Math 1020 with a minimum 'C' grade, or equivalent
    or
    - VCC Math Precalculus Assessment Test (MPT) with a minimum 72% grade

- Knowledge of science demonstrated by *one* of the following:
    - Physics 12 with a minimum 'C+' grade, *or* PHYS 0983 and PHYS 0993 both with a minimum 'C+' grade, or equivalent
    or
    - Chemistry 12 with a minimum 'C+' grade, *or* CHEM 0983 and CHEM 0993 both with a minimum 'C+' grade, or equivalent
    or
    - Biology 12 with a minimum 'C+' grade, *or* BIOL 0983 and BIOL 0993 both with a minimum 'C+' grade, or equivalent

Program Requirements
Course Credits (Option A - SFU Transfer)

Successful completion of a minimum of 30 credits of university transfer articulated first year courses as per the British Columbia Council on Admission and Transfer Guide (BCCAT) is required for completion of the certificate. Credit distribution in the following courses is required:

Term One		Credits
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
SCIE 1110	Professional Communication	3
CMPT 1010	Intro to Comp Programming 1	3
SCIE 1100	Engineering, Tech & Society	3
	Credits	**15**
Term Two		
MATH 1200	Calculus 2	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1221	Applied Linear Algebra	3
Select one of the following electives:		3
SOCI 1100	Sociology 1: Introductory Sociology	
or SOCI 1200	or Sociology 2: Canadian Society	
or PSYC 1100	or Psychology 1	
or ECON 1100	or Microeconomics	
or ECON 1200	or Macroeconomics	
	Credits	**12**
Term Three		
MATH 2700	Probab & Stats for Scie & Eng	3
	Credits	**3**
	Total Credits	**30**

Course Credits (Option B - UBC BSc. in Computer Science transfer)

Successful completion of a minimum of 25 credits of university transfer articulated first year courses as per the British Columbia Council on Admission and Transfer Guide (BCCAT) is required for completion of the certificate. Credit distribution in the following courses is required:

Term One		Credits
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
Science Elective		
PHYS 1100 or CHEM 1121 or BIOL 1100	Physics 1 or Chemistry 1 or Biology 1	4
CMPT 1010	Intro to Comp Programming 1	3
	Credits	13
Term Two		
MATH 1200	Calculus 2	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1221	Applied Linear Algebra	3
Elective		3 or 4
PHYS 1200 or CHEM 1223 or BIOL 1200 or ENGL 1100 or SOCI 1100 or SOCI 1200 or PSYC 1100 or PSYC 1200 or ECON 1100 or ECON 1200	Physics 2 or Chemistry 2 or Biology 2 or English 1 or Sociology 1: Introductory Sociology or Sociology 2: Canadian Society or Psychology 1 or Psychology 2 or Microeconomics or Macroeconomics	
	Credits	12-13
	Total Credits	25-26

Course Credits (Option C - UBC BA in Computer Science transfer)

Successful completion of a minimum of 27 credits of university transfer articulated first year courses as per the British Columbia Council on Admission and Transfer Guide (BCCAT) is required for completion of the certificate. Credit distribution in the following courses is required:

Term One		Credits
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
CMPT 1010	Intro to Comp Programming 1	3
Elective		
ENGL 1100 or SOCI 1100 or SOCI 1200 or PSYC 1100 or PSYC 1200 or ECON 1100 or ECON 1200	English 1 or Sociology 1: Introductory Sociology or Sociology 2: Canadian Society or Psychology 1 or Psychology 2 or Microeconomics or Macroeconomics	3
	Credits	12

Term Two		
MATH 1200	Calculus 2	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1221	Applied Linear Algebra	3
Select two of the following electives:		6
ENGL 1100 or SOCI 1100 or SOCI 1200 or PSYC 1100 or PSYC 1200 or ECON 1100 or ECON 1200	English 1 or Sociology 1: Introductory Sociology or Sociology 2: Canadian Society or Psychology 1 or Psychology 2 or Microeconomics or Macroeconomics	
	Credits	15
	Total Credits	27

Option A: SFU Software Systems Transfer
Assured SFU Software Systems Degree 2nd Year Admission Pathway

Assured admission under this pathway requires completion of this Certificate. The number of students receiving assured admission from VCC to SFU is capped at 10 per year. Students must have an overall average GPA of 3.2 on the courses required for the pathway which are listed below (calculated based on the best attempt for each course) and an overall average of 3.2 (again, calculated based on the best attempt for each course) on all work combined in order to be considered for the 'assured admission' pathway. Students who have been previously required to withdraw from another institution would be considered ineligible for the assured admission pathway as would students who were formerly in a Computing, Engineering or Mechatronics program at SFU. Students must achieve an overall 3.0 CGPA from all post-secondary transfers from the last three years.

The assured admission pathway does not apply to international students. While the certificate is fully transferrable to SFU's Computing Science and Software Systems Degree, international students' GPA requirements may vary at the time of transfer.

The following courses must be completed as part of this pathway:

Code	Title	Credits
CMPT 1010	Intro to Comp Programming 1	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
MATH 1200	Calculus 2	3
MATH 1221	Applied Linear Algebra	3
MATH 2700	Probab & Stats for Scie & Eng	3
SCIE 1100	Engineering, Tech & Society	3
SCIE 1110	Professional Communication	3
Select one of the following electives:		3
SOCI 1100	Sociology 1: Introductory Sociology	
SOCI 1200	Sociology 2: Canadian Society	
ECON 1100	Microeconomics	
ECON 1200	Macroeconomics	
PSYC 1100	Psychology 1	
Total Credits		**30**

Of these courses, the following core courses must be taken at VCC:

Code	Title	Credits
SCIE 1110	Professional Communication	3
SCIE 1100	Engineering, Tech & Society	3
CMPT 1010	Intro to Comp Programming 1	3
CMPT 1020	Intro to Comp Programming 2	3

Other (non-core) courses in the certificate that are taken at post-secondary institutions other than VCC may be used towards completion of the VCC/SFU Computing pathway, providing that they transfer independently to SFU and receive the same credit at SFU as does the VCC pathway course. All credits must be obtained within sixteen months. In addition, for at least two of the terms at VCC, students would need to meet a minimum course load of 12 credits.

Competitive Software Systems Degree 2nd Year Admission Pathway

For competitive admission into 2nd year of the SFU Software Systems Degree, students must complete a minimum 24 units of transferable course work, including: one mathematics course chosen from MATH 1120 Discrete Mathematics 1, MATH 1100 Calculus 1, MATH 1200 Calculus 2, MATH 2700 Probab & Stats for Scie & Eng and MATH 1221 Applied Linear Algebra; CMPT 1020 Intro to Comp Programming 2 (for which CMPT 1010 Intro to Comp Programming 1 is a prerequisite); and one additional mathematics course chosen from the above list. Full details can be found on SFU's College/University site www.sfu.ca/students/admission-requirements/canadian-transfer/college-university.html.html (https://www.sfu.ca/students/admission-requirements/canadian-transfer/college-university.html.html) under the program specific requirements for Software Systems students.

Applicants must meet the general SFU English language and quantitative admission requirements.

Option B: UBC BSc in Computer Science Transfer

No assured admission agreement is in place with UBC. To attempt admission into the 2nd year of the BSc in Computer Science at UBC it is recommended that students complete the following courses:

Code	Title	Credits
CMPT 1010	Intro to Comp Programming 1	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
MATH 1200	Calculus 2	3
MATH 1221	Applied Linear Algebra	3

In addition, it is recommended that students take:

Code	Title	Credits
One science elective chosen from:		4
PHYS 1100	Physics 1	
BIOL 1100	Biology 1	
CHEM 1121	Chemistry 1	
One additional elective chosen from:		3-4
PHYS 1100	Physics 1	
PHYS 1200	Physics 2	
BIOL 1100	Biology 1	
BIOL 1200	Biology 2	
CHEM 1121	Chemistry 1	
CHEM 1223	Chemistry 2	
ENGL 1100	English 1	
SOCI 1100	Sociology 1: Introductory Sociology	
SOCI 1200	Sociology 2: Canadian Society	
ECON 1100	Microeconomics	
ECON 1200	Macroeconomics	
PSYC 1100	Psychology 1	
PSYC 1200	Psychology 2	

Option C: UBC BA in Computer Science Transfer

No assured admission agreement is in place with UBC. To attempt admission into the 2nd year of the BA in Computer Science at UBC it is recommended that students complete the following courses:

Code	Title	Credits
CMPT 1010	Intro to Comp Programming 1	3
CMPT 1020	Intro to Comp Programming 2	3
MATH 1100	Calculus 1	3
MATH 1120	Discrete Mathematics 1	3
MATH 1200	Calculus 2	3
MATH 1221	Applied Linear Algebra	3

In addition, it is recommended that students take:

Code	Title	Credits
Three elective courses chosen from:		9
ENGL 1100	English 1	
SOCI 1100	Sociology 1: Introductory Sociology	
SOCI 1200	Sociology 2: Canadian Society	
ECON 1100	Microeconomics	
ECON 1200	Macroeconomics	
PSYC 1100	Psychology 1	
PSYC 1200	Psychology 2	

The required GPA for transfer to other post-secondary institutions may vary based on transfer agreements with other institutions.

Evaluation of Student Learning

Evaluation of the courses is determined by the instructor and may include a combination of practical assignments, projects, theory exams and/or practical exams.

The required GPA for transfer may vary based on transfer agreements with other post-secondary institutions. Please see our website: www.vcc.ca (http://www.vcc.ca).

Successful completion of a minimum of 30 credits of university transfer articulated first year courses as per the British Columbia Council on Admission and Transfer Guide (BCCAT) is required for completion of the certificate.

Prior Learning Assessment and Recognition (PLAR)

For students attempting the assured pathway to Simon Fraser University, PLAR is not allowed, as per the agreement with SFU.

Transcript of Achievement

The evaluation of learning outcomes for each student is prepared by the instructor and reported to the Student Records Department at the completion of semesters.

The transcript typically shows a letter grade for each course. The grade point equivalent for a course is obtained from letter grades as follows:

Grading Standard

Grade	Percentage	Description	Grade Point Equivalency
A+	90-100		4.33
A	85-89		4.00
A-	80-84		3.67
B+	76-79		3.33
B	72-75		3.00
B-	68-71		2.67
C+	64-67		2.33
C	60-63		2.00
C-	55-59		1.67
D	50-54	Minimum Pass	1.00
F	0-49	Failing Grade	0.00
S	70 or greater	Satisfactory – student has met and mastered a clearly defined body of skills and performances to required standards	N/A
U		Unsatisfactory – student has not met and mastered a clearly defined body of skills and performances to required standards	N/A
I		Incomplete	N/A
IP		Course in Progress	N/A
W		Withdrawal	N/A
Course Standings			
R		Audit. No Credits	N/A
EX		Exempt. Credit Granted	N/A
TC		Transfer Credit	N/A

Grade Point Average (GPA)

1. The course grade points shall be calculated as the product of the course credit value and the grade value.

2. The GPA shall be calculated by dividing the total number of achieved course grade points by the total number of assigned course credit values. This cumulative GPA shall be determined and stated on the Transcript at the end of each Program level or semester.

3. Grades shall be assigned to repeated courses in the same manner as courses taken only once. For the purpose of GPA calculation of grades for repeated courses, they will be included in the calculation of the cumulative GPA.