



Vancouver Community College Education Council  
 Special Meeting Agenda  
 November 29, 2024  
 10:30-11:30 a.m. Videoconference  
<https://vcc.zoom.us/j/67747362960>

	Topic	Action	Speaker	Time	Attachment	Page
1.	<b>CALL TO ORDER</b>		N. Mandryk			
2.	<b>ACKNOWLEDGEMENT</b>		L. Beveridge			
3.	<b>ADOPT AGENDA</b>	Approval	N. Mandryk	1 min	✓	<b>1</b>
4.	<b>ENQUIRIES &amp; CORRESPONDENCE</b>	Info	N. Mandryk	1 min		
5.	<b>BUSINESS ARISING</b>					
	a. New Program Pathways: Associate Degrees	Approval	J. Kelly, S. Lew	40 min		
	i. Associate of Arts in Psychology				✓	<b>2-11</b>
	ii. Associate of Science in Data Science				✓	<b>12-24</b>
	iii. Associate of Science in Environmental Science				✓	<b>25-26 14-24</b>
	b. Update: Program Name Changes	Info	N. Mandryk	5 min		
6.	<b>NEXT MEETING &amp; ADJOURNMENT</b>	Info	N. Mandryk	1 min		

Next meeting:  
 December 10, 2024, 3:30–5:30 p.m.



## DECISION NOTE

**DATE:** Nov 22, 2024

**PREPARED FOR:** Education Council

**ISSUE:** New program pathway: Associate of Arts in Psychology

### BACKGROUND:

The Associate of Arts degree PCG was previously approved by Education Council, but has been on hold since September 2020. The approved program framework meets BCCAT requirements for an Associate of Arts degree, but the Humanities department has not offered enough second-year courses to meet the program requirements. The Humanities department is now prepared to proceed with the necessary course development to implement this program, starting with a Psychology pathway.

### DISCUSSION:

The Associate of Arts degree is a 60-credit, two-year program that provides an accessible and lower-barrier entry point to postsecondary studies, as compared to direct entry into universities. All credits in the program are fully articulated and transferable to other post-secondary institutions. Graduates of the Associate of Arts degree may also choose to enter the workforce in entry-level positions such as Learning Inclusion Support Workers in school settings. This program is open to domestic and international students.

Student demand for this program is likely to be strong: the Associate of Arts in Psychology is the most popular Associate degree program at several post-secondary institutions in the Lower Mainland, and the BC Labour Market Outlook (2003) projects significant growth care economy job openings. At VCC, first-year Psychology courses are among the most popular University Transfer courses.

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Fifteen of the 20 required courses are currently offered at VCC. The first year of the program (September 2025 to April 2026) consists entirely of existing courses, so there is ample time for course development for the second year (September 2026 to April 2027). New courses will include a first-year Philosophy course and second-year courses in Psychology, Philosophy and Sociology. VCC has subject-matter experts in Psychology and Sociology, but will likely need to recruit an outside SME for the two Philosophy courses.

## **RECOMMENDATION**

That Educational Council approve amending the Associate of Arts PCG with the new Psychology pathway.

**PREPARED BY:** Jennifer Kelly, Associate Director, Arts and Sciences  
Shirley Lew, Dean, Arts & Sciences

# Program Change Request

Date Submitted: 11/22/24 4:12 pm

Viewing: **Associate of Arts Degree**

Last approved: 01/08/24 3:50 pm

Last edit: 11/22/24 4:42 pm

Changes proposed by: jekelly

## Program Name:

Associate of Arts Degree

Credential Level: Associate Degree

Effective Date: September ~~2020~~ 2025

Effective Catalog Edition: 2025-2026 Academic Calendar

School/Centre: Arts & Sciences

Department: UT Humanities (2016)

Contact(s)

## In Workflow

1. **2016 Leader**

2. **SAS Dean**

3. **Curriculum  
Committee**

4. Education Council

## Approval Path

- 11/22/24 4:40 pm  
Darija Rabadzija  
(drabadzija):  
Approved for 2016  
Leader
- 11/22/24 4:43 pm  
Jennifer Kelly  
(jekelly): Approved  
for SAS Dean

## History

- Dec 4, 2019 by  
ygracheva
- Jun 12, 2020 by  
Andy Sellwood  
(asellwood)
- Sep 9, 2022 by  
Darija Rabadzija  
(drabadzija)
- Feb 24, 2023 by  
Darija Rabadzija  
(drabadzija)
- Jan 8, 2024 by  
Nicole Degagne  
(ndegagne)
- Jan 8, 2024 by  
Nicole Degagne  
(ndegagne)

7. Jan 8, 2024<sup>5</sup> by  
Nicole Degagne  
(ndegagne)

Name	E-mail	Phone/Ext.
<u>Michael Weber</u> <del>Larry Perras</del>	<u>humanities@vcc.ca</u> <del>lperras@vcc.ca</del>	<u>6044438774</u> <del>604-871-7000, 7289</del>
<u>Jennifer Kelly</u> <del>Yulia Gracheva</del>	<u>jekelly@vcc.ca</u> <del>ygracheva@vcc.ca</del>	<u>604-871-7293</u> <del>604-871-7000, 7202</del>

## Program Content Guide

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### Purpose

The Associate of Arts degree comprises two years of undergraduate university study in the Arts and Sciences, equivalent to the first two years of a four-year bachelor's degree. While the goal is to provide students with an academic foundation for further university studies, an associate degree is also a stand-alone credential. The Associate of Arts degree is widely recognized by post-secondary institutions in the [British Columbia Council on Admissions and Transfer](#) (BCCAT).

Students who successfully complete the Associate of Arts degree have an increased likelihood of transferring to a university and entering the third year of a four-year bachelor's degree program.

Students are strongly advised to check the admissions policies of their desired transfer institution, specifically to ensure that they meet any additional criteria for specific program areas, such as majors and minors. A minimum Associate of Arts degree GPA may be required.

### 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 Grade 12 'C+' level

### Notes:

Students are required to have successfully completed prerequisite courses leading to courses in the Associate degree (for example: prerequisite course Pre-calculus 11 or equivalent needs to be successfully completed in order to take ECON 1100 Microeconomics). See the requirements for each course.

Specific post-secondary courses may be used to substitute for secondary school courses at the discretion of the appropriate departments.

Students may request formal recognition of prior learning attained through informal education, work, or other life experience, including Indigenous ways of knowing. Credits may be granted to students who are able to sufficiently demonstrate the learning outcomes of specific courses.

PLAR is available for the following courses:

MATH 1100 Calculus 1

MATH 1200 Calculus 2

MATH 1111 Introduction to Statistics

Students may complete up to nine (9) program credits through PLAR. Tuition and fees may still apply to PLAR candidates.

Methods of PLAR vary by course, and may include exams, portfolios, interviews, and other evaluations. To request PLAR, please contact the appropriate Department directly.

See [Prior Learning Assessment and Recognition](#) policy for more information.

### Program Duration & Maximum Time for Completion

The expected length of the program is 24 months. Most courses are offered during the VCC Academic Year, from September to April. Courses are also offered in the Summer Term, from May to August. There is the option of part-time studies, which would result in a longer time frame for completion of the credential. The maximum allowable time for students to complete the program is four years.

### Program Learning

#### Outcomes

	<b>Upon successful completion of this program, graduates will be able to:</b>
PLO #1	Analyze, evaluate, and interpret written, spoken, and/or visual texts from a variety of academic disciplines
PLO #2	Analyze, evaluate, and synthesize information collected through classroom presentations and individual research
PLO #3	Construct effective essays, reports, and oral presentations that demonstrate an understanding of appropriate academic rhetorical strategies and research documentation
PLO #4	Integrate knowledge from a variety of academic disciplines
PLO #5	Apply general and specific disciplinary knowledge to solving problems in a classroom environment
PLO #6	Work well independently and in teams
PLO #7	Demonstrate effective computer skills to successfully complete academic projects
PLO #8	Apply the knowledge and skills gained in the associate degree to higher-level study in third and fourth-year courses at a university or related institution

### Instructional Strategies, Design, and Delivery Mode

Courses are presented using a variety of instructional strategies, resources, and activities and may include the following, depending on the academic discipline and specific course objectives: lectures, class discussion, group work, guest speakers, films/videos, online and blended learning, demonstrations, case studies, field trips, laboratories, applied practical experiences and other approaches as determined by the instructor.

### Evaluation of Student Learning

Student evaluation is determined by the specific evaluation plan listed in each course outline, and may include a combination of the following methods, depending on the academic discipline and course objectives: assignments and projects, such as essays, reports, and oral presentations; quizzes and tests; theoretical and/or practical mid and/or final exams, or other appropriate methods in line with the current scholarship on teaching and learning in higher education.

A minimum overall GPA of 2.0 ('C' average) is required, with a minimum passing grade of 'D' in each course counting towards the Associate of Arts.

Upon successful completion of the program, the student will receive an Associate of Arts Degree.

### Recommended Characteristics of Students

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~~Motivated, with a positive attitude towards learning Analytical, with the ability to think critically and rationally  
Computer literate, with some word processing experience and related technology skills~~

### Courses

University transfer courses can be taken as stand-alone credits. Students do not have to declare their intention of completing the Associate of Arts degree to register in courses. Courses are open to any student who meets the general and specific requirements for each course.

However, students must meet the Associate of Arts program admissions requirements before courses can be used to satisfy the Associate of Arts degree.

**Note:** New courses will be developed to meet the needs of the program and react to ongoing changes in higher education. Please speak to Advising or the Department for support in selecting courses.

For detailed course descriptions, consult the course outlines available on the main VCC website.

The Associate of Arts Degree requires the successful completion of a minimum 60 credits that have assigned or unassigned credit at Simon Fraser University, the University of British Columbia, the University of Victoria, or the University of Northern British Columbia.

For further details about how a course is defined (e.g. arts/science/other, first-year/second-year, lab science/non-lab science etc.) please see <https://www.bctransferguide.ca/learn-more-about/associate-degrees/>

**Students must complete:**

- A. 6 credits in first-year English
- B. 9 credits in Science which shall include at least:
- B1. 3 credits in Mathematics, Computing Science or Statistics
  - B2. 3 credits in a laboratory Science
- C. 36 credits in Arts which shall include:
- C1. A minimum of 18 credits in second-year Arts taken in two or more subject areas
  - C2. 6 credits in the Social Sciences
  - C3. 6 credits in Humanities (including the Creative and Performing Arts) other than English
- D. 9 credits in Arts, Science, or other areas.
- Total Program Credits: 60.0 (minimum)

### Psychology Pathway

<u>English (6 credits)</u>		<u>6</u>
<u>ENGL 1100</u>	<u>English 1</u>	
<u>or ENGL 1101 and ENGL 1001</u>		
<u>ENGL 1200</u>	<u>English 2</u>	
<u>or ENGL 1102 and ENGL 1002</u>		
<u>Math or statistics (3 credits)</u>		<u>3</u>
<u>MATH 1111</u>	<u>Introduction to Statistics</u>	
<u>First-year Arts classes</u>		<u>18</u>
<u>PSYC 1100</u>	<u>Psychology 1</u>	
<u>PSYC 1200</u>	<u>Psychology 2</u>	
<u>INDG 1100</u>	<u>Introduction to First Nations &amp; Indigenous Studies</u>	
<u>SOCI 1100</u>	<u>Sociology 1: Intro to Sociology</u>	
<u>SOCI 1200</u>	<u>Sociology 2: Canadian Society</u>	
<u>1st-year Humanities class</u>		
<u>Second-year Arts classes (18 credits)</u>		<u>18</u>
<u>PSYC 2300</u>	<u>Abnormal Psychology</u>	
<u>PSYC 2320</u>	<u>Research Methods in Psychology</u>	
<u>PSYC 2xxx Developmental Psychology</u>		
<u>PSYC 2xxx Cognitive Psychology</u>		
<u>SOCI 2xxx Sociology of Health and Illness</u>		
<u>PHIL 2xxx Ethics, Data and Society</u>		



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Lab science (3 credits)

3

BIOL 1100

or CHEM 1121

or PHYS 1100

or PHYS 1110

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Math or science (3 credits)

3

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Electives (9 credits)

9

ECON 1100

Microeconomics

ECON 1200

Macroeconomics

CRIM 1150

Introduction to Criminology

Or other electives with department approval

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Total Credits

60

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
<b>Course Standings</b>			
R		Audit. No Credits	N/A
EX		Exempt. Credit Granted	N/A
TC		Transfer Credit	N/A

## Grade Point Average (GPA)

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

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.

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.

## Rationale and Consultations

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Provide a rationale for this proposal.

The Associate of Arts degree PCG was previously approved by Education Council, but has been on hold since September 2020. The approved program framework meets BCCAT requirements for an Associate of Arts degree, but the Humanities department has not offered enough second-year courses to meet the program requirements. The Humanities department is now prepared to proceed with the necessary course development to implement this program, starting with a Psychology pathway.

This pathway is part of the rapid program development project.

Are there any expected costs to this proposal.

Course development funding will be required for the new courses before the second year of the program can be offered in Sept-April 2026.

Consultations

Consultated Area	Consultation Comments
International Education	Alison Rudko: preferred structure is 4 terms of 15 credits each with summer break in the middle
Faculty/Department	Department is supportive of the program and ready to begin course development work.

### Additional Information

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Provide any additional information if necessary.

Supporting documentation:

[DN - AofA Psychology EdCo.pdf](#)

### Marketing Information

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*FOR MARKETING PURPOSES ONLY. DO NOT EDIT.*

*These fields are NOT required for governance approval. The wording in these fields is written by Marketing for a specific purpose and must be consistent with all other College publications. If changes are needed, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

This program is for:



## DECISION NOTE

**DATE:** Nov 22, 2024

**PREPARED FOR:** Education Council

**ISSUE:** New program pathway: Associate of Science in Data Science

### BACKGROUND:

The Associate of Science degree PCG was approved by Education Council in 2021 and currently includes one pathway in Computer Science. The Math and Science departments are jointly proposing an additional pathway in Data Science.

### DISCUSSION:

The Associate of Science degree is a 60-credit, two-year program that provides an accessible and lower-barrier entry point to postsecondary studies, as compared to direct entry into universities. Graduates of the Associate of Science degree may also choose to enter the workforce in entry-level positions in data analysis and in emerging AI-related fields. This program is open to both domestic and international students.

The BC Labour Market Outlook (2003) identifies data scientists as a high-opportunity occupation in BC. SFU offers a Bachelor of Science program in Data Science, and UBC is launching a similar program in September 2025. Other institutions in the Lower Mainland offer general Associate of Science degrees, but VCC would be the first to offer a two-year undergraduate program in Data Science.

Seventeen of the 20 required courses are currently offered at VCC. The first year of the program (September 2025 to April 2026) consists entirely of existing courses, so there is ample time for course development for the second year (September 2026 to April 2027). Three new second-year Math courses will need to be developed. One of these can likely be used by the proposed Post-

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Degree Diploma in Data Analytics. An additional new course being developed for the PDD in Data Analytics (a second-year Philosophy class: Ethics, Data and Society) could be added to this program in place of an existing elective.

### **RECOMMENDATION**

That Educational Council approve amending the Associate of Science PCG with the new Data Science pathway.

**PREPARED BY:** Jennifer Kelly, Associate Director, Arts and Sciences  
Shirley Lew, Dean, Arts & Sciences

# Program Change Request

Date Submitted: 11/22/24 4:39 pm

Viewing: **Associate of Science Degree**

Last approved: 10/22/24 12:01 pm

Last edit: 11/22/24 4:39 pm

Changes proposed by: jekelly

Catalog Pages Using  
this Program

[Associate of Science Degree](#)

Program Name:

Associate of Science Degree

Credential Level:

Associate Degree

Effective Date:

September ~~2021~~ 2025

Effective Catalog  
Edition:

2025-2026 Academic Calendar

School/Centre:

Arts & Sciences

Department

UT Sciences (2018)

Contact(s)

## In Workflow

1. **2018 Leader**
2. **SAS Dean**
3. **Curriculum Committee**
4. Education Council

## Approval Path

1. 11/22/24 4:55 pm  
Nafiseh Tohidi  
(ntohidi): Approved  
for 2018 Leader
2. 11/22/24 5:10 pm  
Jennifer Kelly  
(jekelly): Approved  
for SAS Dean

## History

1. Jun 7, 2018 by  
cdeans
2. Aug 21, 2019 by  
Nicole Degagne  
(ndegagne)
3. Jun 12, 2020 by  
Jennifer Kelly  
(jekelly)
4. Jun 16, 2021 by  
Jennifer Kelly  
(jekelly)
5. Oct 21, 2021 by  
Nicole Degagne  
(ndegagne)
6. Dec 6, 2021 by  
Darija Rabadzija  
(drabadzija)

7. Feb 16, 2022 by  
Nicole Degagne  
(ndegagne)
8. Jun 21, 2022 by  
Todd Rowlatt  
(trowlatt)
9. Sep 9, 2022 by  
Darija Rabadzija  
(drabadzija)
10. Feb 24, 2023 by  
Darija Rabadzija  
(drabadzija)
11. Mar 10, 2023 by  
Leszek Apouchtine  
(lapouchtine)
12. Jun 26, 2023 by  
Darija Rabadzija  
(drabadzija)
13. Jan 8, 2024 by  
Nicole Degagne  
(ndegagne)
14. Jan 8, 2024 by  
Nicole Degagne  
(ndegagne)
15. Jan 8, 2024 by  
Nicole Degagne  
(ndegagne)
16. Oct 22, 2024 by  
Darija Rabadzija  
(drabadzija)
17. Oct 22, 2024 by  
Dawn Cunningham  
Hall (dahall)
18. Oct 22, 2024 by  
Darija Rabadzija  
(drabadzija)

Name	E-mail	Phone/Ext.
Jennifer Kelly	jekelly@vcc.ca	7293

## Program Content Guide

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### Purpose

The Associate of Science degree provides two years of undergraduate university level courses in the sciences and arts, equivalent to the first two years of a four-year bachelor's degree. The goal is to provide an academic educational foundation that enables students to continue their studies towards degree completion. The Associate of Science degree will provide a provincial credential widely recognized by many post-secondary institutions in the [British Columbia Council on Admissions and Transfer \(BCCAT\)](#).

Students who successfully complete the Associate of Science degree have an increased likelihood of being admitted into third year courses at the transfer institution. Students are strongly advised to check the admissions policy of the institution to which they would like to transfer, and to find out if there are additional criteria they must meet for specific program areas. A minimum Associate degree GPA may be required.

### 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:

Math 12 Precalculus with a minimum 'B' grade or equivalent, *or*

Math Precalculus Test (MPT) with a minimum 72%

One of the following:

Biology 12 with a minimum 'C+' grade, *or*

Chemistry 12 with a minimum 'C+' grade, *or*

Physics 12 with a minimum 'C+' grade, *or*

Equivalent

Notes:

Students are required to have successfully completed prerequisite courses leading to courses in the Associate degree (for example: prerequisite course Chemistry 12 or equivalent needs to be successfully completed in order to take CHEM 1121 Chemistry 1; a minimum of a 'B' grade in English 12 or equivalent is required to take ENGL 1100 English 1). See the requirements for each course.

Specific post-secondary level courses may be used to substitute for secondary school courses at the discretion of the appropriate departments.



Students may request formal recognition of prior learning attained through informal education, work, or other life experience, including Indigenous ways of knowing. Credits may be granted to students who are able to sufficiently demonstrate the learning outcomes of specific courses.

Consult the course outlines for the availability of PLAR. Examples of courses that accept PLAR include the following:

MATH 1100 Calculus 1

MATH 1200 Calculus 2

MATH 1111 Introduction to Statistics

Students may complete up to nine program credits through PLAR. Tuition and fees may still apply to PLAR candidates.

Methods of PLAR vary by course, and may include exams, portfolios, interviews, and other evaluations. To request PLAR, contact the appropriate department directly.

See [Prior Learning Assessment and Recognition](#) policy for more information.

### Program Duration & Maximum Time for Completion

The expected length of the program is two years. There is also the option of part-time studies, which would result in a longer time frame for completion of the credential. The maximum allowable time for students to complete the program is four years.

### Program Learning

#### Outcomes

	<b>Upon successful completion of this program, graduates will be able to:</b>
PLO #1	Analyze and interpret data collected through research or laboratory experiences
PLO #2	Apply the core concepts of introductory sciences to real world problems
PLO #3	Apply competent and relevant technology skills in solving problems
PLO #4	Work well independently and in a team environment
PLO #5	Use their scientific educational experiences as a solid foundation for academic readiness to higher level study at the third and fourth year level courses

### Additional PLO Information

### Instructional Strategies, Design, and Delivery Mode

The courses are presented using a variety of instructional strategies, resources and activities including lectures, laboratories, online and blending learning, field trips, demonstrations, guest speakers, case studies, and applied practical experiences.

Evaluation of the student is determined by the instructors and may include a combination of assignments, tests, projects, theory, exams and/or practical exams. A minimum overall GPA of 2.0 (C average) is required, with a minimum passing grade (D or better) in each course counting towards the Associate of Science.

Upon successful completion of the program, the student will receive an Associate of Science degree.

### Recommended Characteristics of Students

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~~Motivated and positive attitude towards learning Good analytical and critical thinking skills Computer literate, with some word processing experience and related technology skills~~

### Courses

Students do not have to declare their intention of completing the Associate of Science credential before beginning to take courses. Courses are open to any student who meets the general and specific requirements for the course. However, students will need to meet the admission requirements to the program before courses can be used to complete the Associate of Science degree.

No course can be used to meet more than one of the specific requirements (for example, MATH 1120 as both a Math requirement and a First Year Science requirement).

The Associate of Science degree requires the successful completion of a minimum 60 credits that have assigned or unassigned credit at Simon Fraser University, the University of British Columbia, the University of Victoria, or the University of Northern British Columbia.

Students are required to complete a minimum of 60 university-transferable credits at the 1<sup>st</sup> and 2<sup>nd</sup>-year level. These must include a minimum of 18 credits in Science at the second-year level taken in two or more subject areas (See Specific Requirements C2).

Students can accumulate credits at more than one institution and have them count as transfer credits towards the Associate of Science degree at VCC as long as they meet the general and specific requirements of the credential.

Students will be required to complete at least 50% of their course work from VCC.

For further details about how a course is defined (e.g. arts/science/other, first-year/second-year, lab science/non-lab science etc.) please see <https://www.bctransferguide.ca/learn-more-about/associate-degrees/>

### Students must complete:

- A. 6 credits in first-year English
- B. 6 credits in Mathematics which shall include at least 3 credits in Calculus (6 credits in Calculus is recommended)
- C. 36 credits in Science which shall include:
  - C1. A minimum of 3 credits in a laboratory Science
  - C2. A minimum of 18 credits in second-year Science taken in at least two different subject areas (including additional Mathematics credits)
- D. 6 credits in Arts other than English (excluding Mathematics and Laboratory-based Science courses)
- E. 6 credits of first or second-year transferable courses in Arts, Science or other areas.

**Total Program Credits:** 60.0 credits (minimum)

## Computer Science Pathway

In order to be eligible for transfer into third year computer science at UBC, SFU, and other institutions, it is recommended that students complete the following courses as part of their Associate of Science degree.

English (6 credits)	6
<a href="#">ENGL 1100</a> English 1	
or <a href="#">ENGL 1101</a> English and <a href="#">ENGL 1001</a> Integrated Language Support 1	
<a href="#">ENGL 1200</a> English 2	
or <a href="#">ENGL 1102</a> English and <a href="#">ENGL 1002</a> Integrated Language Support 2	
Calculus (6 credits)	6
<a href="#">MATH 1100</a> Calculus 1	
<a href="#">MATH 1200</a> Calculus 2	
Lab science (3 credits)	3
<a href="#">PHYS 1100</a> Physics 1	
or <a href="#">PHYS 1110</a> Introduction to Astronomy	
or <a href="#">CHEM 1121</a> Chemistry 1	
or <a href="#">BIOL 1100</a> Biology 1	
or <a href="#">BIOL 1120</a> Human Anatomy & Physiology 1	
First-year science (12 credits)	12
<a href="#">CMPT 1010</a> Introduction to Computer Programming 1	
<a href="#">CMPT 1020</a> Introduction to Computer Programming 2	
<a href="#">MATH 1120</a> Discrete Mathematics 1	
<a href="#">MATH 1221</a> Applied Linear Algebra	
Second-year science (minimum 18 credits from at least 2 subject areas)	18
<a href="#">CMPT 2225</a> Data Structures and Programming	
<a href="#">CMPT 2276</a> Introduction to Software Engineering	
<a href="#">CMPT 2295</a> Introduction to Computer Architecture	
<a href="#">MATH 2700</a> Probability and Statistics for Science and Engineering	
<a href="#">MATH 2251</a> Calculus 3	
<a href="#">MATH 2120</a> Discrete Mathematics 2	
<a href="#">MATH 2310</a> Ordinary Differential Equations	

Electives (15 credits)	15
Arts other than English (6 credits)	
Science (3 credits)	
Arts or science (6 credits)	
Total Credits	60
<b><u>Data Science Pathway</u></b>	
<u>English (6 credits)</u>	<u>6</u>
<u>ENGL 1100</u> <u>English 1</u>	
<u>or ENGL 1101 English and ENGL 1001 Integrated Language Support 1</u>	
<u>ENGL 1200</u> <u>English 2</u>	
<u>or ENGL 1102 English and ENGL 1002 Integrated Language Support 2</u>	
<u>Calculus (6 credits)</u>	<u>6</u>
<u>MATH 1100</u> <u>Calculus 1</u>	
<u>MATH 1200</u> <u>Calculus 2</u>	
<u>Lab science (3 credits)</u>	<u>3</u>
<u>PHYS 1100</u> <u>Physics 1</u>	
<u>or PHYS 1110 Introduction to Astronomy</u>	
<u>or CHEM 1121 Chemistry 1</u>	
<u>or BIOL 1100 Biology 1</u>	
<u>or BIOL 1120 Human Anatomy &amp; Physiology 1</u>	
<u>First-year science (12 credits)</u>	<u>12</u>
<u>CMPT 1010</u> <u>Introduction to Computer Programming 1</u>	
<u>CMPT 1020</u> <u>Introduction to Computer Programming 2</u>	
<u>MATH 1120</u> <u>Discrete Mathematics 1</u>	
<u>MATH 1221</u> <u>Applied Linear Algebra</u>	
<u>Second-year science (minimum 18 credits from at least 2 subject areas)</u>	<u>18</u>
<u>CMPT 2225</u> <u>Data Structures and Programming</u>	
<u>MATH 2700</u> <u>Probability and Statistics for Science and Engineering</u>	
<u>MATH 2120</u> <u>Discrete Mathematics 2</u>	

<u>MATH 2xxx Intro to Data Science</u>		
<u>MATH 2xxx Introductory R for Data Science</u>		
<u>MATH 2xxx Intro to Operations Research</u>		
<u>MGMT 1005</u>	<u>Organizational Behaviour</u>	<u>3</u>
<u>PHIL 2xxx Data, Ethics and Society</u>		<u>3</u>
<u>Electives (9 credits)</u>		<u>9</u>
<u>Arts other than English (3 credits)</u>		
<u>Any elective (3 credits)</u>		
<u>Science (3 credits)</u>		
Total Credits		60
<u>Environmental Science Pathway</u>		
<u>English (6 credits)</u>		<u>6</u>
<u>ENGL 1100</u>	<u>English 1</u>	
<u>or ENGL 1101 English and ENGL 1001 Integrated Language Support 1</u>		
<u>ENGL 1200</u>	<u>English 2</u>	
<u>or ENGL 1102 English and ENGL 1002 Integrated Language Support 2</u>		
<u>Calculus (6 credits)</u>		<u>6</u>
<u>MATH 1100</u>	<u>Calculus 1</u>	
<u>MATH 1200</u>	<u>Calculus 2</u>	
<u>First-year science (27 credits)</u>		<u>27</u>
<u>BIOL 1100</u>	<u>Biology 1</u>	
<u>BIOL 1200</u>	<u>Biology 2</u>	
<u>CHEM 1121</u>	<u>Chemistry 1</u>	
<u>CHEM 1223</u>	<u>Chemistry 2</u>	
<u>PHYS 1100</u>	<u>Physics 1</u>	
<u>PHYS 1200</u>	<u>Physics 2</u>	
<u>EVSC 1100</u>	<u>Introduction to Environmental Science</u>	
<u>Second-year science (minimum 18 credits from at least 2 subject areas)</u>		<u>18</u>
<u>BIOL 2104</u>	<u>Introduction to Ecology</u>	

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<u>BIOL 2216</u>	<u>Comparative Vertebrate Zoology</u>	
<u>BIOL 2106</u>	<u>Invertebrate Zoology</u>	
<u>BIOL 2204</u>	<u>Plant Biology</u>	
<u>EVSC 2xxx Environmental Science in Practice</u>		
<u>MATH 2700</u>	<u>Probability and Statistics for Science and Engineering</u>	
<u>INDG 1100</u>	<u>Introduction to First Nations &amp; Indigenous Studies</u>	<u>3</u>
<u>Elective: Arts other than English (3 credits)</u>		<u>3</u>
Total Credits		63

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
<b>Course Standings</b>			
R		Audit. No Credit.	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, if grades for repeated courses, they will be included in the calculation of the

purpose of GPA calculation or grades for repeated courses, they will be included in the calculation of the cumulative GPA.

## Rationale and Consultations

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Provide a rationale for this proposal.

The Associate of Science degree PCG was approved by Education Council in 2021 and currently includes one pathway in Computer Science. As part of the rapid program development project, two new pathways are being proposed by the Science and Math departments: Environmental Science and Data Science.

Are there any expected costs to this proposal.

The second-year courses will require development funding. Most or all of the curriculum development can be undertaken by subject matter experts at VCC, and some of it will take place during faculty AD time.

Consultations

Consultated Area	Consultation Comments
International Education	Alison Rudko: preferred structure is 4 terms with a summer break in the middle; pre-reqs for Environmental Science pathway may be an issue.
Faculty/Department	Confirmed availability of in-house SMEs for Biology and Environmental Science course development and delivery.

## Additional Information

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Provide any additional information if necessary.

Supporting documentation:

[DN - AofS EnviroSci EdCo.pdf](#)

[DN - AofS DataSci EdCo.pdf](#)

## Marketing Information

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## DECISION NOTE

**DATE:** Nov 22, 2024

**PREPARED FOR:** Education Council

**ISSUE:** New program pathway: Associate of Science in Environmental Science

### BACKGROUND:

The Associate of Science degree PCG was approved by Education Council in 2021 and currently includes one pathway in Computer Science. The Science department is proposing an additional pathway in Environmental Science.

### DISCUSSION:

The Associate of Science degree is a 60-credit, two-year program that provides an accessible and lower-barrier entry point to post-secondary studies, as compared to direct entry into universities. Graduates of the Associate of Science degree in Environmental Science may also choose to enter the workforce in entry-level technician positions. This program is open to both domestic and international students.

The BC Labour Market Outlook (2003) forecasts growth in opportunities for biological technicians and technologists. VCC has an assured admission agreement in place with SFU for students to complete their first year of Environmental Science at VCC and transfer to SFU. Feedback from high school counsellors has consistently suggested that a two-year program at VCC would better suit the needs of their students.

Thirteen of the 19 required courses are currently offered at VCC, and an additional four have approved course outlines and some course development completed. The first year of the program (September 2025 to April 2026) consists entirely of existing courses, so there is ample time for course development for the second year (September 2026 to April 2027). One new second-year

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Downtown campus  
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course (EVSC 2xxx, Environmental Science in Practice) will need to be developed by in-house SMEs.

### **RECOMMENDATION**

That Educational Council approve amending the Associate of Science PCG with the new Environmental Science pathway.

**PREPARED BY:** Jennifer Kelly, Associate Director, Arts and Sciences  
Shirley Lew, Dean, Arts & Sciences