

Introduction to Programming

Land Acknowledgement

This course is delivered on the beautiful territory of the Halq'emeylem speaking Sto:lo people, who have cared for this land long before the arrival of settlers, and who continue their role, while imparting important knowledge with the people who now share this space.

Calendar Description

An introduction to computer programming using a modern programming language. Students will cover fundamental concepts such as variables, data types, control structures, collections, recursion and objects. Emphasis will be placed on clarity, style and design throughout.

Prerequisites

One of the following: (C or better in one of Pre-calculus 11, Foundations of Mathematics 11, Principles of Mathematics 11, or MATH 085) or (one of Principles of Mathematics 12, Foundations of Mathematics 12, Pre-calculus 12, MATH 092, or MATH 094).

Note: Competency in computer skills is required. See CIS Required Skills section on the CIS department website for details.

Learning Outcomes

Upon successful completion of this course, students will be able to:

- Demonstrate an ability to write cohesive computer programs.
- Write well-documented and effective code.
- Use a programming language to write programs to solve a variety of problems using the following:
 - Conversion tables
 - Monitoring and retrieving information from file storage
 - Sorting an array
 - Processing two dimensional tables
 - Processing matrices
 - Iteration
 - String manipulation
 - Array processing
 - Pointers
 - Iteration to calculate summations

- Real and Integer mathematics
- Choose from sets of outcomes

Instructor

Carl Janzen

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Textbook (none required)

We will make use of multiple freely available resources, such as:

- [Beginners Guide to Python](#)
- [Dive Into Python 3](#)
- [UFV Jupyterhub at Alliance Canada](#)

Student Evaluation

Assignments 55%

Midterm Exam 45%

Grade Scale

A+	90%	B-	70%
A	85%	C+	67%
A-	80%	C	63%
B+	77%	C-	60%
B	73%	D	50%
		F	< 50%

Schedule

Tentative schedule is subject to change

NB: Assigns are due at 5pm on the day after the lecture date in the course schedule.

Session	Date	Topics	Assigned	Due
1	Sep 4	Course Overview, Programming Environment	Python Tutorial Exercise	
2	Sep 11	Introduction to Python and Git	Assign 1	
3	Sep 18	Objects and Classes	Assign 2	Assign 1
4	Sep 25	Virtual Environments and Package Management	Assign 3	Assign 2
5	Oct 2	Input and Output	Assign 4	Assign 3
6	Oct 9	Introduction to C and Pointers	Assign 5	Assign 4
7	Oct 16	Data Structures		Assign 5
8	Oct 23	Midterm (no lecture)		
9	Oct 30	Classes (continued)	Assign 5	
10	Nov 6	Databases	Assign 6	Assign 5
11	Nov 20	User Interfaces	Assign 7	Assign 6
12	Nov 27	TBA		
13	Dec 4	TBA		Assign 7

There is no scheduled final exam.

EVEN/ODD HYB (Blended Learning)

This course is delivered as HYB delivery mode. In the School of Computing, all courses with HYB delivery mode alternate between online synchronous and in-person classes. When there is a holiday closure, the online or in-person class takes place the next time the class meets. Classes that meet face to face at the start of the term are designated as ODD, while classes that meet online at the start of the term are designated as EVEN.

Audit and Withdrawal

A student who wants to have a seat in a class but not receive credit may, with instructor permission, register as an Audit (AU) student. The audit designation assumes a minimum amount of attendance and participation as determined by the instructor. A course with an audit designation is not

included in the GPA. Course withdrawal is subject to different restrictions depending on when you withdraw.

Late Assignments

Late assignments will only be graded in cases of documented extenuating circumstances.

Exams

Exam attendance is mandatory. If you have three or more final exams on the same date, you may choose to request an exam conflict block. If you are unable to attend the final exam due to an unavoidable extenuating circumstance, please provide supporting documentation for the same. Do not make travel plans before the final exam date is posted.

Academic Misconduct

From [Policy 70 \(page 3\)](#): Members of the University community are expected to carry out their scholarly work with honesty, to meet the highest ethical standards, to respect the facts and appropriate standards of evidence, and to acknowledge the contributions and scholarship of others. As members of the University community, students are expected to demonstrate appropriate academic conduct. They are responsible for their actions, whether acting alone or in a group. For more information, see: [academic integrity](#).

Any student involved in academic misconduct may be awarded a failing grade for the course. More than one incident of academic misconduct, including incidents in other courses, may result in a recommendation to suspend or expel the student.

Centre for Accessibility Services

The University of the Fraser Valley is an academic community that values diversity and seeks to promote meaningful access to educational opportunity for all of its students. The Centre for Accessibility Services operates as the central contact point for students with disabilities at UFV. See: [Centre for Accessibility Services](#).

Referral to the Student Support Centre (formerly PASS)

From the Student Support Centre [website](#):

UFV faculty and staff may submit a referral to the Student Support Centre to connect you to the supports and resources that may help your academic persistence and resilience. Such assistance may include finding the right UFV resource for you and working with you one-on-one to help problem solve and create individualized plans for your specific situation. The referral is treated confidentially and is sent because your instructor cares about your progress, wellbeing, and success. Your response to a Student Support Referral is entirely voluntary. Instructors will let you know they are making

a referral. Visit <https://www.ufv.ca/studentservices/student-support-centre/> for more information. If you would like to refer yourself, you can find the referral link on our website.