# CSC115: Fundamentals of Programming: II

## Course Dates

| | |
|---|---|
| CRN(s): | Section A01 CRN: 30177 |
| | Section A02 CRN: 30178 |
| Term: | Summer 2020 |
| Course Start: | 2020-05-04 |
| Course End: | 2020-08-17 |
| Withdrawal with 100% reduction of tuition fees: | 2020-05-16 |
| Withdrawal with 50% reduction of tuition fees: | 2020-06-06 |
| Last day for withdrawal (no fees returned): | 2020-07-01 |

## Scheduled Meeting Times (M=Mon, T=Tue, W=Wed, R=Thu, F=Fri)

| Section: | Location: | Classes Start: | Classes End: | Days of week: | Hours of day: | Instructor: |
|---|---|---|---|---|---|---|
| A01 | | 2020-05-04 | 2020-07-31 | MR | 13:00-14:20 | Anthony Estey |
| A02 | | 2020-05-04 | 2020-07-31 | MR | 13:00-14:20 | Anthony Estey |
| B01 | | 2020-05-11 | 2020-07-31 | T | 11:30-13:20 | |
| B02 | | 2020-05-11 | 2020-07-31 | W | 11:30-13:20 | |
| B03 | | 2020-05-11 | 2020-07-31 | R | 14:30-16:20 | |
| B04 | | 2020-05-11 | 2020-07-31 | F | 09:30-11:20 | |
| B05 | | 2020-05-11 | 2020-07-31 | F | 12:30-14:20 | |

## Instructor(s)

Name: **Anthony Estey**
Office: ECS 464
Phone: (250) 472-5841
Email: aestey at uvic dot ca

| Office Hours: | Comments |
|---|---|
| Mon    02:30pm-04:00pm | |
| Wed    01:00pm-02:30pm | |
| Fri     10:30am-12:30pm | |

## Course Enrollment Expectations

Students should expect that course experience offered by this on-line course will be a variation of the on-campus courses. Learning outcomes will be altered and met using on-line methods.

Many course activities (such as lecture, lab assistance and exams) will expect synchronous participation (i.e., at the scheduled time). Students should plan to attend all course components. Courses will not be able to accommodate personal scheduling issues, including time zone variations (from Pacific Daylight time).

Participation in this course requires reliable and consistent access to on-line technology: a computer (desktop or laptop) and an internet connection. It will not be possible to adjust the course expectations, due dates or learning outcomes for students who do not have the technological means to complete the course. Course expectations (learning outcomes, due dates, etc) will assume on-line technology, without exception.

The university and the Faculty of Engineering has strong mandate to support Equity, Diversity and Inclusion
https://www.uvic.ca/engineering/about/equity/index.php
We as a teaching team will do what we can to create a positive, safe and supportive environment for you to participate in all components of this course offering. I appreciate all feedback from you and ask that you feel free to message me on CourseSpaces to voice concerns or to arrange a time to discuss virtually in-person.

We expect you to be respectful of other students: mute your microphones if you are not talking, participate by providing input and asking questions using inclusive language and behaviour and listen actively while others are speaking.

Online sessions will be hosted using Zoom video conferencing sessions, some of which will be recorded. To access Zoom you will be required to login through the UVic portal (https://uvic.zoom.us/) and subsequently you will not be anonymous.

Strict monitoring of academic integrity will be performed in this course for any work submitted for marks. See course component descriptions and Course Policies and Guidelines below for details on academic integrity expectations. Substantiated academic integrity violations will be referred to the Department's Academic Integrity Committee which will determine penalty and ensure a record of the violation is kept with the university.

## Textbook

**Optional:** *Data Abstraction and Problem Solving with Java: Walls and Mirrors (3rd Ed.),* by Frank M. Carrano and Janet J. Prichard, Addison-Wesley, 2005.

**Recommended:** Any introductory Java text.

## Course Objectives

This course will:

- introduce two fundamental programming concepts: abstract data types and recursion;
- examine and apply these concepts within the context of an object-oriented approach to programming;
- introduce techniques for reasoning about the efficiency of algorithms and data structures;
- study foundational approaches to organizing data and computations.

## Intended Outcomes

Upon successful completion of the course, students will have:

- an understanding of how to use a modern object-oriented programming language to define and manipulate lists, stacks, queues, trees and tables of data;
- an appreciation of why it is important to use abstraction and encapsulation in the design of programs;
- the ability to recognize when a particular choice of data structure is appropriate or ill-advised by reasoning about its efficiency in relation to a problem domain;
- the ability to uncover and reason about repetitive aspects of a computing problem, and to develop appropriate recursive or iterative solutions;
- the ability to understand the specification of a program and its implementation as separate, but related design problems.

## Topics

The course will cover the following topics:

- A review of programming in Java
- The design, definition and manipulation of simple data objects
- The implementation of lists, including both sequential (linked) and random access (array) variations
- The implementation of stacks, queues, binary trees, and hash tables; with applications
- An introduction to polymorphism: class hierarchies, interfaces, and generic types
- Problem decomposition using recursion and divide-and-conquer strategies
- Techniques for describing the time and space requirements of data structures and their operations
- The efficiency of common searching and sorting approaches

## Assignments

There will be **7** programming assignments which, together, will comprise 30% of the total course mark.
This schedule is subject to change. Please consult the course webpage for accurate due dates.

| Assignment | Weight | Tentative Due Dates |
|---|---|---|
| Assignment 1 | 1% | May 11 |
| Assignment 2 | 5% | May 25 |
| Assignment 3 | 5% | June 8 |

| Assignment | Weight | Tentative Due Dates |
|---|---|---|
| Assignment 4 | 5% | June 22 |
| Assignment 5 | 5% | July 8 |
| Assignment 6 | 5% | July 22 |
| Assignment 7 | 4% | July 29 |

You should start assignments early enough to allow time to seek help if you encounter difficulties. **Late Assignments will not be accepted.**

Students are encouraged to discuss assignment problems with each other and form study groups. However, final assignment submissions must be generated independently, and you will only receive credit for your own work. Submitting the work of another student (in whole or in part) and claiming it as your own, or providing your work to another student for them to submit, is plagiarism. In the context of programming assignments (where the submission is code), you are encouraged to discuss all aspects of the assignment with your peers, and to collaborate on the conceptual aspects of the solution, but do not look at the code written by any other student (either over their shoulder or by sharing it electronically).

Submitting the work of others (whether they are your fellow students or not) without proper acknowledgement will be considered a serious academic offense and may result in failure of the course.

Plagiarism detection software will be used on assignment submissions. Substantiated instances of plagiarism, including cases where only a part of the submission has been plagiarized, will be referred to the Department's academic integrity committee. Note that the university calendar (in https://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html) clearly states that a largely plagiarized assignment should result in a failing grade being assigned for the course.

## Labs

For each of the 10 labs, there will be a set of exercises to work through. You must submit a solution during your registered lab time. If you do not submit during your scheduled lab time, the submission page will close and you will receive a grade of 0 for the lab.

Your lab grade is recorded for each of the 10 labs and contributes 1% to your overall course grade.

## Exams

In this course there will be three midterm exams worth 50% of the course grade.

| Exam | Weight | Tentative Exam Dates |
|---|---|---|
| Midterm 1 | 15% | June 1 |
| Midterm 2 | 20% | June 29 |
| Midterm 3 | 15% | July 30 |

This course will not have a final exam during the August exam period. **Missing an exam will result in a score of zero being assigned for that exam, except in cases where an academic concession (with appropriate documentation) applies.**

## Grading

| Coursework | Weight |
|---|---|
| Assignments | 30% |
| Labs | 10% |
| Lecture Quizzes | 10% |
| Midterm Exams (3) | 50% |

**Note:** To receive a passing grade in the course, each student must achieve a final percentage of at least 50%, and also must receive a passing grade on the average of the exams combined. Students who do not achieve at least 50% overall, and students who do not meet the exam average threshold for the exam component will receive a letter grade of F.

## Regrade policy

At times, you may feel that marks were unfairly deducted during an assignment. In this situation, you can submit your work for a regrade.

We will only take regrades if they are submitted within **7 days** of the marks for that assignment being released. Also note that we reserve the right to regrade the entirety of any assignment submitted. When requesting a regrade, your old grade will be removed and your new grade could be higher or lower.

To submit a regrade request, you must email the Head Lab Instructor with the following information (requests missing any of this information will not be considered):
• Your name and student number
• The assignment that you would like regraded
• The part you would like regraded
• The reason for requesting a regrade. You must specify which parts of the grading rubric/tests you feel was graded incorrectly.
• Regrade requests need to point to a specific, clear error in grading not an argument about the allocation of marks in the rubric. We can only apply a consistent rubric and standard across all assignments.

Exceptions will be granted for missed work (exams, assignments, exercises) **only** in cases where the university's policy on academic concessions (with appropriate documentation, such as a doctor's note) applies. Documentation must be supplied to the instructor within **5 calendar days** of the missed component or the exception will not be granted. The university's policies on academic concessions (at http://web.uvic.ca/calendar/undergrad/info/regulations/concessions.html ) will be strictly followed. In particular, please note that no exceptions can be made for incidental scheduling issues that may result in a missed exam (e.g. sleeping in, traffic, late busses, etc.). You are responsible for taking the necessary precautions to ensure that you arrive to exams on time.

## Grading System

The University of Victoria follows a percentage grading system in which the instructor will submit grades in percentages. The University will use the following Senate approved standardized grading scale to assign letter grades. Both the percentage mark and the letter grade will be recorded on the academic record and transcripts.

| F | D | C | C+ | B- | B | B+ | A- | A | A+ |
|---|---|---|----|----|---|----|----|---|----|
| 0-49 | 50-59 | 60-64 | 65-69 | 70-72 | 73-76 | 77-79 | 80-84 | 85-89 | 90-100 |

| Grades | Description |
|--------|-------------|
| A+, A, A- | **Exceptional, outstanding** or **excellent** performance. Normally achieved by a minority of students. These grades indicate a student who is *self-initiating*, *exceeds expectation* and has an *insightful* grasp of the subject matter. |
| B+, B, B- | **Very good**, **good** or **solid** performance. Normally achieved by the largest number of students. These grades indicate a *good* grasp of the subject matter or *excellent grasp in one area balanced with satisfactory grasp in the other areas*. |
| C+, C | **Satisfactory**, or **minimally satisfactory**. These grades indicate a *satisfactory performance and knowledge* of the subject matter. |
| D | **Marginal Performance**. A student receiving this grade demonstrated a *superficial grasp* of the subject matter. |
| F | **Unsatisfactory performance**. Wrote final examination and completed course requirements; no supplemental. |

## Posting of Grades

Typically marks for assignments, examinations, and provisional final grades, are made available through conneX, or CourseSpaces where each student will be able to view only their own grades. Sometimes numerical marks/grades may be posted publicly to the entire class. In that case, full student numbers or names will not be included with the posted information.

## Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to the CES site

You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you closer to the time, but please be thinking about this important activity, especially the

following three questions, during the course.

- What strengths did your instructor demonstrate that helped you learn in this course?
- Please provide specific suggestions as to how the instructor could have helped you learn more effectively.
- Please provide specific suggestions as to how this course could be improved.

## Csc Student Groups

The Computer Science Course Union (https://onlineacademiccommunity.uvic.ca/cscu/) serves all students who are either in a computer science program or taking a class in computer science. Please sign yourself up on their mailing list if you would like to be informed about their social events and services.

The Engineering Students' Society (ESS) serves all students registered in an Engineering degree program, including Software Engineering (BSEng). For information on ESS activities, events and services navigate to http://www.engr.uvic.ca/~ess .

## Course Policies And Guidelines

*Late Assignments:* No late assignments will be accepted unless prior arrangements have been made with the instructor **at least 48 hours before** the assignment due date.
*Coursework Mark Appeals:* All marks must be appealed **within 7 days** of the mark being posted.
*Attendance:* We expect students attend all lectures and labs. It is entirely the students' responsibility to recover any information or announcements presented in lectures from which they were absent.
*Electronic devices in labs and lectures:* No unauthorized *audio* or *video* recording of lectures is permitted.
*Electronic devices in midterms and exams:* Calculators are only permitted for examinations and tests if explicitly authorized and the type of calculator permitted may be restricted. No other electronic devices (e.g. cell phones, pagers, PDA, etc.) may be used during examinations or tests *unless explicitly authorized.*
*Plagiarism:* Submitted work may be checked using plagiarism detection software. Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the link given below for the UVic policy on academic integrity. Note that the university policy includes the statement that "A largely or fully plagiarized assignment should result in a grade of F for the course."

The Faculty of Engineering Standards for Professional Behaviour are at
https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf
U.Vic guidelines and policy concerning fraud and academic integrity are at
http://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html
*U. Vic Privacy Policy:* If any student has concerns about their private information being stored or accessed outside of Canada, they are required to inform the course instructor about their concerns before the end of second week of classes.

## Equality

This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Centre for Accessible Learning (formerly the Resource Centre for Students with a Disability) located in the Campus Services Building.

The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.