

COSC 121: Computer Programming II



What is this course about?

- Dives into Object-Oriented Programming (OOP)
- Enables you to build advanced programming techniques
(working with files and exception handling)
- Introduces you to simple data structures and their innerworkings
- Introduces you to algorithms
- Prerequisites: A score of 60% or higher in one of COSC 111, COSC 123, APSC 177

This course uses Java for all programming work

"Am I in the right class?"



- **"Yes"**, if you are:
 - Did well in an introduction to programming course
 - Wanting to learn everything there is to know about computers
 - Considering majoring in Computer Science
 - Interested in exploring potential interdisciplinary connections
 - Willing to work hard in this course on a weekly basis

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- **"No"**, if you are:
 - Wanting to use computers without knowing how to program them
 - Expecting to use AI to write the programs for you
 - Wishing to take a class that does not require attendance

Dr. Bowen Hui's Background

2025-

Position:

- Professor of Teaching, Computer Science, UBCO

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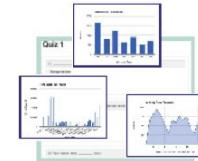
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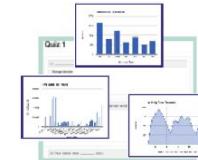
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Research areas:

- Team formation/analytics (AI), Novice programming (gamification)



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1996-

Past research:

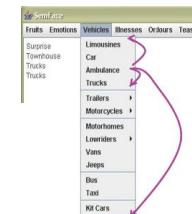


- Edutainment design, computational thinking for kids, intelligent user interfaces, computational linguistics, second language acquisition



(23) Rules

- a. all: $r \rightarrow \emptyset / _]\sigma$
- b. early: $r \rightarrow w / \sigma[_$
inter: $r \rightarrow w / \# [_$
 $\quad \quad \quad 1 / \sigma[_$
- later: $r \rightarrow l / \sigma[_$



A Bit About You (~1 min)

- Go to the Lecture course shell on Canvas
<https://canvas.ubc.ca/courses/179752/>
- Click on **Assignments**
 - Select "Self-Introduction" quiz
- Take a minute to complete it
 - There's no right or wrong answer!
 - Marks are based on completion, not correctness
(ignore the autograded mark)
 - Counts for in-class participation marks



TELL ME ABOUT
YOURSELF

Pair and Share (~2 min)

- Get into groups of 2 (or 3) with neighbours you do NOT know
 - Share answers
 - Or just chat
 - Get to know each other
- Community-based approach to learning



Class Logistics

- Lectures:
 - Mondays and Wednesdays 2:00-3:30pm
 - Lecture content, live demos, in-class quizzes and exercises
- Lab Exercises:
 - Attend your registered lab session
 - Hands-on practice with TA support
 - No lab this week (see course schedule
<https://cmps-people.ok.ubc.ca/bowenhu/121/> and on Canvas)
- Assignments:
 - Weekly programming practice (completed in your own time)
- Tentative weekly schedule (next slides)



Tentative Weekly Schedule

Exam dates are tentative

Week	Dates (Mon - next Sun)	Topics and Slides	Labs (due end of lab)	Assignments (due following Sunday)
1	Jan 05-11	<ul style="list-style-type: none">• Mon: Course overview• Wed: OOP Review		No labs or new assignments this week
2	Jan 12-18	<ul style="list-style-type: none">• Mon: Inheritance• Wed: Polymorphism	Exercise 1	Assignment 1
3	Jan 19-25	<ul style="list-style-type: none">• Mon: Polymorphism cont.• Wed: Abstract classes and interfaces	Exercise 2	Assignment 2
4	Jan 26 - Feb 01	<ul style="list-style-type: none">• Mon: Exception handling• Wed: Text I/O	Exercise 3	Assignment 3
5	Feb 02-08	<ul style="list-style-type: none">• Mon: Binary I/O• Wed: Binary I/O	Exercise 4	Assignment 4
6	Feb 09-15	<ul style="list-style-type: none">• Mon: Midterm review• Wed: Midterm 1		No labs or new assignments this week

Tentative Weekly Schedule

Week	Dates (Mon - next Sun)	Topics and Slides	Labs (due end of lab)	Assignments (due following Sunday)
7	Feb 16-22		Midterm Break: No Classes or Labs	
8	Feb 23 - Mar 01	<ul style="list-style-type: none">• Mon: Recursion• Wed: Recursion cont.	Exercise 5	Assignment 5
9	Mar 02-08	<ul style="list-style-type: none">• Mon: ArrayLists and Generics• Wed: ArrayLists and Generics cont.	Exercise 6	Assignment 6
10	Mar 09-15	<ul style="list-style-type: none">• Mon: Lists, Stacks, and Queues• Wed: Lists, Stacks, and Queues cont.	Exercise 7	Assignment 7
11	Mar 16-22	<ul style="list-style-type: none">• Mon: Midterm review• Wed: Midterm 2		No labs or new assignments this week

Tentative Weekly Schedule

Week	Dates (Mon - next Sun)	Topics and Slides	Labs (due end of lab)	Assignments (due following Sunday)
12	Mar 23-29	<ul style="list-style-type: none">• Mon: Implementing LinkedList• Wed: Implementing ArrayList, Stacks, and Queues	Exercise 8	Assignment 8
13	Mar 30 - Apr 05	<ul style="list-style-type: none">• Mon: Sorting• Wed: Sorting cont.	Exercise 9	Assignment 9
14	Apr 06-12	<ul style="list-style-type: none">• Mon: No class (holiday)• Wed: Course summary	No labs or new assignments this week	
Final Exam Period		Final Exam		

Course Outline (Review)

Learning Outcomes

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

- Design and create programs using core object-oriented programming concepts
- Demonstrate effective use of input/output streams (text and binary) to work with external data sources and destinations
- Identify, explain, and handle various programming exceptions
- Design and analyze recursive methods
- Build programs with simple data structures
- Implement and extend simple data structures
- Implement, compare, and analyze basic sorting algorithms

Course Outline (cont.)

Evaluation Criteria

In-Class Participation	7% (two lowest weekly marks will be waived)
Lab Exercises	8%
Programming Assignments	20%
Midterm 1	15% (in-person, during scheduled lecture time)
Midterm 2	20% (in-person, cumulative, during scheduled lecture time)
<u>Final Exam</u>	<u>30% (in-person, cumulative, during final exam period)</u>
Overall:	100%

All exams are closed-books, written, in-person, and cumulative

Course Outline (cont.)

Late Policy

In-class participation activities are all due at the time of the activity. Labs are due at the end of each lab (two hours). Programming Assignments are due on Sunday 11:59pm of the designated week.

Late work will receive a penalty of -10% per day up to a max of 2 days late, at which point the assignment receives a mark of 0. For example, if an assignment is worth 10 marks and it is submitted two minutes late, it will be marked as one day late, having at most 9 marks. Note that if an assignment is due Sunday 11:59pm and the learning management system receives your work at midnight, the submission is considered to be one day late even though it is only one minute past the due date (this is automatically set by the system and out of our control). Therefore, ensure you submit your work early.

Course Outline (cont.)

Missed Activity Policy

Students who miss a course deliverable due to circumstances that qualify for academic concession (<https://okanagan.calendar.ubc.ca/campus-wide-policies-and-regulations/academic-concession/policy>) must follow UBC's policy to request the concession. If granted, the mark of the missed assessment will be waived and the weight will be redistributed to other assessment items in the same category.

The same applies to a missed midterm. If concession is granted, the mark of the missed exam will be waived and the weight will be redistributed to **subsequent** exam(s). Note that if a student completed Midterm 1 but missed Midterm 2, and an academic concession is granted, then the weight of Midterm 2 will be shifted to the Final Exam only. If the Final Exam is missed, then the student must seek permission from the Dean's Office and make appropriate arrangements separately.

Course Outline (cont.)

Passing Criteria

In order to pass the course:

- Students MUST achieve a passing grade of $\geq 50\%$ on the overall course grade.
- Students MUST achieve a passing grade of $\geq 50\%$ on the combined exam marks taken from both midterms and final exam.
- Students MUST achieve a passing grade of $\geq 50\%$ on the final exam.

Failure to satisfy all of the above clauses will result in a maximum of 45% for the course.

Course Outline (cont.)

- Remaining items:
 - Administrative policies
 - Resources to support student success

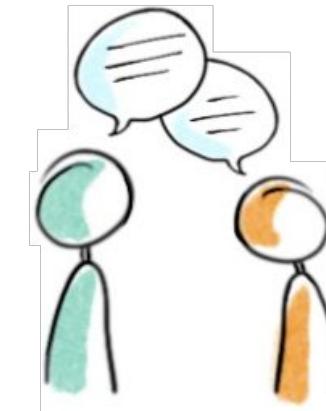
iClicker Cloud Account Setup

- Most in-class quizzes are posted as iClicker questions
- You need an account on their platform
- You MUST link your iClicker account to your Canvas account
- Make sure you use your Canvas email in linking this
Click on Account > Settings > Email Addresses
- Even if you have an account with another course, you still have to link it to our course
- Instructions: <https://lthub.ubc.ca/guides/iclicker-cloud-student-guide/>

iClicker Question

Which of the following is considered as academic misconduct?

- A. Copying a partially working solution from someone else NOT in the course
- B. Finding a solution on the Internet, using it in your submission, giving proper citation and reference to it
- C. Checking notes in a closed-book exam
- D. Using an AI-generated solution
- E. All of the above



Discuss with your neighbours

iClicker Question

Scenario: A student got 99% on all the work from the in-class participation, lab exercises, and programming assignments. However, the student got 80% midterm 1, 70% on midterm 2, and 45% on the final exam. Will the student pass the course?

- A. Yes, because the non-exam marks are all high so the grade will be high
- B. Yes, because the student passed the exams component of the course
- C. No, because the student failed the final exam
- D. Yes, because only the best exam mark is considered

Any Questions

