Introduction to Computer Program Design

COMP 102/112   2022 T1

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Computer Science

Victoria University of Wellington

Ngā mihi ki ngā ākonga!

Listen to the words of the dead Vikings

The animals will die

The kinsmen will die

You will also die

The respect from people

will not die after a good life

(Edda verse 75)

Who is this "little viking"?

Jellinge is the "small mountain"

Tange is the lake

Vinge skips are the kanoes

I am from Denmark
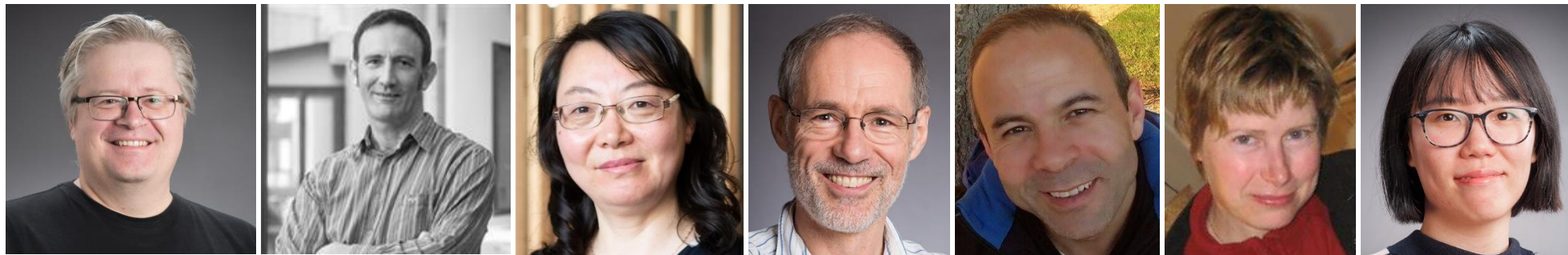
My name is Karsten

https://commons.wikimedia.org/wiki/File:Jelling_-_Thyras_H%C3%B8j.JPG

https://commons.wikimedia.org/wiki/File:Tange_S%C3%B8_fra_S%C3%B8bredden_ved_Ans.jpg

The COMP 102 Team

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Programmers   Monique Damito   email to report problems: bugs@ecs.vuw.ac.nz
Betty Bai

Tutors   Range of Undergraduates and Graduates

School Office   (for forgotten passwords)   CO 358

Students   You and the people around you

Safety.

- Physical space is limited to 50% compared to normal
  - All sessions are available with online options
- Check-in with the COVID app
- Wearing a mask is expected
- Entrances and exits
- Emergencies: Fire, earthquake.

- Hearing loop, microphones to hearing aids, vision problems, …..

What is the course about?

- COMP 102 is about learning the Java language and the ways of thinking required for building the software that underlies our digital world.

- Building software means writing programs: writing the instructions to make a computer behave in the way we want it to.

- In COMP102, you will design and write lots of little programs for various tasks.

- Give you a new set of mental tools for addressing problems
  - Different way of thinking from most disciplines
  - Creative
  - Very precise
  - Dealing with abstraction and complexity

What kind of course is it?

- About designing and building software.

- Not about _using_ computers and applications software.

- Not an "easy credits" course for most people
  - Involves higher level thinking skills than many students expect

- Women students do as well or better than men students.

- Key factors for success are
  - problem solving, ~~not memory, not guessing~~
  - logical/abstract thinking
  - attention to detail
  - being able to think about your own thinking processes
  - do all assignments and not getting behind
- Takes time! plan on around 10 hours / week
- Practical work is critical

Background needed for COMP 102

- We assume you have *used* a computer

- We do *NOT* assume you have done any programming
  - If you haven't, This course is for you!
  - don't worry about, or be intimidated by those who have!

- But some students have!
  - good – it is definitely helpful. (If you've done lots, go to the 112 lecture stream!)

- We try to meet the needs of the full range of students
  - Variety of different help and support available
  - Assignments have graduated components.

- If you are repeating the course:
  - Do the whole of the assignments, without looking at previous solutions
  - The course will be similar, but there will be changes.

COMP102 vs COMP112:

Two courses taught together as different streams within a combined course.
- Both courses lead to COMP 103
- Same assessment
- Easy to switch between the streams –
  - just choose the lectures that work best for you,

COMP 102:
- Designed for students who have not done any programming
- Three sessions/week on programming in Java
- Goes slower, designed for beginning programmers
- If you have done some programming, that will obviously help

COMP 112:
- Designed for students who have done NCEA level 3 programming standards, or equivalent.
- Two sessions/week on programming in Java
- One session/week range of topics in Computer Science (not on the test/exam)
- Goes faster, covers wider range of issues, useful for later courses.

Essential Info: Lectures

- COMP 102 Lectures:
  - Mon, Thurs, Fri 13:10-14:00 (1-2)
  - Monday: Videos
    - https://ecs.wgtn.ac.nz/Courses/COMP102_2022T1/Schedule_102
  - Thursday, Friday: Kirk LT303

- COMP 112 lectures at same time

  - Hunter LT323.

  - easy to switch to those lectures if you choose

	Mon	Tue	Wed	Thu	Fri
9					
10					
11					
12					
1	VIDEOS			LECTURE	LECTURE
2					
3					
4		.			
5					

Lectures

- Monday is set aside for technical videos

  - Teaches you the new programming concepts of the week

  - You *should* view these before the Thursday lecture

- Thursday/Friday are traditional lectures

  - Practical examples

  - Opportunity to ask questions

  - All lectures will be recorded and available via BlackBoard

  - All COMP102 lectures will be streamed

    - Links on ecs.victoria.ac.nz/Courses/COMP102_2022T1/Schedule_102
    - Zoom session at https://vuw.zoom.us/my/comp102   meeting passcode = comp102

Lectures

- During lectures we will be using gosoapbox, please try it out now
  - Go to: https://app.gosoapbox.com/
  - Use access code: comp102

Essential Info: Labs and Assignments

- Labs: Two 1hr Labs per week:
  - Pick one TL lab (Mon/Tues/Weds)
  - Pick one AL lab (Thu/Fri)

- First lab starts next Monday!
  - (Learning to use the lab systems)

- First assignment and "real" labs:
  - Thu/Fri 2nd week + Mon-Wed 3rd week

Labs in

- CO219, CO 238 (limited space) and online on Monday – Thursday
- CO238, CO242, CO243 and online on Friday

	Mon	Tue	Wed	**Thu**	Fri
9					
10				Assig Due	Lab AL4
11	Lab TL1				Lab AL5
12	Lab TL2	Lab TL3			Lab AL6
1	**LECT**	Lab TL4	Lab TL5	**LECT**	**LECT**
2			Lab TL6	Lab AL1	Lab AL7
3			Lab TL7	Lab AL2	
4				Lab AL3	
6	Workshops	Workshops	Workshops		
8:30	Workshops	Workshops	Workshops		

Sign for labs at https://www.wgtn.ac.nz/students/study/timetables/tutorial-sign-up

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Signing up for labs

- Sign up for the labs:
  https://www.wgtn.ac.nz/students/study/timetables/tutorial-sign-up /

  - All scheduled labs have a f2f and an online version

    - Sign up for one of them
    - There are not enough f2f for all

  - choose ONE Thu/Fri Lab   and ONE Mon/Tue/Wed Lab

  - Note: You need to be registered for the course
    (a) to sign up for a lab
    (b) to be able to use the school computers

  - what happens if they are full?

Lab assignments

- Ten assignments (roughly weekly),
    - hand out: Thursday
    - due: 10am Thursday (a week later)

- Apply material from videos and lectures to practical programming problems.

    This is where your learning happens!

- Done partly in scheduled lab sessions
    - First session: Thurs/Fri (exercises and getting started on the assignment)
    - Second session: Mon/Tue/Wed (working on assignment with tutor support)

- Further work required: expect 5 hours outside labs
    - any of the ECS labs,
    - on your home computer

Essential Info: Assessment

Assessment based on:

- 10 Assignments: 30% (3% each)

- In-Term Test (Week 7): 20% (mark boosted to exam mark, if better)

- Final Test: 50%

To pass the course, you must:

- Satisfy the Mandatory Course Requirement:
  Submit reasonable attempts (at least D) for at least 8 of 10 assignments
- Get overall grade of **C-** or better.

Essential Info: COVID

Lecture halls and labs have 50% capacity. Vaccinated have access to the campus.

Lectures:

- Monday Lecture: Video only
  - The lecture hall is available for use
- Thursday and Friday: Live in lecture, with Zoom feed and recorded

Labs:

- With 50% capacity there is not enough space for all in f2f labs. All sessions have online alternatives

Tests:

- The first Test will be online (Week 7)
- The final test in the examination period will (likely) be in person with an online option for unvaccinated and distance students

Remember to sign-in with the Covid app.

Campus available to vaccinated

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Essential Info: Accessing course info.

Engineering and Computer Science use their own course websites
(more open and more flexible than Blackboard)

- Bookmark http://ecs.wgtn.ac.nz/Courses/COMP102_2022T1

  - all the information about the course

  - all the lecture slides

  - all the assignment handouts and code

  - all the resources

- (also accessible via link on BlackBoard)

Essential Info: Class Rep

- Voting for a Class Rep
  - Email me a brief message about yourself if you want to be class representative
    - deadline Wednesday evening
  - I will post the descriptions on the Blackboard announcements Thursday morning
  - I will setup a vote via Blackboard, deadline Friday.

How do you study effectively?

- It depends on you
  - We learn in different ways
  - Nobody learns without putting in an effort

- Ways to fail:
  - procrastinating to the last minute
  - forgetting what assignments are due or when the tests are
  - putting off watching the videos and lectures until later
  - getting too much help in the assignments
  - not getting help in the assignments when you need it (wasting time going round in circles)
  - trying to do too many different things at the same time
  - only working on your study, and not doing any living and growing

Where to go for Help

- Course coordinator / Lecturer / tutors (office hour, labs or helpdesk)

  - Karsten will be in his office (CO252) and Zoom (comp102 room)
    - Monday 13:10 – 14:00
    - Wednesday 14:10 – 16:00

- On-line help system

- Help desk

- Workshops (Mon and Wed 18:00 – 20:30) https://vuw.zoom.us/my/**engrworkshops**

- ECS School Office: CO 358

- Student Services: www.victoria.ac.nz/students/support

- Science Faculty office: www.victoria.ac.nz/science/student-administration

- www.wgtn.ac.nz/maori-hub/   email awhina@vuw.ac.nz

- www.wgtn.ac.nz/pasifika/

- The Web

Lab Facilities

- All scheduled f2f labs have designated rooms

- Can also use other ECS labs (or other university student computing labs)

- Can also use home computers.
  - (Details on Web Site: Java Resources : Using Java and BlueJ at home)
  - Make sure you always keep backups - laptop crashed is not an excuse!

- Lab Hours: 24/7
  - Need ID card to access in evenings and weekends

- The labs are for getting work done
  - Don't prevent other people from working
  - If you want to play around, go somewhere else

- We expect <u>professional behaviour </u>in the labs.

Read the lab rules!

Getting Help with the Assignments.

Help Desk

- Online help: Email comp102-help@ecs.vuw.ac.nz for questions about your code (attach your program files so we can help you).

- Help Desk: Tutors available at various times

  - see weekly timetable, starting in 3rd week.

Study groups

- Working on assignments in pairs.

- First year Engineering/CompSci workshops (tutorials/help sessions)

  - Mondays/Wednesdays 18:00-20:00 (general 1st year BE and Comp)

    - https://vuw.zoom.us/my/**engrworkshops**

- Awhina and Pasifika programmes:

  - We will be working with Awhina and Pasifika support teams to help you.

- Women students support group.

Academic Integrity

- Central principles of Academic Integrity:
  - If you present something as your work, it should be done by you.
  - If you include something done by someone else, you must make it clear and give them credit.

- How does this work with
  - getting information and help from the web (or other sources)
  - getting help from other students (or other people)
  - getting help from staff or tutors.

Plagiarism

- You must not present anybody else's work as if it were your own work:
    - Basic principle of academic integrity.
    - applies to work by other students, friends, relatives, the web, books…
    - If you received substantial help, then you must state who helped and how much.
    - If you <u>declare</u> any work from someone else, then it isn't plagiarism!!!

- **In COMP102/112**:
    - We encourage you to work in pairs on the core & completion parts of assignments BUT
    - You **must** put a comment at the top of your code saying that you worked with ….
    - If you use code from the *lectures* or *labs*, then you do **not** need to declare it;
    - If you use any other code that wasn't yours, then declare it!

Cheating in the assignments.

Assignments are primarily for learning, not assessing

Cheating in the assignments is not worth it!

- You won't learn, so you will probably fail.

- If caught, you'll lose marks --- or worse.

- Assignments have a fairly small contribution to your grade.

Tests and Exams

In-Term online Test:

- 20%
- Thursday 28 April

Final Test:

- 50%
- Date tba (between 07 and 23 June)

Note:

If the in-term test mark is less than your final test mark, we will raise the first test mark up to the final test mark.

Assessment

To pass the course, you must:

- Satisfy the Mandatory Course Requirement.
  (Submit reasonable attempts (at least D) for at least 8 of 10 assignments)
- Get overall grade of **C-** or better.

Final Grade:

- Assignments: 30%

- Terms Test: 20%   (mark boosted to final test mark, if better)
  Final Test: 50%

Penalties for late assignments (unless special extension for good reason):
- 0 marks for late assignments, (Model solutions will be available)
- But you have a total of 24 "late hours" that you can use to avoid penalties.

 If you have extenuating circumstances (e.g. illness, self-isolation) there is a system
 to apply for extensions.

Next steps

- Week 1:
  - Sign up for labs
  - Thursday/Friday - no lecture
    - Time to watch this week's videos
- Week 2: (Normal week)
  - Monday – no lecture
    - Watch 2nd week's videos
    - Monday – Wednesday
      - Lab 0: Getting started
  - Thursday/Friday
    - Lectures
    - Lab 1: Exercises for Assignment 1
    - Assignment 1 is published

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