



CRICOS PROVIDER 00123M

School of Computer Science

COMP SCI 2103/7103 Algorithm Design & Data Structure

Lecture 1 - Course Profile and Assessment Information

adelaide.edu.au

seek LIGHT

Welcome

Welcome to CS 2103/7103, Algorithm Design and Data Structures.

- In this lecture we will:
 - Discuss some key administrative issues.
 - Describe what we're going to do in this course.
 - Talk about this week's assignment.

Teaching Staff

Prof Frank Neumann

Lecturer & Course Coordinator

frank.neumann@adelaide.edu.au

Practical Demonstrators /
Supervisors:

- Joshua Groot
- Isaac Liu
- Alexis Pflaum

Available during scheduled
practical sessions.

University of Adelaide community

- COVID-19 and its impact
- Diverse and inclusive community
- Role of community during difficult times
- Please respect and take care of each other



How we can help

- Student Life
- Counselling and support
- 8313 5663
- **Safer Campus Community**
- Report harassment or anti-social behaviour
- 8313 5663
- UniCare
- Healthcare on campus
- 8313 5050



Pre-requisites

- Who should be here?
 - You have passed CS1102/1202 (OO Programming)
- Who should not be here?
 - Anyone who has done CS2004 (DSA) or CS1103/2103.
 - Anyone who has not passed 1102/1202!

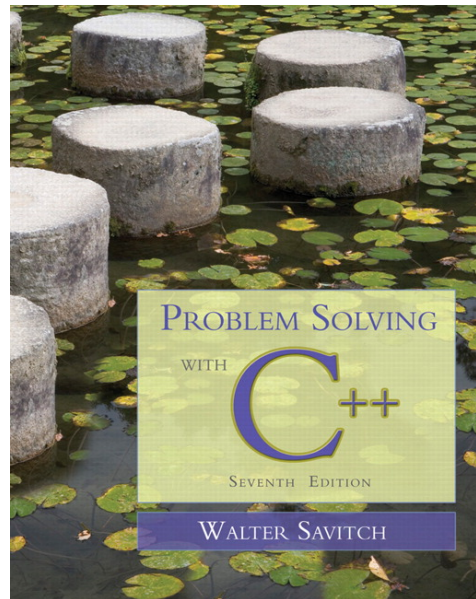
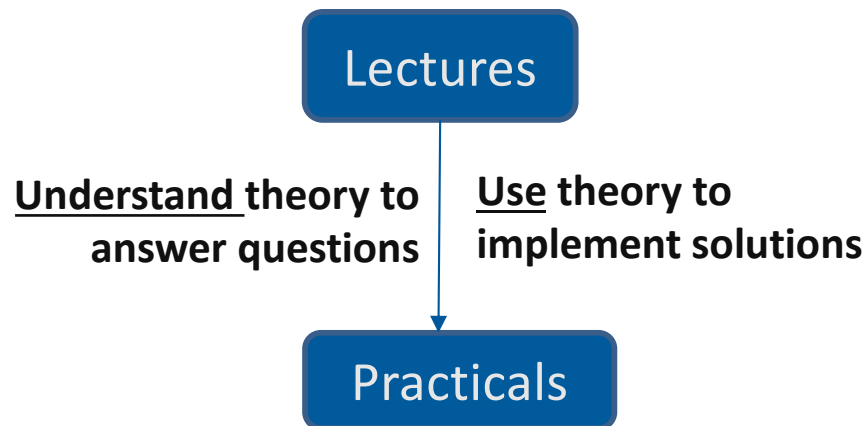
Where to find information and get help

- Lectures and practicals
- ‘office hours’ – hour immediately after each lecture. Meet me at end of lecture.
- MyUni
- The course outline (assessment, etc), available on-line
<https://www.adelaide.edu.au/course-outlines/>
- The course planner page (schedule), available on-line
<https://access.adelaide.edu.au/courses/search.asp>
- If you have any questions regarding this course and cannot find the answer in these places,
 - Use Myuni discussion board to ask.
 - For personal issues, please send an email to course coordinator with **[ADDS]** in subject line. Please avoid using email for course content questions.

Course Organisation

– How the course is structured:

- Three hours of lectures (will include practice/examples) per week
- 1 x 2 hour practical sessions every week.



Walter Savitch:
Problem Solving in C++
10th Global Edition



THE UNIVERSITY
of ADELAIDE

Assessment

Assessment

- This course has 2 components:
 - Written examination, 60%
 - Prac examinations, 40%
 - Week 3 (10%) set out as online assignment within tight timeframe.
 - week 6 (15%), week 12 (15%) during the practical session
 - Practical session and weekly practical assignments are there to put theory into practice and prepare for practical examinations and the written examinations (no marks attached to standard practical sessions).
- You are expected to participate in all activities.
- **Hurdle: You need at least 40% of the mark of the written examination to pass this course.**

Grades

Mark	Grade		Notes
85-100%	High Distinction	HD	Great!
75-84%	Distinction	D	Very good
65-74%	Credit	C	Good
50-64%	Pass	P	Satisfactory
0-49%	Fail	F	Cannot count this course for points or as a pre-requisite.
0%	Fail No Submission	FNS	No work submitted for assessment
	Result Pending	RP	Mark has not yet been finalised.

If you see an RP on your transcript, it means that your mark is not currently available. If you don't know why, you should contact your course coordinator.

Minimum Performance

- On each component with a hurdle, you are required to achieve at least 40% of the marks allocated in the component.
 - If your mark for any component with a hurdle is less than 40% of the allocated marks for that component, and your overall mark is greater than 45 F, your overall mark will be **reduced** to 45 F.
 - To pass the course, you must obtain a passing mark overall and achieve at least 40% of the available marks in components with a hurdle.
-

Prac Examinations

- Practical examination for **week 3** can be submitted online
- There will be two **in lab practical exams: weeks 6 and 12**. You must attend your prac sessions these weeks.
- These are sessions where you will be coding in a fixed time with unseen problems.
- Lab practical exams will take place in a closed lab,
 - You will have to use lab computers and work with linux.
 - No laptop or mobile phone
 - No internet access.
 - You will have access to your svn repository, and the websubmission system though.
 - You can also bring your notes.
- Could not attend due to medical situation?
 - We will arrange a supplementary exam

Practical Assignments

- Every week
- Released on the Tuesday
- Discussed during practical sessions of the following week
 - Attend if you want a feedback
- Ask your questions from practical demonstrators.
- Solving the practical assignments prepares you for practical examinations and is key for your success in this course.

How to submit your online assessments

Guide to submitting assignments online:

- **Practical Assignments/examination – Websubmission**
 - Explained in the first practical
 - Practice today, sort any issues
 - If you do not manage to submit to the web-submission system during the practical examination time, you will not be marked for the practical examination.

Late Submissions

- You should hand your coursework in on time.
- If you hand in your work late, your mark will be capped, based on how many days late it is.
 - 1 day late – mark capped at 75%
 - 2 days late – mark capped at 50%
 - 3 days late – mark capped at 25%
 - more than 3 days late – no marks available
- **A late submission will not reduce your current marks!**
- One late assignment will turn into two, three or more!
- Hand in early!



THE UNIVERSITY
of ADELAIDE

Modified arrangements

Assignment extensions

- Extensions will not be granted for circumstances including minor ailments; travel, employment, family, customary, sport or leisure commitments; problems with balancing workloads; normal exam stress or anxiety.
 - If you think your situation is exceptional, contact your course coordinator ASAP, who will then consult the Head of School.
 - Students who deliberately submit false or fraudulent documentation may be referred to the Student Misconduct Tribunal.
 - You will normally only receive an extension equivalent to the number of days covered by your documentation. Don't expect to get an extra week because you lost a day.
-

Absence during the semester

- You are expected to be able to attend all activities from the start of semester through the end of the R/AA exam period.
- If you leave Adelaide, or the state, or the country we will not provide extensions or move examinations.
- If you have a genuine medical or compassionate reason that requires you to leave the University during the academic year, you should get in contact with the course coordinator immediately to discuss your options.

Examinations

- Go to the University Examinations Site for information on Examinations:
 - <http://www.adelaide.edu.au/student/exams/>
- This includes timetable information, and information on what you can take with you into the exam.
- Also includes policies for examinations and additional/replacement examinations
 - Supplementary exams are usually held shortly after results are announced.
 - Check the above link for timetable and other information

Additional assessment

For Level 2 and above courses:

- If your final result is 45-49, additional assessment (assignment, exam) is automatically granted.
 - In the case where an additional exam is granted, the better of the primary or additional exam results is used to calculate your final grade.
 - If any kind of additional assessment is granted your overall result for the course is capped at 50P.
 - You must make yourself available during the additional assessment period.
-

Repeating Students

- Students who repeat a course are expected to attempt all of the aspects of the course again. This includes making fresh attempts at all coursework assessment items.
 - You may apply to the course coordinator to have your previous work counted but this is not usually granted.
 - Make sure that you attend all of the lectures, do all of the work and study hard for the exam – you don't want to get stuck repeating the same course over and over.
-

Replacement exams

- Replacement exams will not be granted for circumstances including minor ailments; travel, employment, family, customary, sport or leisure commitments; problems with balancing workloads; normal exam stress or anxiety.
 - Students granted a replacement exam are not eligible to sit the primary exam.
 - Students who sit the primary exam will not be eligible to apply for a replacement exam unless a major issue arose during the exam.
 - Students must make themselves available during the replacement exam period.
-

Replacement exams (cont.)

- Students will not be entitled to an additional assessment if they have already sat a replacement exam, i.e., no supps on supps.
 - Students granted a deferred replacement exam will not be eligible to sit the primary exam or the replacement exam (only under exceptional circumstances will a deferred replacement exam be granted).
 - The University must notify students of the outcome of their replacement exam applications within 3 business days (if you already sat the primary exam, do not bother applying for a replacement exam).
-

Replacement exams (cont.)

- Students who deliberately submit false or fraudulent documentation may be referred to the Student Misconduct Tribunal.
- For the full policy on Modified Arrangements, see:
<https://www.adelaide.edu.au/policies/3303>

Additional/Replacement exam dates

- Go to the University Examinations Site for information on Additional/Replacement exams:
 - <http://www.adelaide.edu.au/student/exams/>
-



THE UNIVERSITY
of ADELAIDE

Academic honesty policies

Academic Honesty Policies

- The University has strict policies prohibiting students from presenting other people's work as their own, whether that of students or from outside the University.
 - You may not copy code from another student or give another student your code to copy from, unless specifically authorised to do so by a staff member.
 - You may not copy code from anywhere else, without permission.
 - **If caught, you may receive zero for the assignment, zero for the course or be expelled.**
 - We don't give you assignment work just to keep you busy, we do it to develop your understanding and ability to apply important techniques.
 - If you don't do the work yourself, you won't be able to do it in the examination and you won't be able to do it in the work force.
 - Full policy available at the university webpages.
-

Violations to policy

- Plagiarism
 - Using another person's ideas, designs, words or works without appropriate acknowledgment.
 - Collusion
 - Another person assisting in the production of an assessment submission without the express requirement, or consent, or knowledge of the assessor.
-

Violations to policy

- Plagiarism
 - Using another person's ideas, designs, words or works without appropriate acknowledgment.
- Collusion
 - Another person assisting in the production of an assessment submission without the express requirement, or consent, or knowledge of the assessor.

1. Do not submit any work or part thereof which is not yours.

2. Do not submit any work for which you have received unfair assistance.

Example 1

- I had finished my assignment, and a classmate was asking for help. Since I am a kind person, I
 - Gave the classmate a copy of my code (or part thereof).

Example 1

- I had finished my assignment, and a classmate was asking for help. Since I am a kind person, I
 - Gave the classmate a copy of my code (or part thereof).
 - Posted my solution on an online forum for his/her reference.

Example 1

- I had finished my assignment, and a classmate was asking for help. Since I am a kind person, I
 - Gave the classmate a copy of my code (or part thereof).
 - Posted my solution on an online forum for his/her reference.
 - Allowed the classmate to have a look at my code on paper/screen.
-

Example 1

- I had finished my assignment, and a classmate was asking for help. Since I am a kind person, I
 - Gave the classmate a copy of my code (or part thereof).
 - Posted my solution on an online forum for his/her reference.
 - Allowed the classmate to have a look at my code on paper/screen.



Example 2

- I had finished my assignment, and a classmate was asking for help. Since I am a kind person, I
 - Gave a few high-level tips to my classmate.
 - Discussed high-level concepts regarding the assignment with my classmate.



Example 3

- My good friend/housemate/brother/twin and I are taking the same course. We have always worked together. When doing the assignment, we
 - Exchanged solutions to verify/compare our answers.

Example 3

- My good friend/housemate/brother/twin and I are taking the same course. We have always worked together. When doing the assignment, we
 - Exchanged solutions to verify/compare our answers.
 - Divided the assignment work amongst ourselves to speed up progress.
-

Example 3

- My good friend/housemate/brother/twin and I are taking the same course. We have always worked together. When doing the assignment, we
 - Exchanged solutions to verify/compare our answers.
 - Divided the assignment work amongst ourselves to speed up progress.
 - Sat side-by-side and looked at each other's answers when doing the assignment.
-

Example 3

- My good friend/housemate/brother/twin and I are taking the same course. We have always worked together. When doing the assignment, we
 - Exchanged solutions to verify/compare our answers.
 - Divided the assignment work amongst ourselves to speed up progress.
 - Sat side-by-side the assignment answers when doing



Example 4

- The assignment seems to be the same as the one given last year. I contacted my friend who took the course last year and got a copy of his solution.



Example 5

- The assignment seemed to be similar to another given at a different university. So, I
 - Copied and submitted the model answers available at that university's website.
 - Took parts of the model answers and integrated them into my solution.



Example 6

- I studied at a school/college/university where doing _____ is acceptable. So I assumed doing this at The University of Adelaide is also acceptable.



How to avoid plagiarism/collusion

- If you get stuck, seek help from the lecturer, tutor or prac demonstrator rather than copying from someone else.
- **Starting your work** early will help you to avoid getting stuck at the last minute.

When in doubt, ask your lecturer.



THE UNIVERSITY
of ADELAIDE

Submission practicals / practical examinations

How to Submit your Practicals

- Go to <https://cs.adelaide.edu.au/services/websubmission/>
- There, find the directory name that you need to make in your svn repository for each assignment
- Use secure shell to have external access to university's computing resources:
ssh uss.cs.adelaide.edu.au
- Use svn commands to make the directory
- Upload (or make) your files in your that directory.
- Make sure your files are compiled with university's compiler
- Go back to <https://cs.adelaide.edu.au/services/websubmission/> and submit your work. (Don't forget this!) and check feedbacks
- Get help from
 - your practical supervisors
 - <https://cs.adelaide.edu.au/current-students/handbook/external/>

SVN

- You know what exactly the repository address of your assignment needs to be (from web-submission)
- Use svn commands to make that folder

```
svn mkdir --parents https://version-control.adelaide.edu.au/svn/aXXXXXXXXX/what/ever/you/want -m "must have some comments"
```

 - Either from your own terminal
 - Or from the server, which you connect to by ssh. If you have windows, use Putty (a free ssh client) to connect to the server through ssh
- If you don't have a working copy, check out this folder (or one of the parents) to get a fresh working copy of that

```
svn co https://version-control.adelaide.edu.au/svn/aXXXXXXXXX/what/ever/you/want localFolderAddress
```

 - Either on your own computer
 - Or on the server (first use ssh to connect)

SVN

- If you already have a working copy of one of the parent folders,
 - Either make the assignment folder(s) locally and add them by svn commands
 - `cd ExistingParentFolder`
 - `svn add NewFolderName`
 - `svn ci -m "comments"`
 - Or use svn commands to make that folder(s) on the server
 - Then update your working copy folder. You will see the new directory in that
 - `cd ExistingParentFolder`
 - `svn update`
- Try not to have more than one working copy.

Code on the server

- If your working copy is on the server
 - ssh to server each time you want to work on it
 - Go to your working copy folder
 - Use vim (or any other terminal-based text editor):
vim main.cpp
 - g++ -Wall -O2 *.cpp
 - ./a.out

Course Outline

- Week 1-5: Review, ADTs, Inheritance, Design, Recursion, Polymorphism.
- Week 6-12: Complexity, Sorting and Searching, Tree and Graph, Algorithmic strategies.

Assumed Knowledge

You can design and build simple object-oriented programs in C++, including classes and memory management.



THE UNIVERSITY
of ADELAIDE

