COMP SCI 1102 - Object Oriented Programming (OOP)

Course Overview

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Welcome

In this topic:

- **The course outline**
- **Course information.**

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Teaching Staff

- **Course Coordinator/Lecturer**
  - Feras Dayoub
    - https://ferasdayoub.com/
- **Lecturer**
  - Mohsi Jawaid

- **Course Tutors**
  - Borna Morassaei
  - Shubham Bhatia
  - Joel Joseph
  - Nauman Yawar Butt
  - Harshitha Prakash
  - Saurabh Prashar
  - Vinayak Shastri
  - Amber (Ngoc Anh Dao)
  - Nilesh Ramgolam

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Learning Outcomes

- **Implement** solutions in C++.
- **Test** and debug C++ implementations
- **Understand** the core concepts of object oriented programing.
- **Design** object oriented solutions for small systems.
- **Effective use** of version control (Github).
- **Effective use** of the Linux command line.

Learning and Teaching Modes

- **Lectures:**
  - Will be recorded and available on Monday for each week.
- **Interactive sessions**
  - Quizzes about the the lecture topics in class on Wednesday and Friday.
- **Pracs**
  - Will focus on developing core programming skills
  - The practical exams are Individual activities.
- **Workshops**
  - Hands on collaborative sessions in groups.
  - Introduce key skills required by the practicals.
- **Final Exam**
  - Written and central (multiple-choice).

Workload is 10 to 12 hours per week.

Course Structure and Learning Activities

Week#	Week of	Topic	Workshop (5%)	Prac (16%)	Prac-Exam (25%)	Project (14%)	Final Exam 40%
				happen during your prac session			
1	22-Jul	Your first C++ program	☑	4%			
2	29-Jul	Pointers & Arrays	☑	4%			
3	5-Aug	Basics of OOP Design	☑		1%		
4	12-Aug	Classes and Objects	☑	4%			
5	19-Aug	Inheritance	☑		6%		
6	26-Aug	Polymorphism	☑	4%			
7	2-Sep	Abstract classes	☑		8%		
8	9-Sep	Unified Modeling Language	☑			Form groups	
Break	16-Sep						
Break	23-Sep						
9	30-Sep	Templates & STL	☑			Project Plan	
10	7-Oct	Static Members	☑				
11	14-Oct	Exception Handling	☑			Project Code	
12	21-Oct	Review			10%		
Exam Block							40%

Workshop

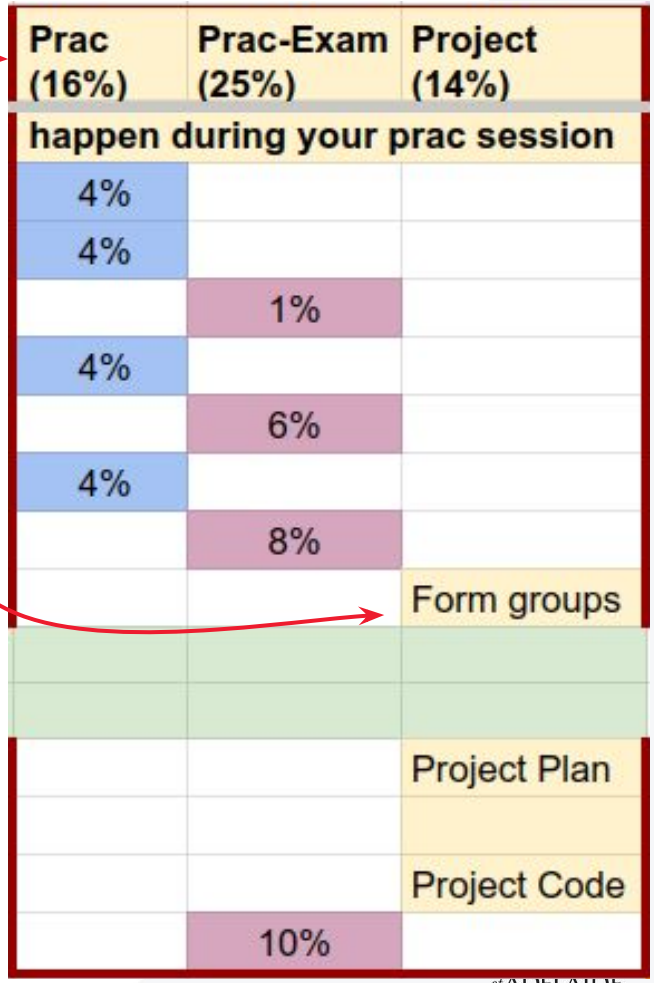
(first part of the week)

- Some workshops are practice for the prac exams
  - groups of up to 3 students can be formed
  - half mark per workshop
  - all group members **get the workshop mark**
  - the total marks are capped at 10 workshops

Practical Assessment

(second part of the week)

- All practicals are automatically marked
  - Practicals 1, 2, 4 and 6 are all individual
- The major practical project, weeks 8 to 11,
  - **Group-based** activity, groups of **3**.
  - is manually **assessed.**
  - <u>all members of each group must</u> be present
- All practical exams are automatically marked
  - P-Exams in weeks 3, 5 and 7.
  - Practical Exams are **individually assessed**
  - **no groups permitted**



Final Examination

- Final Exam
  - a one-hour multiple-choice written examination
  - the day, time and venue are organised by the examinations office
  - all lecture material is examinable.

The quizzes during the interactive sessions on Wednesday and Friday are practice for the final exam.

- **Hurdle Requirement:**
  - if your final mark for the course is greater than 44 F and,
  - your mark for the final written exam is less than 40%,
  - your final mark for the course will be reduced to 44 F.

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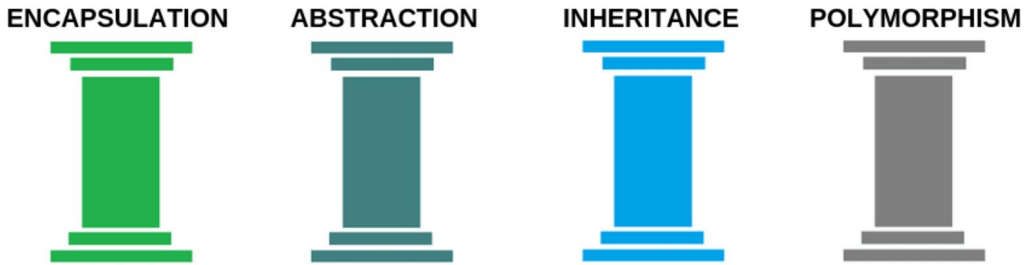
Should I be here?

- **We assumes you can already write small programs**

- Our primary focus is programming in C++ using
  - Linux command line tools
  - Github as a version control system
- We dive into The Four Pillars of Object Oriented Programming



Recommended Resources

The course website provides links to a number of online resources to assist students in learning programming in C++. For those students who would also like to have a text book, we would recommend one of the following:

1. "Think C++: How to Think Like a Computer Scientist" by Allen B. Downey and Chris Mayfield is an introductory C++ textbook. It covers basic C++ syntax and significantly emphasises problem-solving and object-oriented design.

2. "Problem Solving with C++" by Walter Savitch.

3. "A Complete Guide to Programming in C++" by Ulla Kirch-Prinz and Peter Prinz: This book covers all the important aspects of C++ and addresses OOP.

4. "**Principles and Practice Using C++**" by Bjarne Stroustrup: This book is written by the creator of C++. It covers a wide range of topics from basics to OOP and touches upon advanced topics.

Penalties for Late Submission of Work

- Unless advised otherwise and where appropriate, all other work is subject to the following late penalty policy:
  - Max available marks are capped by 25% for each day late,
  - Marks in excess of the maximum that can be awarded are discarded.
  - Assignment work submitted 4 or more days late will receive 0 marks.
- Practical Exams
  - **must be completed during the practical exam**

Late submissions will not be accepted for practical exams or workshops. The work must be submitted before leaving the practical exam.

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Extensions and Missed Assessments

- Extensions due to medical or compassionate grounds
  - submit a request **before the due date**
  - provide documentation – medical form / counsellor's letter
  - extensions will considered on a case-by-case basis
  - this may not always be possible
- Missing a practical exam or assessment session
  - submit a request to the course coordinator **within 5 days**
  - provide documentation – medical form / counsellor's letter
  - alternate arrangements will considered on a case-by-case basis
  - this may not always be possible

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Grounds not Considered

- **Circumstances <u>not eligible</u> for modified arrangements:**
  - it was avoidable and there was opportunity to avoid it
  - it is not covered by a Disability Action Plan
  - balancing study workloads from other courses
  - personal commitments or events such as work, international travel, holidays or weddings
  - stress or anxiety normally associated with examinations, required assessment tasks or any aspect of course work
  - misreading or misunderstanding of the examination timetable
- You must be able to attend all classes and examinations.

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Replacement Exams

- If your final examination is affected by medical or compassionate circumstances you may be eligible for a replacement examination

- Please consult examinations for specific policy details
  - http://www.adelaide.edu.au/student/exams/modified/replacement/

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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. Your group work is authorised cooperation.
- 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.**
- 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 workforce.

Full policy available at the university webpages.

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Violations to policy

- **Plagiarism**
  - Where students present work for assessment or publication that is not their own, without attribution or reference to the original source.
- **Collusion**
  - Where a student submits completed or partially completed work that a third party has completed for the student, regardless of the relationship between the student and the third party.
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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.**

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