

Course Outline

COMP642 Advanced Programming

Semester 2, 2023

For information on Student Support and Wellbeing, Exams and Assessments, Academic Integrity, Policies and Procedures, Codes of Conduct, Covid-19 alert levels and Safe LU, please refer to the appropriate links on My Akoraka | Learn.

Examiner	Patricia Anthony Building/Office Number: SOLA 032 Email: patricia.anthony@lincoln.ac.nz Contact: The best way to contact me is via email or MS Teams. My usual response time is less than 24 hours during the working week. Book an appointment or come along to the support sessions shown below. You can meet me online (see the Akoraka Learn course page for the link) or in person in my office.		
Tutor/s	Craig Melton (computing@lincoln.ac.nz)		
Activity	Day	Time	Room
Lectorial	Tues	11:00am – 12:30pm	Studio 200
In Person Support	Mon	11:00am – 12:30pm	Studio 100
Online Support	Mon, Thurs	4:30pm – 6:00pm	MS Teams
Course Prescription	Advanced programming focusing on object-oriented approach.		
Prerequisites	COMP636		
Recommended Preparation	None		
Restrictions	None		

Course Aims and Learning Outcomes

Aims

Enhances programming skills using object-oriented approach through the creation of classes, instantiation of objects, operator overloading, message passing and abstraction.

Learning outcomes

After successfully completing this course, students will be able to:

- LO1.** Develop object-oriented solutions for real world problems.
- LO2.** Apply object-oriented design in the construction of software.
- LO3.** Develop appropriate software testing strategies.
- LO4.** Refactor and refine code for object-oriented programs.

Course Improvements

The following table outlines the summarised feedback received from students (via course evaluations, student rep feedback and other feedback opportunities) and other sources, and how this feedback has been incorporated into the course.

Summary Feedback		Course Changes
<i>Students:</i>	More video resources and adding gamification elements might help to improve the learning experience	More recorded materials are added, existing ones are modified and improved. There will also be weekly lectorial to accommodate additional learning.
<i>Other:</i>		

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week - commencing	Topics / Module
1 17 July	Introduction to OOP Classes and Objects Keeping Objects
2 24 July	Looping List References
3 31 July	Overloading Private Properties
4 7 Aug	Procedural vs OOP Model View Controller
5 14 Aug	tkinter Putting it Together
6 21 Aug	Inheritance Polymorphism
Mon 28 Aug – Fri 8 Sep	Mid Semester Break
7 11 Sep	Abstract Classes Implementing Interface
8 18 Sep	Exception Defining Own Exceptions
9 25 Sep	Testing and Debugging Unit Testing Integration Testing
10 2 Oct	Code Refactoring Techniques
11 9 Oct	Work on Project
12 16 Oct	Work on Project

Learning and Teaching Arrangements

Learning and Teaching Approach

The learning and teaching approach is based on a combination of online content, activities and on-line resources from the Akoraka | Learn course page with face-to-face and online tutorial and support options. Students are strongly advised to make full use of all available learning opportunities.

Online Learning Activities

Relevant course material and assessment activities will be made available on the course Akoraka | Learn page. Material and activities available will include, but not be limited to, recorded content including lectures and demonstrations, assessment resources and feedback, and practice assignments. When we need to contact you individually, we will do this by emailing to your Lincoln email address. If you don't primarily use your Lincoln email then ensure that it is auto-forwarded to your personal email account and that you check it regularly for ongoing updates.

Communication

Akoraka | Learn will be used as a means of communication with the class and students are advised to check their course page, the My Akoraka | Learn dashboard, and their "@lincolnuni.ac.nz" email regularly to ensure they receive all University communications. Students should also use their "@lincolnuni.ac.nz" email address to communicate with examiners and lecturers.

Lecture Notes

Lecture notes will be posted on Akoraka | Learn. It is important to note that the images shown in lectures may not all be available in the pdf version of the notes, as copyright regulations may prevent this. All readings will be placed on the Akoraka | Learn course page.

Assessments

The schedule of assessments and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Object Oriented Programming Assignment 1	15	11 Aug 2023 @5:00pm	1, 3
Object Oriented Programming Assignment 2	25	25 Aug 2023 @5:00pm	1, 2, 3
Software Design	20	29 Sept 2023 @5:00pm	2
Software Project	40	3 Nov 2023 @5:00pm	1, 3, 4

Assessment Details

Note: All electronically-submitted assessments will be either completed or uploaded via the Akoraka | Learn course page. As per the Assessment Policy, marked assessments, except for final exams, will normally be returned to you, with feedback, within three weeks of submission. You can view your internal assessment results via Grades on the Akoraka | Learn course page (also referred to as Gradebook and used on all Akoraka | Learn course pages).

Object-oriented Programming Assignments

You will be asked to design and implement applications in Python using object-oriented approach based on a specific problem.

Software Project

You will be asked to develop a software solution based on a client's problem using object-oriented

programming approach. The project will include interpreting project requirements, object-oriented analysis and design and implementing a solution using object oriented programming approach. The project is divided into two parts: 1) Object-Oriented Design and Modelling (Software Design) and 2) Implementing the Object-Oriented Design using Object-Oriented Programming (Software Project).

Aegrotats

If you would like to request an extension for assessment, submit an assessment late, complete an assessment under impaired conditions, or miss an assessment due to a *serious event* you can apply for an Aegrotat. *Serious events* means illness (including COVID-19) or injury; bereavement, trauma, critical circumstances, disasters (called “acts of God” in the University regulations); and misadventure. To apply for an Aegrotat, your assessment needs to be worth 5 percent or more of your final course grade. Apply through the online portal on Akoraka | Learn which can be accessed from the link within the Exams & Assessments section on the right of your Akoraka | Learn dashboard. If your Aegrotat application is deemed justified (i.e., approved) by the Examinations Office, the Examiner will decide what the outcome will be - this may include approving an extension, offering an alternative assessment or deriving a grade. For more information on Aegrotats refer to the online portal.

Academic Penalties

Extensions and Late Submission of Assessment

For items of assessment worth 5 percent or more of your final course grade, if there is a serious event that contributes to you seeking an extension or submitting a piece of assessment late, you should apply for an Aegrotat (refer to the section on Aegrotats above). If approved by the Examinations Office, the Examiner will decide what the outcome will be - this may include approving an extension or removing any late penalties. If denied, items of assessment (other than tests) that are submitted after the due date and time will have a maximum late penalty applied as noted below.

Items of assessment that are submitted after the due date and time will attract an immediate penalty of up to 25% of the marks available. Those received more than 48 hours after the due date and time will be awarded a mark of zero.

Academic Integrity and Behaviour

All forms of academic dishonesty are unacceptable to Lincoln University. This includes, but is not limited to cheating, collusion, double-dipping, fabrication of data, ghost writing, plagiarism and possession of cell phones during a test or examination. Incidents of academic dishonesty may be deemed to be a breach of discipline and may be reported to the Proctor. Students will be subject to the terms of the Discipline Regulations.

Upon enrolment, all students undertake to comply with Lincoln University regulations and policies. Please make yourself familiar with these - including the Lincoln University Student Code of Conduct and the Academic Integrity Policy - which can be found on the right-hand side of your Akoraka | Learn page under University Policies and Procedures.

Student Workload

At a minimum, 200 hours for 20-credit courses represents the amount of time that an average or B grade student might be expected to spend to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload throughout the semester. Achievement in a course is based on student performances, not on the time committed to studying the course. No matter how many hours a student puts into this course, they are not guaranteed a pass. The following time-use guidelines are provided as an example of how the 200 hours may be allocated in this course.

Indicative Student Workload

Contact Hours (including recorded/online classes)	Total hours (over semester)
Lectures	18
Workshops	
Tutorials (including support sessions)	36
Laboratory sessions	
Field Trips	
Field Tours	
Test	
Student Presentations	
Final Exam	
Non-contact Hours	
Reading and Class Preparation	12
Online Activities	54
Assignment	80
Project	
Presentation	
Test Preparation	
Final Exam Preparation	
Work Experience Hours	
Total Student Workload	200

Feedback Opportunities

There will be an opportunity to formally evaluate the course at the end of the semester, however feedback is welcomed and appreciated throughout the semester and may be provided in any format, e.g. in person, with a support person, through a student rep, via a note, or email. Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style.