Course Outline

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1. Course Details

Find information relating COVID-19 and this offering here (https://www.covid-19.unsw.edu.au/safe-return-campus-faqs) and here (https://edtech.eng.unsw.edu.au/c19mess/comms.html) .

Course Code	COMP1531
Course Title	Software Engineering Fundamentals
Convenor	Hayden Smith (https://webcms3.cse.unsw.edu.au/users/z3418003) (https://webcms3.cse.unsw.edu.au/users/z3254687)
Admin	Hayden Smith (https://webcms3.cse.unsw.edu.au/users/z3418003) (https://webcms3.cse.unsw.edu.au/users/z3254687)
Units of Credit	6
Course Website	http://cse.unsw.edu.au/~cs1531/20T3/ (http://cse.unsw.edu.au/~cs1531/20T3/)
Handbook Entry	http://www.handbook.unsw.edu.au/undergraduate/courses/current/COMP1531.html (http://www.handbook.unsw.edu.au/undergraduate/courses/current/COMP1531.html)

2. Course Summary

This course is teaches students about software engineering principles via exposure to the important practice of building correct products in effectively functioning teams.

The students are exposed to agile software practices, team collaboration and effective communication through implementing a group project based on agile software methodologies that requires them to analyse, design, build and deploy a web-based application. This course is typically taken in the semester after completing COMP 1511, but could be delayed and taken later. It provides essential background for the teamwork and project management required in many later courses.

2.1. Assumed Knowledge

We assume all students have completed COMP1511 (or equivalent).

Students should be familiar with the basic concepts of programming, including loops, functions, libraries of code, compiling, and writing code to follow specifications.

2.2. Student Learning Outcomes

After completing this course, students will be able to:

1. Demonstrate effective use of applying the python programming language to solve problems in relation to web-based applications
2. Demonstrate proficiency in use of system schematics, data modelling, and state modelling, to analyse complex software systems
3. Identify the complexities of software design and development, including design smells and common best design practices
4. Demonstrate effective usage of testing methods (e.g., unit tests, integration tests, test plan/cases, test automation)
5. Understand the software engineering life cycle and agile software development practices, to elicit requirements, design, implement, and iterate on software projects.
6. Understand key characteristics of a functioning team, both in terms of understanding professional expectations, and the use of git as a source code management tool for collaboration.

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3. Teaching Strategies

This course uses the standard set of practice-focused teaching strategies employed by most CSE foundational courses:

- Lectures
- Tutorials
- Laboratories
- Help Sessions
- Major Group Project
- Final Exam

This course aims to provide the students with a strong foundation in the fundamental principles and practices of software engineering that will prepare them for the advanced software engineering workshops. As such, a broad range of key software engineering topics will be taught and reinforced through a group project, that will enable students to apply the theoretical concepts acquired to solve a practical software engineering problem. An agile software delivery style has been chosen for the implementation of the group project, to make students familiar with modern agile development methodologies.

3.1. Lectures

Lectures will be used to present the theory and practice of the techniques in this course. Although the lectures will primarily focus on the key concepts of software engineering, some lectures will also include practical demonstrations of various key technologies required for the implementation of the group project. Lecture slides will be available on the course web page.

3.2 Tutorials

Tutorials help clarify ideas from lectures and work through exercises based on the lecture material. You should make sure that you use them effectively by examining in advance the material to be covered in each week's tutorial, by asking questions, by offering suggestions and by generally participating.

Tutorials will often involve collaborative and break-out work where you will work with a group of other students to solve or answer problems. This will often be done in your major project group.

Tutorial information on it's release can be found by going to the tutorial page (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50260) . Tutorial solutions will be released at the end of the week the tutorial is in.

Tutorials contribute to your class mark.

Tutorials will be run via zoom.

3.3. Laboratories

In terms of the weekly workload, each week with a tute/lab you will be given a "lab" (i.e. take-home activities to complete in your own time) that is due at the end of that week.

In terms of the 2 hour period each week allocated for labs, these sessions run immediately after your tutorial. For any given class, your tutor and lab assistant will run two separate video calls at the same time during the 2 hours.

- **(1) Project check-ins** . Your tutor will run a 2 hour session where each group will be scheduled 20 minutes for a project check in.
- **(2) Marking labs off** . Your lab assist will run a 2 hour session where each group will be scheduled 15 minutes for them to mark your labs off and answer questions about labs. Your tutor will mark your lab off with your other group members in the "room", so be prepared in advance that your group members will be there for part of the marking.

A schedule of what times your group should attend which sections can be found on the tutorial and labs schedule page (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50260) .

Lab solutions will be released 1 week after the end of the week they are due (with exception of first few weeks where lab solution releases will be delayed due to late enrollments).

Labs contribute to your class mark.

3.3.1. (1) Project check-ins

In weeks 1, 2, 3, 5, and , your project check ins are a chance your group and your tutor to sync up about your progress and work through problems together.

In weeks 4, 7, and 10, your project check in periods will consist of a presentation and Q&A as specified in the project specification.

3.3.2. (2) Marking labs off

Labs will typically be due at the end of the week they are provided. You are required to show & discuss your lab with your lab in the lab of the week immediately following the week the lab is due. Submitting the lab is not enough to be awarded a mark. You cannot obtain marks by emailing your tutor your labs. If you are unable to submit your lab on time due to extenuating circumstances, please apply for special consideration.

3.4. Help Sessions

Help sessions are unprepared drop-in "clinics" where students and groups can go to seek help about course related matters, whether that be the project, tutorials, or labs. Current tutors or lab assistants will supervise each help session.

Help sessions will be run via Blackboard Collaborate.

3.5. Major Group Project

There will one main group project which will run through the teaching period from weeks 1-10 and contributes to **50%** of the overall course mark.

The course staff will form groups of 4-5 students in your allocated tutorials at the beginning of the course. You will be notified of what group you're in no later than the 12th of September 2020. A short survey will be sent no later than the 9th of September 2020 that will allow you to make preferences of who is in your group. These groups will and must be within your own tutorial group.

The group project will be implemented using an agile software delivery mode. As such, your team will be required to build and deliver the project in milestones. Each milestone will deliver a part of the requirements of the project and will encompass all the SDLC activities, namely analysis, design, coding and testing. At the end of the milestone, you (as a team) will demonstrate to your lab class the functionality implemented during that milestone. Changes to project requirements are a natural and unavoidable part of any software project life-cycle. Hence, students will need to bear in mind that project requirements may be subject to change and enhancements to functionalities may be made at the end of each milestone. You will need to carefully design the solution for your current milestone, such that the solution is extensible to accommodate these changes.

After each milestone due date, your group will present your work in the next lab that occurs. This is outlined in the major project specification. To receive a mark for that milestone, each team member must be present for the demonstration during the relevant lab time, with working audio and with their camera on. Having no audio or video will result in a loss of marks. If you are unable to attend, you must apply for special consideration and have your application accepted.

Tutors will continually monitor the GitLab repositories to see the
team's progress and individual member's contribution to the group

project.

3.6. Final Exam

There will be a centrally timetabled final exam which will in your UNSW exam timetable. The exam may contain a mixture of multiple choice questions, short answer questions, and programming exercises. More specific details of the exam will be provided through the course.

If you cannot attend the final exam because of illness or misadventure, then you must submit a Special Consideration request, with documentation, through MyUNSW within 72 hours of the start of the exam exam. If your request is reasonable, then you will be awarded a Supplementary Exam. No supplementary exams will be provided for students who score marks 49 or below on grounds of being "close" to a pass.

4. Assessment

Item	Due	Weighting
Class Mark (Tutorials + Labs)	Weeks 1,2,3,5,7,9,10	20%
Major Project	Milestones due in week 3, 7, 9	50%
Final Exam	Exam period	30%

4.1. Class Mark (20%)

Your class mark is made up of marks associated with tutorials, and marks associated with labs. There is a total of 24 marks that can be gained between tutes and labs throughout the course (i.e. 4 bonus marks), although it will be capped at 20 overall.

- Each **lab** you submit is worth up to 2 marks. There are 8 labs, so this is a total of up to 16% across the course.
    - A+: 2 marks (completion of all required tasks and at least some challenge problems)
    - A: 1.75 marks (satisfactory completion of most activities)
    - B: 1.25 marks (did an OK job overall, satisfactory with some errors or items missing)
    - C: 0.75 marks (completed some things but did so quite poorly)
    - D: 0.25 marks (barely an attempt)
- **Tutorial** attendance and participation in all 8 tutorials across the term will add up to 8% of the course. A number of factors contribute toward you receiving a high grade in this area, including but not limited to:
    - Attending the full tutorial
    - Asking good and logical questions throughout the tutorial
    - Taking initiative to answer questions and be engaged
    - Attending with your webcam on for online tutorials (or your phone if you don't have)

You will be notified by your tutor during week 3 and week 7 what your current tutorial attendance and participation progress has been so far.

This marking structure is designed so that students can make choices in how they want to learn. Some students may want to spend time attacking challenge exercises, while others want to spend time engaging more in tutorials. With 4 extra bonus marks there is plenty of wiggle room to gain the marks.

4.2. Major Project (50%)

The marking criteria for your major project will be specified in the major project specification which can be (once released) found here (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50463) .

4.3. Final Exam (30%)

The marking criteria for your final exam will be specified in the exam specification which can be (once released) found here (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50464) .

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5. Course Schedule / Timetable

The schedule for this course is outlined clearly in the timetable for lectures (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50454) , tutorials/labs (https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50455) , and help sessions

(https://webcms3.cse.unsw.edu.au/COMP1531/20T3/resources/50456) .

6. Student Conduct

The **Student Code of Conduct** (Information (https://student.unsw.edu.au/conduct) , Policy (https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf)) sets out what the University expects from students as members of the UNSW community. As well as the learning, teaching and research environment, the University aims to provide an environment that enables students to achieve their full potential and to provide an experience consistent with the University's values and guiding principles. A condition of enrolment is that students *inform themselves* of the University's rules and policies affecting them, and conduct themselves accordingly.

In particular, students have the responsibility to observe standards of equity and respect in dealing with every member of the University community. This applies to all activities on UNSW premises and all external activities related to study and research. This includes behaviour in person as well as behaviour on social media, for example Facebook groups set up for the purpose of discussing UNSW courses or course work. Behaviour that is considered in breach of the Student Code Policy as discriminatory, sexually inappropriate, bullying, harassing, invading another's privacy or causing any person to fear for their personal safety is serious misconduct and can lead to severe penalties, including suspension or exclusion from UNSW.

If you have any concerns, you may raise them with your lecturer, or approach the School Ethics Officer (mailto:ethics-officer@cse.unsw.edu.au) , Grievance Officer (mailto:grievance-officer@cse.unsw.edu.au) , or one of the student representatives.

Plagiarism is defined as (https://student.unsw.edu.au/plagiarism) using the words or ideas of others and presenting them as your own. UNSW and CSE treat plagiarism as academic misconduct, which means that it carries penalties as severe as being excluded from further study at UNSW. There are several on-line sources to help you understand what plagiarism is and how it is dealt with at UNSW:

- Plagiarism and Academic Integrity (https://student.unsw.edu.au/plagiarism)
- UNSW Plagiarism Procedure (https://www.gs.unsw.edu.au/policy/documents/plagiarismprocedure.pdf)

Make sure that you read and understand these. Ignorance is not accepted as an excuse for plagiarism. In particular, you are also responsible that your assignment files are not accessible by anyone but you by setting the correct permissions in your CSE directory and code repository, if using. Note also that plagiarism includes paying or asking another person to do a piece of work for you and then submitting it as your own work.

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.

If you haven't done so yet, please take the time to read the full text of

- UNSW's policy regarding academic honesty and plagiarism (https://student.unsw.edu.au/plagiarism)

The pages below describe the policies and procedures in more detail:

- Student Code Policy (https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf)
- Student Misconduct Procedure (https://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)
- Plagiarism Policy Statement (https://www.gs.unsw.edu.au/policy/documents/plagiarismpolicy.pdf)
- Plagiarism Procedure (https://www.gs.unsw.edu.au/policy/documents/plagiarismprocedure.pdf)

You should also read the following page which describes your rights and responsibilities in the CSE context:

- Essential Advice for CSE Students (https://www.engineering.unsw.edu.au/computer-science-engineering/about-us/organisational-structure/student-services/policies/essential-advice-for-cse-students)

At any time in this course, when you push code to gitlab from your own machine (locally or on CSE account), you are acknowledging that this code you push is your own work, except here permitted by the originality rules for this course and this assessment. You acknowledge that this pushed code has not been submitted for academic credit elsewhere, and you acknowledge that you have read an understood the University Rules in respect of Student Academic Misconduct.

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7. Resources for Students

There is no single text book that covers all of the material in this course at the right level of detail and using the same technology base as we are. The lectures should provide sufficient detail to introduce topics, and you will then study them in further depth in the tutorials, labs and group project. For some lectures, further reading material may be given for students who wish to gain a deeper understanding. There is also a section on Webcms3 that

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8. Course Evaluation and Development

This course is evaluated each session using the myExperience system.

However, during the term students are encouraged to provide feedback both during lectures, during tutorials, and generally to course staff via email. Anonymous feedback forms will be provided to students throughout the course.

The main improvements to be made in 20T3 include creating more cohesive lecture content, making the tutorials more collaborative in nature, and maintaining project check ins.

This is being addressed during the 20T3 offering.

Resource created 11 months ago (Sunday 26 July 2020, 01:55:39 AM), last modified 7 months ago (Wednesday 18 November 2020, 11:11:35 AM).

Comments

(/COMP1531/20T3/forums/search?forum_choice=resource/49718)

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There are no comments yet.