BUSINESS SCHOOL
Te Kura Pakihi

DEPARTMENT OF INFORMATION SCIENCE

Software Project Management
INFO 310

COURSE OUTLINE

Semester One 2023

Contents

Paper Description and Aims

This course introduces multiple aspects of software projects, including software life-cycle models, software requirements, software effort estimation, software project scheduling and prioritisation, and risk and issue management. Other topics include project organisation and teamwork, software configuration management, software quality management, managing software contracts and managing release and implementation.

Learning Outcomes

Upon successful completion of this paper, you should have:

- The ability to delineate software requirement and come up with a project schedule and assign resources
- Knowledge of appropriate software development methodologies (e.g., Waterfall and SCRUM)
- The ability to identify project risks, and the ability to monitor and track project deadlines
- The skill to work in a team environment, and understand the importance of human factors and different modes of communication
- The skill to creatively design software applications
- Examined the principles around software quality and contract management, and be aware of software release and implementation considerations

Teaching Staff

Paper Coordinator

Name: Dr. Daniel Alencar da Costa
Office: 3.45
Email: danielcalencar@otago.ac.nz
Office Hours: Please e-mail to book an appointment

You should contact Dr. Daniel Alencar da Costa with any administrative enquiries about the paper, e.g. absence.

Course Delivery

Lecture Day/Time: Wednesdays, 2:00 pm – 3:50pm
Tutorials and/or Labs Day/Time: Thursdays, 11:00 am – 12:50pm
Room: OBS119 - Otago Business School Lecture Room 1.19

Lectures (In Person) present the key conceptual material through discussion and interaction between teaching staff and students. Lectures are supported by readings.

Tutorials/Labs (In Person) are collaborative sessions in which student groups attempt to cement concepts presented at lectures with their peers in a supportive environment. The tutorials/labs will also be used to progress the software project implementation and ask questions about the lectures.

Tutorials/Labs begin in the **first** week of semester. You will be allocated to a tutorial, and this (your lab stream) will be available in eVision.

Course Calendar The course calendar (in this outline) details scheduling information. Note that this calendar may change as the course proceeds. Any changes will be announced via blackboard announcements and be detailed on Blackboard.

Students are expected to prepare for and watch all classes to gain full benefit from the course

These activities should be prepared for by reviewing information detailed on Blackboard and completing any assigned readings. Students unable to attend a lecture are expected to catch up on missed material. Unless stated otherwise, all aspects of the course are examinable.

Expectations and Workload

One lecture per week (~2 hours)
One tutorial/lab per week (1 hour)
Independent study/work each week (assumed to be 6 hours)

Course Learning Resources

The recommended readings for this paper are the following:

- **Software Project Management** *(5th ed.)*, by Bob Hughes and Mike Cotterell, McGraw-Hill, (2009).
- **Object Oriented Software Engineering – using UML, Patterns, and Java** *(3rd ed.)*, by Bernd Bruegge and Allen H. Dutoit, Prentice Hall, (2010).
- **Software Engineering** (10th ed.), by Ian Sommerville, Addison Wesley, (2015).
- **Continuous Integration**, by Paul M. Duvall, Steve Matyas and Andrew Glover (2007)
- **Continuous Delivery**, by Jez Humble and David Farley (2011)

Blackboard

Blackboard https://blackboard.otago.ac.nz/ provides you with access to course materials, class notices, and resources. Blackboard is used to email the whole class, so it is important that you check your student email and *Blackboard* regularly.

Student Webmail

IMPORTANT - DO THIS NOW:

We will use your student email account to email you information relevant to your study at Otago. To forward your University email address to an email address that you use regularly:

1. Log into your StudentMail account (http://www.otago.ac.nz/smlanding/) using your student username and password.
2. Click the **Cog** button (top right corner).
3. Click on **Mail** under **Your App Settings**.
4. Under **Accounts** on left hand side, select **Forwarding**.
5. Under the Forwarding heading, type in the email address you want your email to be forwarded to. You can also choose to have a copy of these emails kept on your StudentMail account, so please check the box if you would like this.
6. Click the **Save** button.

Assessment

All material presented is examinable (except where stated otherwise) by assignments and the final examination. All-important assessment information such as due dates and times, content, guidelines and so on will be discussed at lectures and, where appropriate, detailed on Blackboard. ***Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed material***.

Assessment	Due date	% of final grade
Overall quality of the project development	Continuous	10
Software Milestones - Software requirements, estimations, and models - Database connection and operations - Key functionalities	Week 4, Thursday Mar 23th Week 8, Thursday Apr 27st Week 10, Thursday May 11th	15 (5 each)
Software Deliverable (including presentation)	Week 12, Friday May 26th at 5pm	20
Team Evaluation Questionnaire	Week 12, Friday May 26th at 5pm	5
Final Exam	TBC	50
Requirements to pass the paper		
- A minimum of 40% of the Final Exam marks is required to pass the paper. - The exam will have 100 marks, meaning that students will need to obtain at least 40 marks to pass the paper.		

Description of Assessments

Overall quality of the project: this is a continuous assessment that covers all the quality aspects employed in the **implementation and progress** of the software project. Examples of good indicators for the quality of the software project are:

- The software project consistently uses automated tests throughout the project lifetime (i.e., not only at the end of the project)
- The software project uses continuous integration, which includes:
    - Automated builds
    - Frequent commits to the main repository
- The software project contains a reasonable number of code comments
- And any other quality aspect taught in classes.

Software project milestones: there are three main important events in the software project, which are called **milestones**. These milestones are intended to make sure that students are progressing well with their software project. The first milestone (Software requirements, estimations, and models) is set to ensure that the team has a solid plan on what needs to be developed. The second milestone (Database connection and operations) is set to ensure that the team implements one of the most important steps in software development: the communication between software and a database. Lastly, the third milestone (Key functionalities) is intended to ensure that the teams implement the most important functionalities of the software (i.e., a minimum viable product). If a team achieves a solid third milestone, this is a strong indicator that the **Software Deliverable** will be successful. For each milestone, the development team will give oral presentations during labs/tutorials (see the course schedule for more details). The specific instructions regarding oral presentations will be provided via blackboard.

Software Deliverable (class project): Students (in **groups**) will develop a simple software solution to a common problem. The software deliverable will be assessed for **20%** of the course mark (including presentation), and is due in Week 12, **Friday May 28th at 5pm**. The software will reflect the work of two to three sprints of development (iterations). As part of the deliverable, students will provide a packaged piece of software with appropriate setup instructions. Students will also present their software during a 15 to 20 minutes oral presentation. The mark will take into consideration the level of functionality provided, and the quality, robustness and usability of the software.

Team Evaluation Questionnaire: Each student will complete a team (group) evaluation questionnaire during Week 12 that is worth **5%** of the course mark. Student will be required to perform self-assessment and evaluate the performance of each member in their team. Staff members will also complete the questionnaire for each student, based on their observations during the course. Only students that complete the questionnaire will be eligible for these marks. **Note also that the outcomes of the questionnaire could result in the revision (increase/decrease)** of the marks you receive for the **Milestones** and **Software Deliverable (class project)**.

Final Exam: The final exam is held by the registry which is 3 hours long and worth **50%** of the course mark. It will contain questions from material covered in the lectures, tutorial/labs and experiences from the project. ***Students are required to obtain at least 40% of the exam marks to pass the paper.***

Course Requirements

Assessment Format:
Further instructions will be provided at the start of the course, including assessment descriptors specifying formatting instructions.

Assignment Submission Procedure:
Students are to follow submission instructions given in the assignment descriptors.

Late Assignments:
All requests for special consideration for internal assessments must be made as early as possible to the course coordinator and will be dealt with on a case-by-case basis. Should you be unable to attend or complete *any* internal assessment component for medical or personal reasons, appropriate documentary evidence (such as a medical certificate) is required. Requests and associated documentation must be provided as early as possible so that alternate arrangements can be made. Any late requests are likely to be turned down. **Students who wish to apply for special consideration for the final examination should contact the Registry.**

Referencing Style and Style Guide:
For this paper the referencing style is *APA; refer to* style guide:
(http://otago.libguides.com/ld.php?content_id=23289095&_ga=1.15196726.1422781749.1469081771)

Quality Assurance

At the Otago Business School we monitor the quality of student learning and your learning experience. Your assessed work may be used for assurance of learning processes, such as evaluating the level of achievement of learning outcomes, with the aim of improving the quality of our programmes. All material used for quality assurance purposes will be treated as confidential and the outcome will not affect your grades.

Grading System

The grading scheme used at Otago is:

A+	90-100	**C+**	60-64
A	85-89	**C**	55-59
A-	80-84	**C-**	50-54
B+	75-79	**D**	40-49
B	70-74	**E**	<40
B-	65-69		

Results for all internal assessments will be provided electronically through Blackboard or via your university email. If there are any errors or omissions regarding these, you must contact the course coordinator as soon as possible.

Academic Integrity and Academic Misconduct (Plagiarism)

Students should ensure that all submitted work is their own. Plagiarism is a form of academic misconduct (cheating). It is defined as copying or paraphrasing another's work and presenting it as one's own. Any student found responsible for academic misconduct in any piece of work submitted for assessment shall be subject to the University's dishonest practice regulations, which may result in serious penalties, including forfeiture of marks for the piece of work submitted, a zero grade for the paper, or in extreme cases, exclusion from the University. The University of Otago reserves the right to use plagiarism detection tools.

Students are advised to inform themselves about University policies concerning dishonest practice and take up opportunities to improve their academic and information literacy. If necessary, seek advice from academic staff, or the Student Learning Centre. The guideline for students is available at this link: http://www.otago.ac.nz/study/academicintegrity/index.html

Course Calendar

Lecture/ Tutorial Number	Week Commencing	Topic	Reading	Milestone(s)
1	27-Feb	Course Introduction and Introduction to Software Project Management	T1, Chapter 1 T3, Chapter 1	**groups formed** and **projects presented** during lecture and tutorial/lab, assessment structure and grading discussed

2	6-Mar	Software Requirements	T2, Chapter 4 T3, Chapter 4	**Teams finalised** and decompose software requirements for class project
3	13-Mar	Traditional and Agile Software Development Models	T1, Chapter 4 T3, Chapter 3	Setting up the **release environment** using continuous integration
4	20-Mar	Software Effort Estimation	T1, Chapter 5 T3, Chapter 23	**Software project milestone 1:** requirements and effort estimation and models
5	27-Mar	Project Scheduling	T1, Chapter 6 T3, Chapter 23	**Plan the project schedule** to kickstart the development
6	3-Apr	Software Configuration Management and Continuous Integration	T2, Chapter 13 T4, T5	Introducing **Continuous Integration as a practice**
Mid-Semester Break from 7-Apr to 14-Apr				
7	17-Apr	Managing Quality and Software Testing	T1, Chapter 12 T2, Chapter 11	Working on **Testing Practices**
8	24-Apr	Risk Management	T1, Chapter 7 T3, Chapter 22	**Software project milestone 2:** Connecting to the database and important operations
9	1-May	Managing People and Teamwork	T2, Chapter 3 T3, Chapter 22	Working on risk management
10	8-May	Managing Contracts	T1, Chapter 10	**Software project milestone 3:** Key functionalities
11	15-May	Managing Release and Implementation	T2, Chapter 13	Catching up on project progress
12	22-May	Software Presentations	-	**Project (software) Deliverable** and **Team Evaluation Questionnaire** due
13	29-May	Revision and Final Exam Preparation	All Lectures	Course Feedback and Reflections

[T1] Software Project Management (5th ed.)
[T2] Object Oriented Software Engineering – using UML, Patterns, and Java (3rd ed.)
[T3] Software Engineering (10th ed.)
[T4] Continuous Delivery, Jez Humble and David Farley
[T5] Continuous Integration, Paul M. Duvall et. al.

- **Lectures end Friday 2nd June**
- **University Exam Period First Semester Begins Wednesday 7th June**
- **End Wednesday 21st June**

Student Learning Support and Information

Student Charter
http://www.otago.ac.nz/about/otago005275.html

Guidelines for Learning at Otago
http://hedc.otago.ac.nz/hedc/wp-content/uploads/2012/12/Guidelines-for-Learning.pdf
http://hedc.otago.ac.nz/hedc/learning/

Student Learning Centre
The Student Learning Centre, which is part of the Higher Education Development Centre, provides learning support, free of charge, to ALL enrolled students. Their services include:

- a workshop programme designed to help students to improve their learning strategies and their generic skills;
- individual assistance with learning issues;
- on-line study skills advice;
- a student leadership programme
- a student-led peer support programme for students of all ages and backgrounds.
- conversational English groups for students from a non-English speaking background

The Centre also provides two very helpful study guides, "Guidelines for Writing and Editing" and "Writing University Assignments" and these are available on the SLC website.
http://slc.otago.ac.nz/

Library Support
The Library website http://www.otago.ac.nz/library provides access to resources and services, including group room bookings, library hours and locations, past exam papers, subject guides, article databases and more.

If you need assistance either check out the self-help guides http://otago.libguides.com/selfhelp, or ask Library staff at the ground floor service desks, or email ask.library@otago.ac.nz

Pacific Student Support Facilitators
Malo e lelei
Falaviena Faiva works part-time in the Dean's Office at the Otago Business School, Division of Commerce. Falaviena is of Tongan descent and one of our two Pacific Student Support Facilitators. She is responsible for all second-year Pacific students within the division.

Deans Office, Otago Business School
Division of Commerce
Email: viena.faiva@otago.ac.nz
Cell Phone: 021 279 0914

Bula Vinaka
Jekope Ramala Maiono also works part time in the Dean's Office at the Otago Business School, Division of Commerce.

Maiono is of Fijian descent and our other Pacific Student Support Facilitator. He is responsible for all first-year Pacific students in the division.

Deans Office, Otago Business School
Division of Commerce
Email: jekope.maiono@otago.ac.nz
Cell Phone: 021 279 0871

Kaiāwhina Māori | Māori student support
Ben is the Kaiāwhina Māori (Māori student support) for Te Kura Pākihi | Otago Business School. He is able to answer any questions you may have about studying here at the University of Otago. He can provide information about scholarships, campus services, pastoral and financial care. Ben is also here to support those students who are studying away from their whānau, hapū and iwi, to ensure they feel safe and supported. He has a passion for the development of Rangatahi and understands the struggles that can come with academic life.

Tel +64 27 513 6991
Email ben.sommerville@otago.ac.nz

Disability Information and Support
Students are encouraged to seek support if they are having difficulty with their studies due to disability, temporary or permanent impairment, injury or chronic illness. It is important to seek help early, through one of the contacts below:

Website: http://www.otago.ac.nz/disabilities

65 Albany St, West Lane, ISB, Student Services
Tel: +64 3 479 8235 **Email:** disabilities@otago.ac.nz

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Student Feedback

We encourage your feedback. This can be in the form of contacting staff, participating in course evaluation surveys, and communicating with class representatives. Continual improvements will be made to this course based in part on student feedback.

Class Representatives

The class (or student) representative system is an avenue for encouraging communication and consultation between staff and students. It provides you with a vehicle for communicating your views on the teaching and delivery of the paper and provides staff with an opportunity to communicate information and gain constructive feedback from students. It contributes to the development of a sense of community within a department and it adds a further dimension to the range of support services offered to students.

Volunteers for the role of class representatives will be called early in the semester. The OUSA invites all class representatives to a training session, conducted by OUSA, about what it means to be a class representative and some of the possible procedures for dealing with issues that arise. They also provide information on the services that OUSA offers and the role OUSA can play in solving problems that may occur. The OUSA provides support to class representatives during the semester. Departmental staff will also meet with class representatives during the semester to discuss general issues or matters they wish to have considered.

Your class representative's name and contact details will be posted on Blackboard early in the semester.

Concerns about the Course

We hope you will feel comfortable coming to talk to us if you have a concern about the course. The Course Co-ordinator will be happy to discuss any concerns you may have. Alternatively, you can report your concerns to the Class Representative who will follow up with departmental staff. If, after making approaches via these channels, you do not feel that your concerns have been addressed, there are University channels that may aid resolution. For further advice or more information on these, contact the departmental administrator or head of department.

Disclaimer

While every effort is made to ensure that the information contained in this document is accurate, it is subject to change. Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.