Group Project - Course Outline
ENGR 302: 2014 Trimester 2

This document sets out the workload and assessment requirements for ENGR 302. It also provides contact information for staff involved in the course. If the contents of this document are altered during the course, you will be advised of the change by an announcement in lectures and/or on the course web site. A printed copy of this document is held in the School Office.

The Course

ENGR302 is the practical application of Project Management techniques and methods. It runs in Trimester 2 from July 14th to October 17th 2014. We use a real-life project called RiverWatch in support of Water Action Initiative NZ (WaiNZ) for the project client, Grant Muir. You are recommended to review the WaiNZ website.

In this course we expect you to work in a team as well as individually, and use your initiative and resources to gather information and ask questions of the client and relevant University staff. You will be working in a team with 4 other people to solve one or more of the following Client requirements through your project:

a) Website development

- a) Improve the appearance of the website to make it more engaging
- b) Improve the usability of the website map
- c) Improve data classification and analysis
- d) Improve CMS usability for the adminstrator
- e) Link social networks to the website content more effectively.

b) Mobile device app development

- a) Update the iOS app for latest capability
- b) Update the Android app for latest capability
- c) Create a Windows mobile app to match the iOS and Android capabilities
- d) Update the mobile apps to provide Bluetooth water data preipheral data capture and extend the apps to capture
- e) Provide a prototype water data quality measurement peripheral device with Bluetooth
- f) Update the mobile apps to support water quality testing by a card.

c) U.A.V development

- a) Establish previous functionality on the new UAVs
- b) Provide a relay network using multiple UAVs to extend connectivity range
- c) Encapsulate the UAV electronics to provide shock-proof and water-proof resilience
- d) Provide thermal detection for better incident discrimination and capture
- e) Provide a UAV engineering architecture to extend UAV usability
- f) Provide UAV-based water quality testing.

Lectures and Project Work

Lecture sessions, client meetings and team project meetings for ENGR 302 are

on Mondays in Murphy LT 101 from 16:10 till 17:00

on Tuesdays in Murphy 632 starting at 16:10 till 18:00

It is good practice to be ready to start on time - this means getting to the lecture room 5 minutes before the start time and seating yourself with your team ready to start on time.

The Lecture schedule can be viewed at https://ecs.victoria.ac.nz/Courses/ENGR302_2014T2/LectureSchedule

A substantial component of your learning experience takes place by your personal practical work in your team project. This is your personal responsibility, do not let yourself down: do not let your team members down.

Practical work can be done using lab facilities, it is up to your team to find time and space for your construction and testing.

LEARNING OBJECTIVES

By the end of the course, students should be able to:

1. Produce a Project Initiation Document (PID) and explain the importance of each element to starting an engineering project (1(a), 1(b), 2(b), 3(d)).
2. Apply good practices and professional standards to achieve sustainable development and to maximize success of the project in terms of a) problem solving of technical issues leading to quality design leading to producing appropriate and working deliverables; b) your personal experience as a participating group member and a work-package leader (3(a), 3(d), 3(e), 3(f)).
3. Produce meaningful critiques of the work-experience in a multi-disciplined team involving differing skill areas and skill levels (1(a), 2(b)).
4. Prepare and deliver a) an achievement/progress report as a presentation; b) a working demonstration of your product (1(a), 2(b), 3(b), 3(e)).
5. Demonstrate that you understand the basic causes of interpersonal conflict and have applied this to your practical experience of group dynamics in resolving conflicts (2(a)).

Learning objectives are assessed through the Assignment Deliverables.

There is no single required textbook for ENGR 302. Students will find it useful to borrow from the library or purchase books on the principles of managing engineering projects.

Assessment

Your grade for ENGR 302 will be determined based on the following assessment weightings:

Assignment Deliverables	Weight	Due Date
Project Initiation Document	25%	Tuesday 5th August 2014 in class at 16:10 and electronically via the ENGR302 submissions page;
Working Documents	15%	Submitted electronically each week on Mondays by 16:00 Soft-copy accumulated version submitted by 09:00 Monday 25th August 2014
Presentations	15%	To be arranged from 22nd - 24th September 2014
Demonstration of your Product	15%	To be arranged from 6th - 8th October 2014
Individual Reflective Report	30%	Tuesday 14th October 2013 in class at 16:10 and electronically via the ENGR302 submissions page

Assignment Deliverables

You are required to prepare and deliver: a Project Initiation Document (PID), Working Documents for your project, a group Project Achievement Presentation, an individual 2000 word Reflective Report on your individual contribution to the project and a Demonstration of your Product. These are detailed in the following sections.

1. Your written Project Initiation Document (PID) must contain sections covering a) the Client's Requirements; b) the Business Case for the project; c) Project Management Plan to include the engineering lifecycle and project approach, the work to be performed in named work packages and an improved Gantt chart ; d) Risk Management Plan and Risk Register; e) Quality Management Plan including all testing; f) project monitoring and communications including project stakeholders and team meetings documentation. The PID is initiated during project start up, completed in project initiation and submitted in class on Tuesday 5th August 2014. [Learning Objectives 1 & 2]

2. Your Working Documents are a continuation and weekly update of project plans to show where your project is each week including an indication where your project is going in the short term: updated Gantt chart, updated Risk Register; updated Quality Management Plan; up-to-date minutes of all team meetings and records of Client and supplier communication. These are submitted weekly by 4pm each Monday on-line and form an audit trail of achievements and problems encountered. An accumulated set is to be delivered by electronic submission by 9.00am on Monday 25th August for assessment. [Learning Objectives 2 & 3]

3. Project Achievement Presentation - your team will prepare and give an 8-minute presentation on achievement to date to a panel of assessors followed by questions for 2 minutes to a panel of assessors in week 9 (23rd Setember 2014). You will make comparisons of progress to date with your initial plans and explain all deviations. Each member should explain her/his area of responsibility and contribution to the work todate. Delivering this presentation will focus your minds on work still to be performed to complete your project. You will outline your preferred solution to a pannel of assessors including the Client and explain your plan for weeks 10, 11 and 12. An electronic slide presentation is to be delivered by electronic submission by 23.59pm on Monday 22nd September for use in your presentation. [Learning Objectives 3 & 4]

4. You and your team will prepare and give a demonstration of your product to a panel of assessors in week 12 (6th to 8th October 2014). [Learning Objective 4]

5. Individual Reflective Report (2000 words) - during the project each individual should prepare her/his own reflection on the project to this date including personal lessons learned. This will form the basis of your individual Reflective Report and must include your good and bad experiences and what you have learned from these. You must present your analysis of your learning experience (use your record in your learning logbook), reflections on the group dynamics, conflicts and how they were/were not resolved. You must include the lessons you learned during this experience and assess the value of each. You must include your reflections on these lessons learned and draw conclusions on how you will in future do things differently in the light of lessons learned. You must focus on the the learning experience gained through **doing** the project. [Learning Objectives 3 & 5]. Hard copy of your Critical Reflective Report is to be handed in on Tuesday 14th October 2014 in class and submitted electronically on-line by 4:10pm.

Penalties for Late Submission of Assignments

Late submissions will only be accepted in exceptional circumstances and after prior consultation with the course coordinator. Marks will be deducted 10% for each day late.

Workload

In order to maintain satisfactory progress in ENGR 302, you should plan to spend at least *10 hours* hours per week EVERY WEEK on this course, giving a total workload of 150 hours per person. A plausible breakdown for these hours would be:

- Lecture sessions: 3 hours per week
- Group project work: 5 hours per week
- Assignments: 2 hours per week.

Mandatory Requirements

You must keep a record of your day-to-day learning during ENGR 302 in a Research Log (How to keep your Research Log will be explained in class).

- You must submit reasonable attempts to the 5 assignments.
- You must not plagiarise.

Your team must meet as a group at least once-a-week outside lecture times over the study period of week 1 to week 11. Your team must produce a record of discussion points and action points from each team meeting.

Passing ENGR 302

To pass ENGR 302, a student must satisfy mandatory requirements and gain at least a **C-** grade overall.

School of Engineering and Computer Science

The School office is located on level three of the Cotton Building (Cotton 358).

Staff

ENGR 302 is led by Lawrence Collingbourne. His contact details are:

- Mr Lawrence Collingbourne
- Cotton 230
- 04 463 6741
- lawrence.collingbourne@ecs.vuw.ac.nz

ENGR 302 sessions will also be facilitated by Professor Seah. His contact detail are:

- Professor Winston Seah
- Alain MacDiarmid 403
- 04 463 5233 ext 8493
- winston.seah@ecs.vuw.ac.nz

The course organiser for ENGR 302 is Dr David Pearce. His contact details are:

- Dr David Pearce
- Cotton 231
- 04 463 5833
- david.pearce@ecs.vuw.ac.nz

Announcements and Communication

The main means of communication outside of lectures will be the ENGR 302 web area at

The main means of communication outside of lectures will be the ENGR 302 web area at http://ecs.victoria.ac.nz/Courses/ENGR302_2014T2/. There you will find, among other things, this document, lecture schedule, assignment handouts and the ENGR 302 Forum. The forum is a web-based bulletin board system. Questions and comments can be posted to the forum, and staff will read these posts and frequently respond to them.

Plagiarism

Working Together and Plagiarism

We encourage you to discuss the principles of the course and assignments with other students, to help and seek help with programming details, problems involving the lab machines. However, any work you hand in must be your own work.

The School policy on Plagiarism (claiming other people's work as your own) is available from the course home page. Please read it. We will penalise anyone we find plagiarising, whether from students currently doing the course, or from other sources. Students who knowingly allow other students to copy their work may also be penalised. If you have had help from someone else (other than a tutor), it is always safe to state the help that you got. For example, if you had help from someone else in writing a component of your code, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method.

Withdrawal

The last date for withdrawal from ENGR 302 with entitlement to a refund of tuition fees is Friday 25 July 2014. The last date for withdrawal without being regarded as having failed the course is Friday 26 September 2014 -- though later withdrawals may be approved by the Dean in special circumstances.

Rules & Policies

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study.

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress.

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home/study/calendar (See Section C).

Further information about the University's academic processes can be found on the website of the Assistant Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about/avcacademic

All students are expected to be familiar with the following regulations and policies, which are available from the school web site:

Grievances
Student and Staff Conduct
Meeting the Needs of Students with Disabilities
Student Support
Academic Integrity and Plagiarism
Dates and Deadlines including Withdrawal dates
School Laboratory Hours and Rules
Printing Allocations
Expectations of Students in ECS courses

The School of Engineering and Computer Science strives to anticipate all problems associated with its courses, laboratories and equipment. We hope you will find that your courses meet your expectations of a quality learning experience.

If you think we have overlooked something or would like to make a suggestion feel free to talk to your course organiser or lecturer.

Course Outline as PDF