

Group Project - Course Outline

ENGR 302: 2015 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 13th to October 16th 2015. 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, as a team to work with other teams in the course and to 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:

1) Website development

- a) Improve the underlying website hosting technology to make it more agile
- b) Improve the usability of the website map
- c) Improve website data classification, analysis and reporting.

2) Mobile device app development

- a) Update and publish the iOS app for latest capability
- b) Update and publish the Android app for latest capability
- c) Create and publish a Windows mobile app to match the iOS and Android capabilities.

3) Water quality measurement development

- a) Provide a robust prototype water data quality measurement peripheral device
- b) Add new water quality measures to the peripheral device
- c) Update the mobile apps to support water quality testing by a chemical card.

4) U.A.V development

- a) Add a mobile phone network to the UAV
- b) Provide a mesh network using multiple UAVs to extend connectivity range
- c) Provide UAV-based water quality data collection.

Lectures and Project Work

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

on Mondays in Alan MacDiarmid 102 & 104 from 11:00 am till 11:50 am

on Wednesdays in Alan MacDiarmid 102 & 104 starting at 11:00 am till 12:50 pm

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_2015T2/LectureSchedule

A substantial component of your learning experience takes place by your personal practical work in your team project. It is your personal responsibility to organise this, find resources to do it and then execute it; 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 as described under each assignment.

Text Book

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%	Wednesday 5th August 2015 in class at 11:00 and electronically via the ENGR302 submissions page
Working Documents	15%	Soft-copy accumulated version submitted electronically via the ENGR302 submissions page by 11:00 Monday 7th September 2015
Presentations	15%	To be arranged from 21st - 23rd September 2015; slides to be submitted by Sunday 20th September 2015 11:59pm
Demonstration of your Product	15%	To be arranged from 5th - 7th October 2015
Individual Reflective Report	30%	Friday 16th October 2015 submitted 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 including the project aim, objectives and scope; b) an Outline Business Case for the project; c) Project Management Plan to include the engineering lifecycle and project approach, the work to be performed in work breakdown structure 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. The PID is initiated during project start up, completed in project initiation and submitted in class and electronically in PDF by 11:00 am on Wednesday 5th August 2015. [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 in PDF by 11am each Monday on-line and form an audit trail of achievements and problems encountered for review and feedback with your tutor. An accumulated set is to be delivered by electronic submission in PDF for marking by 11.00am on Monday 7th September 2015 for assessment. [Learning Objectives 2 & 3]
3. Project Achievement Presentation - your team will prepare and give a ten-minute presentation on achievement to date to a panel of assessors followed by questions for three minutes to a panel of assessors in week 9 (21st September 2015). You will make comparisons of achievement to date with your initial plans and explain all deviations. Each member should explain her/his area of responsibility and contribution to the work to date. 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 panel of assessors including the Client and explain your plan for weeks 9, 10 and 11. An electronic slide presentation is to be

delivered by electronic submission by 23.59pm on Sunday 20th 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 11 showing how it fulfils your project aim and objectives (5th to 7th October 2015). An electronic slide presentation is to be delivered by electronic submission by 23.59pm on Sunday 4th October for use in your presentation. [Learning Objective 4]

5. Individual Reflective Report (2,000 words) - each week during the project you must individually prepare your own reflection on the project to this date including personal lessons you have 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]. Soft copy of your Critical Reflective Report is to be submitted electronically online in PDF on Friday 16th October 2015 by 11:00am.

Penalties for Late Submission of Assignments

Late submissions will only be accepted without penalty in exceptional circumstances and after prior consultation with the course lecturer. Otherwise 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).

Except in exceptional circumstances with prior consultation with the course lecturer, you must submit reasonable attempts to the 5 assignments. A reasonable attempt is one that the course coordinator deems to address a majority of the requirements of the assignment.

You must meet with your team group once-a-week outside lecture times over the study period for at least 9 out of the first 11 weeks in the lecture schedule except in exceptional circumstances and with the prior consultation with the course lecturer. You must ensure the team produces 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 337](#)
- 04 463 5177
- 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 416](#)
- 04 463 5233 ext 8493
- winston.seah@ecs.vuw.ac.nz

The course coordinator for ENGR 302 is Dr Stuart Marshall. His contact details are:

- Dr Stuart Marshall
- [Cotton 342](#)

- 04 463 6730
- stuart.marshall@ecs.vuw.ac.nz

Announcements and Communication

The main means of communication outside of lectures will be the ENGR 302 web area at http://ecs.victoria.ac.nz/Courses/ENGR302_2015T2/. 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 24 July 2015. The last date for withdrawal without being regarded as having failed the course is Friday 25 September 2015 -- 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](#)
