

College of Engineering & Science
VICTORIA UNIVERSITY

VEB4100 and VEB4200 ENGINEERING DESIGN 4A & 4B

STUDENT MANUAL

Contents

1. Pre-requisite(s).....	3
2. Co-requisite(s).....	3
3. Learning Outcomes	3
4. Content	3
5. Academic Mentors	4
6. Student Contact	4
7. Schedule.....	5
8. Project Selection	5
9. Project Documentation	5
10. Assessments.....	9
11. Working in Teams	11
12. Project Changes.....	11
13. Budget.....	11
14. Dispute	12
15. Plagiarism and Academic Integrity.....	12
Appendix 1: Forms	14
Appendix 2: Assessment Rubrics	18

VEB4100 and VEB4200 ENGINEERING DESIGN STUDENT MANUAL

Unit Coordinator: Dr. Thanh Nguyen
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1. Pre-requisite(s)

Successful completion of year 3 EBDE or equivalent. A pass in VEB4100 is required in order to continue on to VEB4200.

2. Co-requisite(s)

For each PBL problem the directed elective units will be recommended by the staff mentor assigned to the project.

3. Learning Outcomes

Building on the learning outcomes from the Years 1 to 3 Engineering Design and Practice units, on successful completion of this unit, students are expected to be able to:

1. Undertake detailed identification and analysis of a problem;
2. Evaluate the feasibility of a range of solutions taking into account such factors as cost, technical requirements, business requirements, environmental and sustainability issues;
3. Demonstrate skills in synthesising, prototyping, critically analysing and testing project deliverables and delivering outcomes to specifications;
4. Effectively perform all aspects of project management including scoping, planning, scheduling, resourcing, risk assessment, reviewing, delivering, evaluating and contract management;
5. Produce a range of high quality professional and technical documents including a project proposal; project contract; project management plan; project log; final project report; and PowerPoint presentations that meet industry and university standards;
6. Communicate with all stakeholders in an ethical and professional manner and present project findings in professional oral presentations to the client and university audiences.

4. Content

In this unit, students will commence a major design problem resulting in a complete and working outcome which meets the agreed specifications and demonstrates an understanding of professional engineering standards. The project will continue in the follow-on second semester unit VEB4200. The student will analyse the problem, develop functional specifications (in collaboration with the Project Clients and Mentors), undertake a feasibility study and write a comprehensive project proposal. The proposal will evaluate possible alternative engineering solutions using objective criteria functions. Cost, reliability, sustainability and environmental impacts should also be considered in choosing the best approach. All progress work on the design should be documented in logbooks, and written project documents and oral presentations will be required during the course of the work. The final report will document the complete design process, the synthesis and analysis of the design, prototyping, experimental testing, refinement of the design, the final product and full performance testing and comparison with the specifications. Projects will, where possible originate from industry, and address real problems which the industrial Clients are confronting. In team-based projects, each student will work individually on a defined part of a design problem, but these parts may be components of a bigger project requirement.

5. Academic Mentors

During the course of the project, students are expected to undertake the work independently. However, for each project an academic staff (or an industrial mentor from the Client company where applicable) will be assigned to the project to provide technical guidance and mentoring. Students may nominate their preferred mentor at the time of project allocation. If no mentor is found by the end of the 1st week, a mentor will be assigned by the Unit Coordinator for the project. Where this occurs, the decision is final. In addition to formal written and oral reports, the student should maintain regular informal meetings with their mentors and Clients. The frequency of such contact will be agreed to by all parties and outlined in the Project Management Plan as described in section 9.3 of this document.

ROLL AND RESPONSIBILITY OF THE MENTORS

1. To advise students in a supportive manner.
2. To provide technical guidance for the students ensuring that their proposals are technically feasible and that students will have a high probability of timely completion given the constraints and abilities of the students.
3. To advocate on behalf of students in the event of conflict and to mediate in case of dispute within the project team.
4. Mentors are not permitted to lead the project and do not define project requirements and objectives. This is done by the students in consultation with their clients.
5. Mentors should not interfere with the communication between the students and the client unless explicitly requested by either the client or the students.
6. Mentors will not be required to assess student performance but will provide feedback to the Unit Coordinator for the purpose of assessing project progress and individual student assessment. Mentors should take note of student assessment requirements and assist in the timely completion of assessable materials.
7. Mentors should track project progress by monitoring the Project Management Plan and assist students in maintaining project progress.
8. Mentors should ensure that documents and materials created by students are of an appropriately high quality, is at a level required for high grades as defined by the assessment rubrics and consistent of an engineering graduate.
9. Mentors should ensure that project documents presented to them be reviewed and returned to students in a timely manner (within a week, or as agreed in the Communications Plan).
10. Mentors should ensure that they meet with students on a weekly basis. Staff who are acting as mentors are provided with 1 hour teaching load per group per week to facilitate this.

6. Student Contact

Most of the work in this unit will occur outside of formal classes. However, students are expected to maintain regular weekly contact with their team mates and Mentors. It is expected that students spend a minimum of 10 hours per week individually on the project. There will be some lectures provided in Project Management throughout the first semester and technical lectures and workshops will be organised as required by the project. The project Client will be a different person to the project Mentor, and many will be external to the University. Where this occurs, the student should establish a communications protocol (i.e. decide on the mode and frequency of the communication) with the Client early on in the project. This will ensure that communication with the Client is appropriate and effective. All email correspondence from the Unit Coordinator will be via the student email account. Students should ensure that they regularly view their student emails for important notices. Students should also regularly visit WebCT for project documents, announcements and calendar dates.

7. Schedule

SEMESTER 1: VEB4100			
Week	Tasks.	Deadline Dates	Lectures / Workshops
Wk 1	Project selection.	Last day of wk 1	Introduction to VEB4100
Wk 2- 5	Develop a Feasibility study & project proposal	Draft due end of wk 3, Final due end of wk 5	Intro. to Project Management. Writing feasibility studies. Report writing skills
Wk 6	Complete a Project Contract	Last day of wk 6	Writing Project Contracts
Wk 7-10	Develop Project Management Plan	Last day of wk 10	Creating a WBS, Risk Management, Completing Project Management Plans
Wk 11-12	Oral project proposal (15 min)	By end of wk 12	Oral presentations
Wk 13	Assessment of progress for continuation to semester 2		
SEMESTER 2: VEB4200			
Week	Tasks.	Deadline Dates	Lectures / Workshops
Wk 10	Product demonstration	Last day of wk10	Workshops are organised on demand as required throughout semester 2.
Wk 11	Submission of Final report	Last day of wk11	
Wk 12	Final Presentation (20 min)	By end of wk12	

8. Project Selection

This unit will enable you to undertake a significant project for a client through which you will be able to apply your problem based learning skills and engineering theory to solve real world problems. A list of projects will be displayed on WebCT for students to review one week before the start of semester. Students will then need to form teams where appropriate and nominate projects that they would like to. Each student should nominate their top 5 projects in order of preference. This must be done by email to the Unit Coordinator. The nomination should also contain your preference for team members as well as any preferred mentor. Note that there are limits to how many projects an individual staff can supervise. It is recommended that you speak to a potential mentor and get commitment from him/her for your project. Projects will be allocated by the Unit Coordinator on the basis of student competency, area of specialisation and academic grade as well as well formed teams. Mentors will be assigned on the basis of student preference, mentor background/expertise and their allocated teaching load. It is strongly recommended that students also talk to project Clients to understand the project requirements and the appropriateness of the project before selecting the project. Students who have not selected their project by the end of week 1 will have a project assigned to them by the Unit Coordinator.

Students may also opt to propose their own projects. In this case, the student will need to speak to the Unit Coordinator to assess the appropriateness and scope of the project before commencement. The Unit Coordinator will then assign a Mentor to the project. The Unit Coordinator will act as the proxy Client.

9. Project Documentation

A number of documents will be created during the course of the project which forms the basis for assessment. These documents are detailed below.

9.1. Project Proposal – 20 pages max. (excluding references and appendices)

The project proposal is a major work activity that requires the student to undertake a feasibility study/gap analysis and propose the best approach to solving the problem. The solution is likely to depend on a number of factors including cost, safety, environmental, timeframe, student knowledge and competency. To undertake a feasibility study or gap analysis, the student must perform the following tasks.

- **Researching the problem.** This task involves firstly identifying the problem and determining the root cause by analysing the environment from which the problem came. Once identified, the problem needs to be described by considering what impact that the problem has and why it needs to be solved.
- **Identifying options that are available.** After a clear understanding of the problem the next step is to review the current literature or identify the current state of the art to gain an understanding of possible options. For every problem, there will likely be a number of solutions. Students should identify as many possible options as possible.
- **Assessing the feasibility of each solution.** Each solution that has been identified needs to be assessed to determine whether it can be done, or if it is feasible. The feasibility of the solutions should take into account any technical considerations, the effort required, costs, risks and benefits as well as consideration to the project scope, constraints and available time. The feasibility study is a major and critical component of any project and can, itself, take a lot of effort. Sometimes it may be required that simulations or experiments are conducted or prototypes developed to test the solution before it is considered acceptable or feasible. The assessment of the solution will determine either “*yes it can be done*” or “*no it cannot be done*”.
- **Selecting the best solution from the available options.** After each option has been assessed, the preferred option is selected. A case must then be made to argue why it is the best option and define the criteria for the selection. These may relate to the quality of the outcome, the resources or time constraints. Through this work, students may identify any gaps in the current body of knowledge or state of the art and the need for developing a unique solution if required.
- **Propose an approach for implementation.** After identifying the preferred solution, the next step is to think through the approach for implementing the solution. The implementation approach is a basic plan of the project. In order to do this, students will have gathered basic, but critical, information about costing, resources and timelines. At this point students must have a clear picture in their heads of the solution and the outcomes and how to achieve them. Students must be able to say “*it can be done and here is how it is done*”. All of this will be put into a project proposal document to be submitted to the client for consideration.

The project proposal document is a professionally written document that should include the following:

1. An outline of the project and problem statement or executive summary.
2. A survey and analysis of the problem and literature review or gap analysis.
3. Discussion of possible approaches or solutions.
4. An evaluation of the approaches, discussing the advantages/disadvantages, risks and benefits of each approach.
5. The chosen solution with justification for the choice.
6. A basic plan or approach for designing or creating the solution.
7. References

For the purpose of individual assessment, the project proposal should clearly identify the contributions from each team member for team projects.

If students have not defined the deliverables and specified how those deliverables will achieve the project outcomes, or that they are not clear on how to create the deliverables or whether it will work, then the feasibility study has not been done correctly or was not done sufficiently and the proposal will be inadequate. The proposal will determine students’ ability to undertake detailed analyses of a problem and utilising a systematic approach to identify, analyse and assess suitable solutions to demonstrate their achievement of the Learning Outcomes 1 and 2. An example of a project proposal is available on WebCT.

After the project proposal has been presented and discussed with the client, and that the client is happy with what has been proposed, the project moves into the contract phase.

9.2. Project Contract – 3 pages max.

The Project Contract is an important document that sets out what the student proposes to achieve and is the first stage in formally authorising the student to begin the project by the client. The Project Contract summarises the project and defines the deliverables, parameters and boundaries within which the project must be delivered. Examples of project deliverables may include (but is not limited to):

- Technical reports
- Progress reports
- Circuit layouts and schematics (either hard copies or electronics versions)
- Design schematics (either hard copies or electronics versions)
- Prototypes
- Completed circuits
- Simulations
- Designs
- Completed products

The Project Contract must include the following information:

- Project title and project ID
- Student names and ID numbers
- Client name
- The problem statement and objectives
- The proposed solution
- A detailed description of the deliverables
- The scope, or quality, of the work and any out of scope
- The acceptance criteria
- Indicative timeline
- Indicative budget (if applicable)
- Project constraints (if any)
- Student signature and date
- Client signature and date (where applicable)

The project planning can only proceed when there is signoff of the Project Contract by the Client. An example of a Project Contract is available on WebCT.

9.3. Project Management Plan – 20 pages max.

The Project Management Plan is a detailed document listing all of the activities that need to be done, how it will be done and when it will be done by. Think of the Project Management Plan as the instructions manual on how to execute and manage the project. Most projects fail or encounter problems because of insufficient planning. A student may come across a particular problem during the construction of the deliverables only to find that it doesn't work or that they used the wrong device or material or technique. This leads to costly remediation or extensive delays. Proper planning could result in the correct techniques or materials been identified and such issues could be avoided.

The project plan is a breakdown of the project activities into individual tasks and subtasks and the timeline for completing these tasks. During the project planning phase, all schematics, diagrams, algorithms, list of materials, functionality specifications and any other design plans should be completed and attached to the work breakdown structure as part of the overall Project Management Plan. The Project Management Plan must include the following information:

- A list of activities and tasks required to be undertaken to create the deliverables based on the designs and schematics already developed. This list is called a work breakdown structure or WBS.
- Each task must have a beginning and end date.
- Where applicable, tasks should have associated cost and resources allocated to them.

- An assessment of identifiable risks associated with the tasks detailed in a Risk Management Plan.
- A detailed project budget.
- Milestones to signify completion of substantial work or project phase.
- A Communications Plan and Quality Assurance Plan
- Where applicable, a Test and Training Plan.

As the Project Management Plan may reveal some shortcomings in the Project Proposal and a more detailed design and budget is developed which may differ from the Project Contract, the contract may be required to be revised and resigned by the client to authorise the continuation of the project. While developing the Project Management Plan, it is advisable that the student keep in regular communications with the Client.

Project plans can be altered during the course of the work if significant changes are required. However, consultation and authorisation from the Client is required before changes to the plan can be made, particularly if it is a result of a change in the project scope or deliverable(s). The work breakdown structure in the project plan can be created in MS Word, Excel or other word processing software. However, the preferred method of creating a project plan is through the use of project management software such as MS Project. An example of a Project Management Plan and a Project Management Plan template is available on WebCT.

The Project Management Plan is the basis by which progress will be measured. Thus it is important to make sure that the Project Management Plan is sufficiently detailed to guide the project and to set the expectations of the Client.

Workshops on creating project plans will be conducted during week 7-8.

9.4. Final Report – 30 pages max. (excluding references and appendices)

The final report is a substantial professional document which should be written in concise and correct English. The final report should include (but not limited to) the following sections:

1. Executive summary
2. An introduction with description and context of the problem, the proposed solution and justification of the solution.
3. The design
 - research
 - description of the design
 - test methods and results and validation of the design
4. The outcomes of the design with a comparison of final outcomes against the expected outcomes as defined in the project contract.
5. Conclusion
6. References

9.5. Project Closure

The project will be considered to be completed when the student has handed over all project deliverables as required in the project contract and that the deliverables meet the acceptance criteria outlined in the contract. Client will then complete and sign the Project Closure form indicating that the deliverables have been accepted as agreed. Client assessment can only occur after acceptance of the deliverables. Once the Unit coordinator has received the signed closure form, the project will be closed. Students cannot receive a grade in semester 2 until a signed closure form has been received by the Unit Coordinator. A copy of the Project Closure Form and client assessment is shown in Appendix 1.

9.6. Logbook

A bound A4 size exercise book (no loose-leaf) should be used to document and log all project work. This should include, but is not limited to, ideas, calculations, measurements, references, drawings and schematics, photocopies etc. Records of all work should be kept accurately and dated. Never use loose pieces of paper – always use your workbook.

9.7. Document Distribution

Completed (and signed where applicable) copies of project documents should be distributed to the following parties.

Document	Student	Mentor	Client	Unit Coordinator
Log book	✓			
Project Proposal	✓	✓	✓	✓
Project Contract	✓	✓	✓	✓
Project Management Plan	✓	✓	✓	✓
Final Report	✓	✓	✓	✓
Project Closure	✓	✓	✓	✓
Other documents as required by the client	✓	✓	✓	

10. Assessments

Project documents listed in Section 9.7 that are submitted to the Unit Coordinator are assessed for grades. All assessments are compulsory and satisfactory completion of each project document is required before the student/team can proceed to the next phase of the project. In addition to these project documents, students are also required to undertake 2 oral presentations (one in each semester) as part of the assessment. The student is also marked on the quality of the deliverables against the acceptance criteria in the Project Contract. This assessment is completed by the client.

The assessment components for VEB4100 and VEB4200 are shown in the table below.

Task	Mark	Semester
Project Proposal	40	1
Project Contract	10	1
Project Management Plan	40	1
1 st Oral Presentation (project proposal)	10	1
Total	100	
2 nd Oral Presentation (project outcomes)	10	2
Final Report	40	2
Client assessment of outcome	50	2
Total	100	

10.1. 1st Oral Presentation

This oral presentation is the final assessment for Semester 1. This presentation is intended to provide the students with the opportunity to orally present their project proposals. The presentation will run for 15 min consisting of approximately 10-12 min presentation and 3-5 min of question time per student. Students should describe the project problem, what the proposed solution is and how the student will create the solution. Students will be marked on the structure of the content as well as how the presentation demonstrated their understanding of the project, its requirements and desired outcomes as well as the use of visual aid and professional delivery of the presentation.

Attendance of the oral presentation is compulsory for all students so that all students can see and compare the standards and qualities of the projects from other students. It also provides an opportunity for project proposals to be peer-reviewed. The absence from attendance will incur a **5 mark penalty** and late arrivals will incur a **2 mark penalty** for each late session.

10.2. Final Oral Presentation

This final oral presentation will take place at the end of Semester 2. This presentation is intended to provide the student with the opportunity to present the outcomes of the project and what was achieved. The presentation will run for 20 min consisting of approximately 15 min presentation and 5 min of question time. In some cases, the project team will be required to present their project outcomes at the Client's premises.

Students will be marked on the structure of the content as well as how the presentation demonstrated their understanding of the project, its requirements and how they achieved the outcomes as well as the use of visual aid and professional delivery of the presentation.

Attendance of the oral presentation is compulsory for all students so that all students can see and compare the standards and qualities of the projects from other students. The absence from attendance will incur a **5 mark penalty** and late arrivals will incur a **2 mark penalty** for each late session.

10.3. Product Quality & Client Assessment

The project quality and students' professional attributes will be assessed by the Client. The quality of the deliverables created for the project will be judged against how well the deliverables meet the project requirements and the acceptance criteria. Students should always refer back to the Project Contract throughout the construction of the deliverables to ensure that the products or deliverables meet the specifications and the acceptance criteria. Students will be required to demonstrate their products to their Clients by the end of week 10 in Semester 2 and provide evidence that the deliverables meet the project requirements. Failure to meet project requirements as agreed in the Project Contract will result in an automatic failure in semester 2.

10.4. Alignment of learning outcomes to assessment

Detailed assessment rubrics for each assessment item are shown in Appendix 2. These assessment rubrics detail the level of competencies required for each grade level and the learning outcomes that they assess against.

10.5. Penalties for late submission

All project documents must be submitted to the Lecturer for assessment. Strict deadlines for document submission and other assessments are maintained and students will be penalised for late submissions unless requests for late submissions have the support of the Mentor **prior** to the submission deadline. Documents submitted late without prior approval will be graded **no more than a pass**, subject to satisfactory acceptance of all required deliverables by the client. **All assessment components are compulsory**. Failure to submit any assessment component will constitute a fail in the unit.

10.6. Individual contributions to team work

For the purpose of individual assessment, the project proposal and project report should clearly identify the contributions from each team member (for team projects) towards the creation of these documents.

11. Working in Teams

In most projects, students will be working in a team of students. While team projects will have the same project outcomes and deliverables, each student will be required to have a unique contribution to the project. The project should be broken down to activities and tasks where there is a clear separation of responsibilities. The Unit Coordinator will be looking for an even distribution of responsibilities in the project plan. When working in a team it is important to recognise the following rules/principles to ensure smooth running of the projects.

- Each student should have a clear role and area of responsibility in the project. This will ensure clearly defined contributions for the purpose of individual assessment.
- Team rules should be discussed and set, and mechanisms for the group to communicate and work together effectively are in place (Refer to the Team Rules section in the Project Management Plan template).
- Record keeping by individual students in individual log books.
- Conflicting views between team members should be quickly resolved by the team members in the first instance, then by project mentor or, if necessary, by the Unit Coordinator.

12. Project Changes

From time to time, events can occur that will cause the project to be disrupted. This may be due to personal reasons, changes in commitment from the Client or for reasons beyond your control (i.e. due to major flooding causing delays or cancellation of ordered components). In other cases, it may be the Client requiring new specifications which will require a change the project deliverables. In the case where a major change in the project is required, the students are required to assess the impact of such changes and complete the Project Change Request form. This form documents what the change is and justification for the change as well as any impacts to the overall project as a consequence to the change and ensures that all stakeholders are aware of the consequences of such change. This form must be signed off by the client before the changes can be implemented.

A Project Change Request form can be found on WebCT. A copy of the Project Change Request form is shown in Appendix 3.

13. Budget

Project costs are normally paid for by the Client. The student will need to identify the cost of the project, including major equipment, during the scoping of the project and the costs should be listed in the Project Management Plan.

A small budget of \$100 is allocated for each team to purchase consumables if these materials are not available from the College. At the first instance, the student should seek assistance from a Technical Support Officer within the College for assistance in identifying and locating the required materials. If equipment or materials are not available from the College, the student should then proceed to complete a Purchase Request Form (see appendix 3). The purchase form should be accompanied by quotations, catalogues, web site printouts with relevant pricing evidence. The Purchase Request Form should be handed to the Client for signing then forwarded to the Unit Coordinator for final approval. Once approved, the purchases will be made on behalf of the student by the Technical Officer or Finance Officer of the School. Where urgency is required, the student may purchase the equipment out of his/her own pocket and have the expenses reimbursed by the School. The Purchase Request Form must still be completed and signed prior to any purchase. Reimbursement is only allowed where a student hands over a valid tax receipt within one month of the purchase date. The student may choose to pay for equipment out of his/her own expense and keep the equipment after the project is completed. Otherwise, all materials and equipment must be returned back to the College.

14. Dispute

Students have the right to view their assessment and to dispute any assessment. In the event that the student believes he/she has been unfairly assessed, the student can request that his/her work be moderated by another academic staff. The Uni Coordinator will select a staff whose background is appropriate to the project. Where moderation is required, the assessment of the moderator will be taken as final. If the student is not satisfied with the moderation, the student can proceed to make a Stage 2 Formal Complaint. Where this occurs, the student must be referred to the Student Complaint Resolution Policy (<http://wcf.vu.edu.au/GovernancePolicy/PDF/POS040915000.PDF>). A copy of this policy can be obtained from Student Services. Stage 2 complaints can be made online using the University's secure online Student Complaint System at www.vu.edu.au/studentcomplaint.

15. Plagiarism and Academic Integrity

Victoria University's values are at the heart of how we deal with the unauthorised, unacknowledged and/or the improper use of the intellectual work of other persons by staff and students. The University believes that academic integrity underpins the University's core activities and requires that all its staff and students behave according to high standards of academic honesty in any assessment, research and publications in which they engage.

15.1 Academic integrity

This comprises important values that shape the work of the University in teaching, research and engagement. These are:

- **Respect** for the participatory nature of learning and the work and perspectives of others;
- **Honesty** so that commitment is given to acknowledging the work and ideas of others that is built upon;
- **Fairness** through realistic assessment expectations and clear standards that are applied fairly;
- **Trust** so that there is confidence in people and in services that enable students to achieve to the best of their abilities; and
- **Responsibility** because every person at the University has a duty to maintain academic integrity.

15.2 Academic Misconduct

This involves dishonesty and premeditation in the preparation and/or presentation of assessable work, usually gaining an unjust academic advantage for the student(s) to which the student(s) are not entitled and/or which may result in the diminution of academic integrity, thereby bringing the University into disrepute. A staff member, who has reasonable grounds to believe that a student has committed some form of academic misconduct, shall follow the Procedures for the Management of Plagiarism (and other related forms of academic misconduct) which are available at the University website: <http://wcf.vu.edu.au/GovernancePolicy/PDF/POA040915000.PDF>

15.3 Plagiarism and Copyright

An academic course of study requires students to source information in a number of different formats including factual information, data and analysis, reasoned arguments and the insights of others. Part of what it means to be a 'scholar' is to engage with the work of others, for example, to extend or refine one's own ideas, critique the work of others, or test and extend theories. However, remember to give credit where credit is due, that is, acknowledging the work of others in your own work by using the correct referencing system. Failure to acknowledge other people's work appropriately may be regarded as

plagiarism or academic misconduct. VU deals with plagiarism according to the [Academic Honesty and Preventing Plagiarism policy](http://wcf.vu.edu.au/governancepolicy/PDF/POA040915000.PDF) (<http://wcf.vu.edu.au/governancepolicy/PDF/POA040915000.PDF>).

Copyright law gives the owner of published work such as books and texts (printed and digital), photos, pictures, films and recordings the rights to control reproduction, publication, communication, performance and adaptation of their work. All students and staff of Victoria University are bound by the requirements of the Copyright Act (1968) when using third party copyright material in the course of their research and study. For information on copyright entitlements and responsibilities for study and research please see vu.edu.au/library/referencing-copyright/copyright

Appendix 1: Forms

Project Closure

VEB4100 & VEB4200 Engineering Design

EBDE: B.Eng. Electrical and Electronic Engineering

Project ID:	VEB4100-xxxx
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[Texts shown in italic between square brackets are instructions or for reference only. Please delete from final document.]

Project Title:			
Client Name:			
Client Organisation:	<i>[For internal Sponsors, please state the College or Area]</i>		
Address:		Tel:	
		Fax:	
Email:			
Project Team:	<i>[List names of students on project here]</i>		

Project Outcomes

Project Outcomes and Deliverables:	The following project deliverables were handed to the Client in accordance with the Project Contact	Deliverables Created?
	<ul style="list-style-type: none"> ◆ Deliverable 1 <i>[list deliverable exactly as written in contract]</i> ◆ Deliverable 2 ... 	Yes / No
	Comment (if any):	Yes / No

Project Acceptance Criteria:	The following Acceptance Criteria were required in accordance with the Project Contact	Criteria Met?
	<ul style="list-style-type: none"> ◆ Criterion 1 <i>[list criteria exactly as written in contract]</i> ◆ Criterion 2 ... 	Yes / No
	Comment (if any):	Yes / No

Acceptance of Deliverables: <i>(For Client to Complete)</i>	Deliverables accepted (and project completed) : <input type="checkbox"/> Deliverables not accepted : <input type="checkbox"/>
	Comment (if any):

Overall Performance: <i>(For Client to Complete)</i>	Exceeded specifications: <input type="checkbox"/> Met specifications: <input type="checkbox"/> Below specifications: <input type="checkbox"/>
	Comment (if any):

Project Cost:	Final Cost: \$	Variance (if any): \$
	Comment (if any):	

Sign-Off (Sign-off by Client signifies the formal closure of the project after all agreed deliverables have been accepted)

AUTHORITY	Name	Signature	Date
Project Client:			
Project Manager:			



Client Assessment & Feedback

VEB4100 & VEB4200 Engineering Design
EBDE: B.Eng. Electrical and Electronic Engineering

Project ID:

VEB4100-xxxx

The College of Engineering & Science appreciates feedback by industry partners so that we can improve our programs and future engagement with Industry and the Community. Please kindly complete the following Client Feedback form and return to the Unit Coordinator.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
About the Performance of the Students						
1	Students displayed a high level of knowledge in their engineering discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Students displayed a high level of competence in their engineering discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Students presented work that is of a quality expected of a graduate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Students demonstrated creativity and problem solving skills in their solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The outcomes of the project were as expected or better than expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	The students acted and behaved ethically and in a professional manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Students made an effort to understand my project needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Students kept me informed of progress as specified in the project plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Students demonstrated good communications skills (written & oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Students demonstrated good project management skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
About the Organisation of the program						
1	I understood what was expected of my role as the project Client	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I was provided with information to carry out my role as the Client	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The program was well organised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The time commitment was not demanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Participation has benefited me and/or my organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Will you, or your organisation, consider participating again in the future?

YES ☐

NO ☐

Do you have any comments or recommendations for improvement?

Project Change Request

VEB4100 & VEB4200 Engineering Design
 EBDE: B.Eng. Electrical and Electronic Engineering

Project ID:

VEB4100-xxxx

Project Title:			
Client Name:			
Client Organisation:	[For internal Sponsors, please state the school and Faculty]		
Address:		Tel:	
		Fax:	
Email:			

CHANGE DETAILS:

Description of Change:	[Describe the changes to the project here]
Justification of Change:	[Describe the reasons and justification for why a change is requested or required]

IMPACTS:

Impacts on Budget:	[Describe any impact that the proposed changes will have on the budget]
Impacts on Schedule:	[Describe any impact that the proposed changes will have on the schedule]
Impact on Deliverables:	[Describe any impact that the proposed changes will have on the deliverables]
Impact on Resources	[Describe any impact that the proposed changes will have on the Resources]

NEW RISK ASSESSMENT:

Potential New Risk Event As a Consequence of Change	Likelihood	Consequence	Rating

DOCUMENT AMMENDMENTS:

If Approved, the document will require:	<input type="checkbox"/> An update to the Project Plan as it changes one or more deliverables. <input type="checkbox"/> To become an attachment to the existing Plan for record purposes.
--	--

SUBMITTED BY	Name	Signature	Date
Project Manager:			

OUTCOME:

APPROVED	Name	Signature	Date
Project Sponsor:			

REJECTED	Name	Signature	Date
Project Sponsor:			
Grounds of Rejection:			

Purchase Authority

VEB4100 & VEB4200 Engineering Design
 EBDE: B.Eng. Electrical and Electronic Engineering

Project ID:

VEB4100-xxxx

Use this form to request the purchase of equipment and materials for VEB4100 & VEB4200 final year projects. The form should be completed by the Student and signed by the Client and Unit Coordinator.

Project Title:			
Project Manager Name:		Student ID:	
Email:		Contact Number:	

PURCHASE DETAILS *(To be completed by the student)*

Item Description	Quotation Attached?	Price (\$) (inc. GST)
Total:		

COST CENTRE *(To be completed by the mentor)*

Area	Account Code	Amount (\$)
School of Engineering & Science	567-10-100	\$
[Other]		\$

AUTHORISATION

	Name:	Signature:	Date:
Client:			
Unit Co-ordinator:			

The purchase form must be accompanied by quotations, catalogues, web site printouts or relevant pricing evidence. The Purchase Request Form should be handed to the Client for signing then forwarded to the Unit Coordinator for final approval. Once approved, the purchases will be made on behalf of the student by the Technical Officer or Finance Officer of the School.

Where urgency is required, the student may purchase the equipment out of his/her own pocket and have the expenses reimbursed by the School. The Purchase Request Form must still be completed and signed prior to any purchase. Reimbursement is only allowed where a student hands over a valid tax receipt.

Appendix 2: Assessment Rubrics

Assessment 1: Project Proposal Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 2)	Poor (grade = 4)	Satisfactory (grade = 6)	Good (grade = 8)	Very Good (grade = 10)
Researching the problem (LO1)	Problem has not been identified or problem statement does not reflect that identified in project brief.	Problem poorly identified with no reference as to why problem needs to be solved.	Problem identified with some reference as to why the problem needs to be solved but not well articulated.	Problem clearly identified and need for solving it clearly stated.	Detailed analysis of the problem, its root causes and historical context. Consequences of the problem and impact on client and reasons for solving are well articulated.
Identify and analyse solutions (LO2)	Inappropriate solution proposed that does not address the problem.	Only one solution identified with no consideration for other possibilities. Solution vaguely addresses the problem.	Some solutions identified, researched with only low level technical evaluation for each solution. Solution addresses the problem. If only one solution identified, justification has been given.	Some solutions identified, researched with high level technical evaluation and consideration for each solution. Some assessment of risks and benefits. If only one solution identified, well researched justification has been given. Solution addresses the problem and meets the requirements of the project.	Many solutions identified, researched with high level technical evaluation, assessment of risk and benefits as well as costs and constraints for each solution. If only one solution identified, thoroughly researched and strong justification has been given. Convincing argument for the proposed solution on the basis of the analysis and meeting client requirements.

ASSESSMENT CRITERIA	Very Poor (grade = 1)	Poor (grade = 2)	Satisfactory (grade = 3)	Good (grade = 4)	Very Good (grade = 5)
Spelling & Grammar (LO3)	Report full (more than 30) of spelling mistakes. Report full of bad grammar, not written in proper English.	Report has many (20-30) spelling mistakes. Report contains some bad grammar.	Report has some (6 – 20) spelling mistakes. Report contains some bad grammar.	Report has negligible (1 – 5) spelling mistakes. Report has negligible grammatical errors.	Report has no spelling mistakes. Report has no grammatical errors.
Readability & articulation (LO3)	Not fit to be read.	Hard to read, some evidence of ability to describe technical content, knowledge and/or	Report is readable but not written in engineering or professional format. Can sufficiently describe	Report is easy to read. Good ability to describe technical content, knowledge and/or processes.	Report written in professional technical format and comprehension enhanced by outstanding writing.

		processes.	technical content, knowledge and/or processes.		Very good articulation of technical content, knowledge and/or processes.
Structure (LO3)	No structure to document	Some structure to document, not appendices or references where required. Very little cohesion between sections in document and little connection between introduction and conclusion.	Structured with intro, main section and conclusion. In-proper use of appendices. Some connection between introduction and conclusion.	Structured with executive summary, intro, main section (but no sub sections where required to make reading easier) and conclusion, proper use of appendices. Has basic table of content. Good connection between introduction and conclusion.	Well developed structure with executive summary, intro, main section (with sub sections where required to make reading easier) and conclusion. Has formatted table of content. Strong connection between introduction and conclusion. Document is very coherent and cohesive.
Tables, Diagrams & References (LO3)	No labelling or citing of figures or diagrams. No references used but were required.	Improper labelling of figures or diagrams. Some references where required, not written in proper referencing format and not properly cited in text.	Figures & diagrams are numbered but not labelled. Full references where required, written in proper referencing format but not properly cited in text.	Figures & diagrams are numbered and labelled and cited in text. Some references where required, written in proper referencing format and properly cited in text.	Figures & diagrams are numbered and labelled and cited in text. Appears in Table of contents. Full references where required, written in proper referencing format and properly cited in text.

Maximum possible grade for feasibility study =40.

Assessment 2: Project Contract Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 0.4)	Poor (grade = 0.8)	Satisfactory (grade = 1.2)	Good (grade = 1.6)	Very Good (grade = 2)
Project deliverables (LO4)	No tangible deliverables defined.	Project deliverables poorly define and vague. Hard to visualise the deliverables.	Deliverables sufficiently defined and reader can visualise the outcome but	Deliverables clearly defined with some description and explanation of the specifications. Reader can visualise the outcome.	Deliverables well defined with detailed description and explanation of the specifications. Reader can clearly visualise the outcome.
Scope, out of scope and constraints (LO4)	No scope, out of scope or constraints defined.	Scope, out of scope and any constraints vaguely defined or not relevant.	Scope, out of scope and any constraints only superficially defined.	Scope, out of scope and any constraints clearly defined.	Scope, out of scope and any constraints well defined with detailed description and explanations.
Acceptance criteria (LO4)	No acceptance criteria defined.	Acceptance criteria vaguely defined or not relevant.	Acceptance criteria only superficially defined.	Acceptance criteria clearly defined.	Acceptance criteria well defined with detailed description and explanations.
Timeline & budget (LO4)	No timeline or budget.	Timeline and budget to broadly defined with insufficient breakdown.	Timeline defined with at least major milestones. Budget sufficiently considered.	Timeline defined with major phases and major milestones. Some decomposition of budget.	Timeline well defined with major phases and major milestones. Budget decomposed with budget breakdowns to all major cost components.
Spelling & Grammar (LO3)	Report full (more than 20) of spelling mistakes. Report full of bad grammar, not written in proper English.	Report has many (11-20) spelling mistakes. Report contains some bad grammar.	Report has some (6 – 10) spelling mistakes. Report contains some bad grammar.	Report has negligible (1 – 4) spelling mistakes. Report has negligible grammatical errors.	Report has no spelling mistakes. Report has no grammatical errors.

Maximum possible grade for project contract = 10.

Assessment 3: Project Management Plan Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 2)	Poor (grade = 4)	Satisfactory (grade = 6)	Good (grade = 8)	Very Good (grade = 10)
Design plan (LO5)	No design plan for the deliverables will work or what the deliverables will look like.	Simplified design that is vague and does not give an expectation of what the deliverables will look like or how it will work to solve the problem.	A design that is sufficient in detail to visualise the outcome of the deliverables and how it will solve the problem.	A detailed design that gives the reader a clear visualisation of the deliverables. The design contains state diagrams that clearly show how the performance of the deliverables will solve the project problem.	A comprehensive design has been developed for each deliverable to be created. Design includes input/output specifications, schematic and state diagrams for data flows, hardware drawings, and models/algorithms or calculations for performance. The reader can clearly see what the deliverables will look like and how it will work to solve the project problem.
WBS (LO6)	A WBS that has no correlation with the required tasks and activities of the project. No time lines.	An overly simplified WBS that does not reflect the work required to create the deliverables. Inconsistent timelines that does not reflect the true duration of the tasks.	The breakdown of tasks required to create each deliverable is documented with sufficient decomposition of the tasks to indicate a realistic timeline for completion.	A detailed WBS with sufficient decomposition to demonstrate understanding of what is required to create the deliverables. Some milestones are indicated.	A comprehensive WBS that clearly shows the students understanding of what is required to create the deliverables. The WBS decomposition is detailed to the appropriate level of competency for the intended responsible officer. Time lines are consistent and realistic. Gantt charts have been optimised for efficiency. All relevant milestones are indicated.

ASSESSMENT CRITERIA	Very Poor (grade = 1)	Poor (grade = 2)	Satisfactory (grade = 3)	Good (grade = 4)	Very Good (grade = 5)
Risk assessments (LO6)	No risk assessment undertaken.	Only some risks are proposed with no proposed action.	Risks identified for specific activities or tasks. Detailed assessments of each risk identified. Risks are rated with some or vague remedies or proposed.	Risks identified for specific activities or tasks. Detailed assessments of each risk identified. Risks are rated with remedies or proposed but no action plan.	Risks identified for specific activities or tasks. Detailed assessments of each risk identified. Risks are rated and remedies or proposed action thoroughly considered and planned.
Costs and resourcing and work allocation (LO6)	No costs allocated to any tasks or actions. No resources allocated	Some resources, including HR are allocated to appropriate tasks. Some	Identification of resources properly costed allocated to appropriate tasks. Human	All tasks requiring resources, including HR, are identified and proper resources, including	All tasks requiring resources, including HR, are identified and proper resources, including their

	to any tasks or actions.	costs allocated to appropriate tasks.	resources properly allocated to appropriate tasks.	their costs allocated to them.	costs allocated to them. Clear separation between human resources, materials and contract/external costs.
Communications (LO6)	No communications plan.	Vague communications plan with no clear indication of how, when and why.	A communications plan that show at the frequency of communication.	A communications plan that includes the frequency, mode and purpose of the communication.	A communications plan that includes the frequency, mode and purpose of the communication. Details of how and where the meetings will take place and who will chair the meetings. Minutes of documents of the communication to be provided.
Quality Assurance Plan including test/training plan where applicable (LO5)	No quality assurance plan or training plan where required.	Minimum quality assurance plan as outlined in the PMP template. No training plan where required.	Minimum quality assurance plan as outlined in the PMP template. Identified training where required.	Detailed quality assurance plan that includes plans for testing the deliverable quality and performance. Identified training where required.	Detailed quality assurance plan that includes plans for testing the deliverable quality and performance. Detailed training plan training schedule and relevant standards where required.

Maximum possible grade for project management plan = 40.

Assessment 4: Oral Presentation Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 1)	Poor (grade = 2)	Satisfactory (grade = 3)	Good (grade = 4)	Very Good (grade = 5)
Content and structure (LO7)	<p>No logical structure and scope of the presentation.</p> <p>Objective(s) not well defined and no link between introduction and conclusion.</p> <p>Cannot understand the presentation.</p>	<p>Some structure and scope of presentation loosely defined.</p> <p>Hard to understand the presentation.</p>	<p>Structure and scope that is sufficiently defined with introduction, main section and conclusion.</p> <p>Can follow and understand the presentation.</p>	<p>Logical structure and scope was well defined with good link between introduction and conclusion.</p> <p>Presentation was easy to follow and understand.</p>	<p>Clearly stated purpose with excellent understanding of scope.</p> <p>Outstanding link between introduction and conclusion.</p> <p>Presentation was outstanding facilitating clear understanding by the audience.</p>
Visual aids & delivery (LO7)	<p>No or inappropriate use of visual aid.</p> <p>Failed to properly answer questions.</p> <p>No evidence of understanding of the work.</p> <p>Can't hear or understand the presentation.</p> <p>Inappropriately dressed.</p> <p>Reading from script or screen only.</p>	<p>Poorly developed content that is hard to follow.</p> <p>Can answer questions but cannot elaborate on details showing lack of understanding.</p> <p>Some evidence of understanding of the work.</p> <p>Able to hear the presentation.</p> <p>Not well timed.</p> <p>Appropriately dressed. Use of some script or reading from screen.</p>	<p>Visual aid supported the presentation.</p> <p>Visual aid was readable and not distracting.</p> <p>Can answer questions and elaborate on details.</p> <p>Showed understanding of the project.</p> <p>Voice was clear and presented at good pace.</p> <p>Well dressed.</p> <p>No use of script or reading from screen</p>	<p>Good use of visual aid with clear diagrams to support the presentation.</p> <p>Well presented.</p> <p>Can answer questions and elaborate on detail with ease.</p> <p>Good understanding of the project.</p> <p>Voice was clear and fluent with good use of tones, pausing and well timed.</p> <p>Well dressed and friendly. Logical delivery that is consistent with visual aids.</p>	<p>Visual aid strongly supported the presentation.</p> <p>Made the presentation more engaging.</p> <p>Can confidently answer all questions and elaborate on detail.</p> <p>Excellent understanding of the project.</p> <p>Audience found presentation engaging.</p> <p>Professionally dress and well mannered.</p> <p>Fluent and logical delivery that is coherent</p>

Maximum possible grade for oral presentations = 10.

Assessment 5: Project Report Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 2)	Poor (grade = 4)	Satisfactory (grade = 6)	Good (grade = 8)	Very Good (grade = 10)
Systematic approach to creating project deliverables. (LO5)	Little information/ data or incorrect information/data and no systematic approach to collecting data	Weak methodology used. Some inappropriate or incorrect information /data	Appropriate methodology used. Appropriate information/data	Appropriate methodology used effectively. Excellent quality information/data.	Accurate and precise methodology used very effectively to draw out relevant information to facilitate. Very good quality information/data.
Analysis and discussion (LO5)	No conclusions drawn. No analysis or discussions or results	Loose conclusion drawn without contextualisation. Few analysis or discussion of results presented	Some conclusion drawn with some contextualisation. Some analysis and discussion of results presented.	Conclusion presented in context of aims and objectives. Good analysis and discussion of results presented including analysis of errors, uncertainties and confidence.	Clear and outstanding conclusion drawn in context of aims and objectives. High level of analysis and discussion of results presented including analysis of errors, uncertainties and confidence.

ASSESSMENT CRITERIA	Very Poor (grade = 0.5)	Poor (grade = 1)	Satisfactory (grade = 1.5)	Good (grade = 2)	Very Good (grade = 2.5)
Spelling & Grammar (LO3)	Report full (more than 20) of spelling mistakes. Report full of bad grammar, not written in proper English.	Report has many (11-20) spelling mistakes. Report contains some bad grammar.	Report has some (6 – 10) spelling mistakes. Report contains some bad grammar.	Report has negligible (1 – 4) spelling mistakes. Report has negligible grammatical errors.	Report has no spelling mistakes. Report has no grammatical errors.
Readability & articulation (LO3)	Not fit to be read.	Hard to read, some evidence of ability to describe technical content, knowledge and/or processes.	Report is readable but not written in engineering or professional format. Can sufficiently describe technical content, knowledge and/or processes.	Report is easy to read. Good ability to describe technical content, knowledge and/or processes.	Report written in professional technical format and comprehension enhanced by outstanding writing. Very good articulation of technical content, knowledge and/or processes.
Structure (LO3)	No structure to document	Some structure to document, not appendices or references where required. Little connection between introduction and conclusion.	Structured with intro, main section and conclusion. In-proper use of appendices. Some connection between introduction and conclusion.	Structured with executive summary, intro, main section (but no sub sections where required to make reading easier) and conclusion, proper use of appendices. Has basic table of content. Good connection	Well developed structure with executive summary, intro, main section (with sub sections where required to make reading easier) and conclusion. Has formatted table of content. Strong connection between introduction and

				between introduction and conclusion.	conclusion.
Tables, Diagrams & References (LO3)	No labelling or citing of figures or diagrams. No references used but were required.	Improper labelling of figures or diagrams. Some references where required, not written in proper referencing format and not properly cited in text.	Figures & diagrams are numbered but not labelled. Full references where required, written in proper referencing format but not properly cited in text.	Figures & diagrams are numbered and labelled and cited in text. Some references where required, written in proper referencing format and properly cited in text.	Figures & diagrams are numbered and labelled and cited in text. Appears in Table of contents. Full references where required, written in proper referencing format and properly cited in text.

Maximum possible grade for project report = 40.

Assessment 6: Oral Presentation Assessment Rubric

ASSESSMENT CRITERIA	Very Poor (grade = 1)	Poor (grade = 2)	Satisfactory (grade = 3)	Good (grade = 4)	Very Good (grade = 5)
Content and structure (LO7)	<p>No logical structure and scope of the presentation.</p> <p>Objective(s) not well defined and no link between introduction and conclusion.</p> <p>Cannot understand the presentation.</p>	<p>Some structure and scope of presentation loosely defined.</p> <p>Hard to understand the presentation.</p>	<p>Structure and scope that is sufficiently defined with introduction, main section and conclusion.</p> <p>Can follow and understand the presentation.</p>	<p>Logical structure and scope was well defined with good link between introduction and conclusion.</p> <p>Presentation was easy to follow and understand.</p>	<p>Clearly stated purpose with excellent understanding of scope.</p> <p>Outstanding link between introduction and conclusion.</p> <p>Presentation was outstanding facilitating clear understanding by the audience.</p>
Visual aids & delivery (LO7)	<p>No or inappropriate use of visual aid.</p> <p>Failed to properly answer questions.</p> <p>No evidence of understanding of the work.</p> <p>Can't hear or understand the presentation.</p> <p>Inappropriately dressed.</p> <p>Reading from script or screen only.</p>	<p>Poorly developed content that is hard to follow.</p> <p>Can answer questions but cannot elaborate on details showing lack of understanding.</p> <p>Some evidence of understanding of the work.</p> <p>Able to hear the presentation.</p> <p>Not well timed.</p> <p>Appropriately dressed. Use of some script or reading from screen.</p>	<p>Visual aid supported the presentation.</p> <p>Visual aid was readable and not distracting.</p> <p>Can answer questions and elaborate on details.</p> <p>Showed understanding of the project.</p> <p>Voice was clear and presented at good pace.</p> <p>Well dressed.</p> <p>No use of script or reading from screen</p>	<p>Good use of visual aid with clear diagrams to support the presentation.</p> <p>Well presented.</p> <p>Can answer questions and elaborate on detail with ease.</p> <p>Good understanding of the project.</p> <p>Voice was clear and fluent with good use of tones, pausing and well timed.</p> <p>Well dressed and friendly. Logical delivery that is consistent with visual aids.</p>	<p>Visual aid strongly supported the presentation.</p> <p>Made the presentation more engaging.</p> <p>Can confidently answer all questions and elaborate on detail.</p> <p>Excellent understanding of the project.</p> <p>Audience found presentation engaging.</p> <p>Professionally dress and well mannered.</p> <p>Fluent and logical delivery that is coherent</p>

Maximum possible grade for oral presentations = 10.

Assessment 7: Client Assessment

Client assessments will be conducted via a client feedback form that will accompany the Project Closure form.

		Strongly Agree (grade=5)	Agree (grade=4)	Neutral (grade=3)	Disagree (grade=2)	Strongly Disagree (grade=1)
About the Performance of the Students						
1	Students displayed a high level of knowledge in their engineering discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Students displayed a high level of competence in their engineering discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Students presented work that is of a quality expected of a graduate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Students demonstrated creativity and problem solving skills in their solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The outcomes of the project were as expected or better than expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	The students acted and behaved ethically and in a professional manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Students made an effort to understand my project needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Students kept me informed of progress as specified in the project plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Students demonstrated good communications skills (written & oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Students demonstrated good project management skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>