**228.711 Engineering Practice 6: Capstone Project**

**Mechatronics/ECE/EIM**

**Assessment 3**

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| **Assessment** | **Date Due** | **Weighting** |
| 2nd Progress Meeting | 10 August 2022 | 10%  (10% Group modified by ICP) |
| 2nd Progress Report  (Assessment 6) | 12 August 2022 | 5% Individual |

Due date: 10 August 2022

Percentage: Assessment 3: 10% Total (10% Group modified by ICP)

Assessment 6 (part): 5% Teamwork (5% individual)

Form: Team interview/presentation with staff (Progress meeting mark) and Individual report (progress report for teamwork)

Purpose:

To demonstrate progress against a clearly presented project plan and to provide evidence of the level of individual understanding and engagement in the project.

A brief, written individual progress report is to be submitted to the Assessment Drop Box on Stream on the 12th August.

Content guideline: The team meeting to demonstrate progress against a clearly presented project plan, demonstrate team understanding of the problem and creative approaches to solving the problems they have encountered, and showing progress on concept development including prototyping. Each team must present an ICP assessment at the meeting.

Individual team members should clearly demonstrate their progress against the team’s project plan and assigned tasks, specific key decisions and their basis, any specific issues that may impact project completion, individual contribution to team and project, and future planning. Each student needs to submit an individual report (3 pages max. excluding figures/diagrams)

The marking rubric is provided below.

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| **Progress Meeting (Group, 10%):**  Key elements that might be considered are: Any changes to the background and project context, project scope, deliverables and outcomes, constraints, risks, and key stakeholders. Present on Progress to Date, Concepts that have been generated and selection of concept to progress with, prototypes built and being tested (and testing method), Product design specifications –technical specifications for your design, Market Research and planning for implementation. Review Tasks performed and key decisions made. Project planning – progress against plan and future planning and have any issues arisen that may impact on the future progress of the project, how will you address? | | | | | | | |
| **Progress Criteria** | | **Mark Allocation** | | | | |
| **Poor (D<50)**  *Inadequate* | **Pass (50-64%) C range*-***  *Adequate standard achieved* | **Good (65-79%), B range**  *Good standard achieved with some elements of excellence* | **Excellent (80-100%), A range**  *Excellent standard achieved* | **Mark** |
| 1 | Selection of solutions and decision making | Unable to justify selection of concepts and solutions, no evidence to support these. | Some relevant justification to selection is provided. Some evidence provided | Good justification of the chosen concepts and solutions investigated. Evidence provided. | Very strong justification of concepts and solutions being investigated, significant evidence provided. | \_/10 |
| 2 | Product/Technical Design Specifications of proposed solution | None or very limited technical specifications given. Largely incomplete or inappropriate. | Some target technical specifications but lacking in completeness and may not be appropriate. | Target technical specifications are generally complete and appropriate including some H&S but can be improved further. | Clear target technical specifications that are complete and are appropriate including H&S aspects for design and/or operation. | \_/20 |
| 4 | Prototype development (as detailed in outputs of project scope) | Very few parts of the prototype have been started. | Some important parts of the prototype have been started. | Most of the parts of the prototype have been started, some are ready for testing. | The 1st prototypes have largely been completed and are being tested | \_/30 |
| 5 | Testing, Validation and Feasibility (technical, financial etc.) of Proposed solutions | No or very few plans for testing. Unable to discuss feasibility. | Some procedures for testing, some technical or other feasibility shown (e.g., design calcs, how to make etc.) | Clear and relevant testing plans made and demonstrate how solution is validated. Feasibility is clearly demonstrated | Testing procedures are well thought out and underway. Important parts of the prototype are being tested/reviewed including H&S design. | \_/20 |
| 6 | Project Planning & Management (demonstrate what is left to do and how it will be managed and any change in scope) | Limited project planning. Unable to demonstrate individual team members responsibilities within the plan and its implementation Unclear future (next week’s) plans | Sound understanding of the project plan by the team, how it contributes to successful project completion and of individual responsibilities to implementation. Some plans for next week. | Clearly understand the project plan and can demonstrate the development of the plan and its on-going revision to meet project goals. Good progress against project timeline | Clearly demonstrate a highly mature approach to project planning recognizing implications related to risks, unknowns, changes in stakeholder requirements etc. Clear allocation of team tasks. Very clear plans going forward | \_/5 |
| 7 | Professionalism and Contextual consideration as appropriate\* | Little or no evidence that the attributes for WA6, 7 and 8 are being considered | Some consideration that the requirements for WA6, 7 and 8 form part of the project. | Active consideration of the requirements for WA6, 7 and 8 are part of the project and being assessed at different levels of consideration. | Strategy formed and integration of the requirements for WA6, 7 and 8 into the project at different levels of consideration. | \_/15 |
|  |  |  |  |  |  | \_\_\_/100 |

\* This refers to the following graduate attributes and need to be applied or considered in the project as appropriate. A team should be able to state why any element of these is not being considered in the project (mainly this refers to the Tiriti, Health and Safety in Design and Sustainability. Consideration at the micro (project) and macro (community, industry or wider) level is dependent on the project – but teams should be able to demonstrate by the end of the project that an assessment has been made with relevance and importance of effects at each level and some analysis if appropriate.

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| **WA6**: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems |
| **WA7**: Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts |
| **WA8**: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice |

**Comments:**

**2nd Progress Report (Individual, 5% Teamwork – Assessment 6):** Individual team members should clearly demonstrate their understanding of the project and progress against the team’s project plan and assigned tasks addressing some of the elements presented in the meeting and their individual contribution such as: Progress to Date, Concepts that have been generated and selection of concept to progress with, prototypes built and being tested (and testing method), Product design specifications –technical specifications for your design, Market Research and planning for implementation, specific key decisions and their basis, any specific issues that may impact project completion, consideration of health and safety, sustainability and Treaty of Waitangi.

For the report students will marked on the written progress report that demonstrates understanding of the project, clearly identifies their contribution to the team and project and identifies future planning. The report should also be free of grammatical errors and spelling mistakes.

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| **Individual Mark (Teamwork Assessment)** | | | |
|  | **Student Name** | **Individual (Ind. Report) \_\_/25** | **Comments** |
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