Faculty of Engineering
The University of Auckland

Department of Electrical, Computer and Software Engineering

Part 4 Projects Handbook

Latest Revision: 16 February 2024

1. Introduction

The Part 4 Projects (P4P) provide an opportunity for students to work largely on their own initiative but under constant supervision, on a topic approved by their Department. Work takes place over a complete academic year, requiring students to enrol in both 700A and 700B courses. Students will be working in groups of two under the direction and continuing guidance of a supervisory team.

The research project requires independent thought and action. The project can also be seen within a professional context where our students, as engineers, investigate a specific and open problem in some depth, to produce both a solution informed by sound analysis and practise. It is expected that students will need to draw upon a good level of theoretical knowledge and the skills they have acquired so far in the degree. In some areas they will need to extend their knowledge and expertise. Some projects focus primarily on laboratory work and may involve substantial liaison with local industry, while others may be more analytical or computational in nature.

We hope that students will feel a personal sense of achievement. The outcome of this project is a research portfolio that includes a formal research report, a conference presentation, a poster display, and a research compendium. It must be noted that individual grades are awarded for this research project and that assessment is performed at the end of the academic year based on the submitted final research report, which should reflect all aspects of a research work.

The Research Project courses (700 A/B) meet all the requirements of an NQF Level 9 course. The 2x15-point course (total of 30 points), spanning Semester 1 and 2, is a required course for the BE(Hons) programmes. Work on the project commences in March and continues to October, with the expectation that students will spend on average about 10 hours per week on their project throughout this period. It is important that all projects in the Department start at the same time so that no student group gains an advantage. It is therefore preferable to avoid projects that develop from work experience, or that have a lead-in requirement. It is expected that students will need to draw upon a good level of theoretical knowledge and the skills they have acquired so far in the degree. In some areas they will need to extend their knowledge and expertise. The research will start with the preparation of the research objectives and scope of the project and a literature review to identify what has been done previously and look at alternative approaches to the problem. This will lead into the detailed work on a solution, which may require: i) the design of equipment to carry out specific tasks, ii) to investigate phenomena or the behaviour of complex systems, iii) computer analysis, modelling, and/or simulation of the engineering systems, iv) to involve elements of all three aforementioned activities. It is important that there is a research component to the project so that students can develop their research skills.

The Part 4 Projects (P4P) departmental core team consists of the following people:

- **P4P Coordinator**, Assoc. Prof. Morteza Biglari-Abhari (m.abhari@auckland.ac.nz)
- **Industry Coordinator,** Assoc. Prof. Akshya Swain (a.swain@auckland.ac.nz)
- **Technical Manager**, Sunita Bhide (s.bhide@auckland.ac.nz)
- **Group Services Manager,** Saida Parvin (saida.parvin@auckland.ac.nz)
- **HoD**, Prof. Kevin Sowerby (kw.sowerby@auckland.ac.nz)

2. Learning Outcomes

At the end of this course, our students should be able to:

i. Retrieve, assess, and evaluate existing research outcomes and technologies relevant to the field of research. Demonstrate an in-depth understanding of the related work, including an in-depth knowledge of the literature, the well-known authors in the research field, the related terminology, and the research findings (theories, models, structures, designs, principles etc.).

ii. Classify, summarise, explain, and critique the basic findings of the literature review and identify gaps in the current knowledge. Demonstrate an ability to extract and list the key issues from the literature review in order to conclude to the required problem statements and research questions. Demonstrate the ability to synthesise an exemplary problem statement, propose research questions, and formulate research hypotheses.

iii. Demonstrate their knowledge of the underlying theory clearly, methods, and procedures. Evaluate and compare techniques quantitatively. Demonstrate an in-depth understanding of the required experiments and/or simulations and how they relate to the research questions or hypotheses. Demonstrate an understanding of the experimental design or numerical study, considering statistical significance and quality of collected data.

iv. Correctly use the theory and research methods and efficiently conduct the required experiments and/or simulations. Demonstrate the ability to use data to extract appropriate models, cluster data into relevant groups, extract major and minor components, perform statistical analysis, organise data into appropriate tables, graphs, and diagrams, interpret data and compare them with previously published data, address the validity or inappropriateness of the data (discussing possible limitations), critique and recommend future improvements for the experimental design and the research direction.

v. Design, develop, evaluate, and experimentally validate appropriate solutions for the selected research questions and problems. Demonstrate proficiency related to hardware and software co-design (where applicable).

vi. Demonstrate their proficiency in engineering/technical writing by being able to generate a technical research report describing the research problem and summarising the research findings and to create a research compendium containing all the required supplementary information.

vii. Deliver a public presentation and an exhibit (project display) to an audience with broad background knowledge about the findings of the research project.

viii. Provide knowledgeable and logical explanations and expert opinions in relation to the research findings. Demonstrate the ability to add, at a satisfactory level, to the existing knowledge, articulating the importance of the work, in relation to solving a larger, ‘real-world’ problem.

3. Key Components and Dates

The various research components are shown in Table 1.

Table 1. P4P Components and Important Dates.

P4P Component	Type	Date
Project Scope, Research Objectives, & Literature Review (Draft for Final Report)	**Highly Recommended / Non Compulsory** (individual submission / feedback will be provided)	Friday, 26 April 2024 5:00 pm
Mid-Year Progress Report	**Highly Recommended / Non Compulsory** (individual submission / feedback will be provided)	Friday, 19 July 2024 5:00 pm
Conference Presentation (Early Seminar Day)	**Compulsory** (participation in event)	Saturday, 20 July 2024
P4P Display Day (Exhibition Day) Poster	**Compulsory** Presentation Deliverable of P4P Display Day (joint submission)	Friday, 4 Oct 2024 5:00 pm
Final Research Report	**Assessed / Compulsory** (100% of grade) (individual submission)	Friday, 11 Oct 2024 5:00 pm (consistent date and time across all departments)
Research Compendium	**Compulsory** (joint submission)	Monday, 14 Oct 2024 5:00 pm (consistent date and time across all departments)
P4P Display (Exhibition) Day	**Compulsory** (participation in event)	Thursday, 17 Oct 2024 (consistent date across all departments)

The passing grade for this course is determined by a written research report prepared **independently by each student**. The research report must include a literature review, a description of the research and its findings, and a statement of research contributions. This research report will typically have **as a general guide 10,000-12,000 words, but it will be no shorter than 8,000 words (plus figures), no longer than 13,000 words, and have no more than 25 pages** (word and page limits exclude abstract, references, appendices, front matter, etc., and assume standard fonts and margins specified by the templates).

Further technical material that supports the research findings can be provided as a compendium. This course also requires that students deliver a conference presentation on their research and prepare and present a poster during the P4P Display Day. Students working in pairs typically work together to deliver a single presentation and poster. **Failure to deliver the compulsory components may* result in a DNC - "Did Not Complete" grade for this course.**

***Unless special prior approval has been provided by the course coordinator.**

4. Staff and Student Involvement

The following information is intended to provide: i) students with an idea of what the expectations are regarding their workload and the effort they should put into their projects, ii) academic staff with an idea of what is involved in their role as a supervisor, examiner, and/or assessor, in terms of commitment and responsibilities, and iii) guidance on management and assessment issues.

Staff-Student Interaction

Meetings between staff and student pairs are considered an essential part of the learning and research training process. The expectation is that all academic staff will have at least one weekly meeting with each group of students. The effort and diligence put into the project will be reflected in quality of students' final research report. How academics manage the meetings is up to them, but the students should drive the meeting, keep notes of the issues discussed and actions decided, propose targets and report on their progress. Academics should set professional standards for the students to follow. All emails about the project progress should include the project partner. Failure to attend the meetings should be recorded, if it happens more than once without an excuse, then the supervisor should inform the student by email (cc-ing the P4P coordinator) that this is unacceptable.

Student involvement and workload

Prior to the commencement of the research work, students should complete a checklist that has a number of tasks, such as research lab induction and ethics approval (if needed). Students are expected to spend at least 10 hours a week on their project throughout the academic year and they are expected to keep a logbook. The academics should ensure that the workload for the project fits within this time frame. The first project component will focus on the objectives, project scope, and literature review and it should give an idea as to whether the project goals are achievable in the available time. The mid-year research progress report will also give the opportunity to the supervisors to provide meaningful and constructive feedback on the preliminary results and the technical work prior to the submission of the final report. The work within the project scope should be appropriately divided. In cases where it is not

possible to assign separate roles, students will do the work jointly, preparing individual reports.

Supervisor's Role

Supervisors should make sure that projects will not start early, as an early start of one project is not equitable for other students. They should also monitor the progress of their students and if the students are falling behind, missing meetings, or are not adequately contactable, the supervisor should notify them by email copying also to the project coordinator.

Supervisors should always remember that the project "ownership" belongs to their students. They should not take it personally if their students don't do a good job. Although **students should consult their supervisors** regarding the organisation and content of all their reports and submissions, **supervisors are not permitted to make substantial editorial changes** and they are expected to provide limited feedback on the report writing (e.g., feedback on abstract and/or part of the introduction), as well as high-level feedback on the report structure and the content. It is permissible for the supervisors to comment on a small section (e.g. a single page or the abstract) to provide an example of how the writing style of the students can be improved.

Examiner's Role

The examiner will need to provide a recommended grade and mark guided by the provided rubric. This must be accompanied by an examiner's report that sufficiently discusses the reasons for that recommendation. Reports are typically 1-2 pages long and discuss all aspects of the conducted research.

Assessor's Role

The assessor must be independent of the project (i.e. not associated with any aspect of the project supervision) and knowledgeable in the research field. Once the examiner has completed their report, the assessor will assess the conducted research in light of the examiner's report. The assessor reports are typically shorter than the examiner reports. If the assessor's grade is significantly different from the examiner's grade, the Disputes Process outlined in the "Instructions to Examiners and Assessors" document will be followed.

Technicians' Role

The technicians of each lab will assist students to achieve their research goals by offering expert opinion on the design of prototypes, the preparation of experimental setups, the execution of the experiments, the use of equipment etc. The technicians are also able to assist students with the ordering of materials and goods required for the successful completion of the project. Students are responsible for preparing the required Bill of Materials (BoM) and make sure that the materials are sourced from appropriate university approved vendors.

Purchasing

Students need to coordinate with the lab-technician for purchasing the required consumables or desired equipment. Purchase should be approved (via an email) by the supervisor. It should be noted that students are strongly discouraged from purchasing with their own funds. It is not only against procurement procedures, but furthermore, reimbursement is extremely difficult and very time consuming for several people involved.

5. Project Components: Instructions

Project Scope, Objectives, and Literature Review Report

The first submission (report) should focus on the project scope, objectives, and the literature review. **The project scope and objectives' part should be 1-2 pages long**, while the **literature review part should be 5-6 pages long**. It should also include **a project schedule / plan in the form of a Gantt chart**. The goal of this report is to describe the research that the students will be doing for their project. The students should present the problem that they are trying to solve, the important research question(s), the objectives, and explain why this research is important.

The purpose of the literature review is twofold:

- to demonstrate that students are aware of the previous research works relevant to their project and
- to summarise the important information or findings that will form the foundations of the work they are intending to carry out.

The literature review will also reveal if the research to be carried out in the project is novel (research that has not been conducted before) and worth pursuing to advance the knowledge in a particular area. The review should also show the breadth of the research area and some depth in particular areas. Students can use the final research report template for preparing this deliverable. Each report (digital file) will be submitted to TurnItIn to check it against all others in the class and those of previous years for cases of plagiarism.

Mid-Year Progress Report

The **mid-year technical progress report should be 4-6 pages long** (excluding title page, Table of Contents/List of Figures/List of Tables, Abstract, References, and Appendices) and it should contain only technical content (e.g., analyses of data of experiments, plots, descriptions of mathematical formulations, algorithms, designs, other experimental results etc.) to discuss about the research progress and the major steps to be taken for the rest of the project. The content of the mid-year technical progress report depends on the project nature and scope.

The students are expected to consult their supervisors to guarantee that they will submit an appropriate report with appropriate content. The project scope, objectives, and literature review should **NOT** be included in the mid-year technical report. Students can use the final research report template for preparing this deliverable. Each report (digital file) will be submitted to TurnItIn to check it against all others in the class and those of previous years for cases of plagiarism.

Final Research Report

The final research report will typically be **12,000 words in length, and must be no shorter than 8,000 words, and no longer than 13,000 words with no more than a maximum length of 25 pages** (excluding title page, Table of Contents/List of Figures/List of Tables, Abstract, References, and Appendices). The number of words and pages should be counted from the Introduction to the Conclusions section. **The expected word count will be lower if figures are included, but all reports must include at least 8,000 words.** Further technical material that supports the research findings will be provided as a compendium. The font should be Times New Roman and the **font-size 12 pt**. A final research report template will be provided. The report must be made up of the following sections: Title Page, Abstract, Table of Contents, Glossary of Terms, Introduction, Literature Review, Middle sections appropriate to your project work, Discussion, Conclusions, Suggestions for Future Work, Acknowledgements, and List of References. Each report (digital file) will be submitted to TurnItIn to check it against all others in the class and those of previous years for cases of plagiarism. Students should make sure that the .pdf file submitted can be read by TurnItIn and that it is editable. Students are encouraged to submit it to TurnItIn before they submit the report on Canvas to make sure that the similarity score of the research report is low. More instructions can be found at:

https://learningessentials.auckland.ac.nz/writing-effectively/
https://flexiblelearning.auckland.ac.nz/writeatuni/

Conference Slides and Presentation

Conference (as early seminar) will take place on the specified date. Further details about it will be communicated a few weeks earlier. Supervisors will attend their students' presentations to provide feedback. **Please note that this is considered a public event, and no confidential information should be included in the slides.** More instructions about how to prepare a proper presentation can be found at:

https://learningessentials.auckland.ac.nz/presenting-your-work/

Display Day Poster and Presentation

On Display (Exhibition) day, each group of students will have a table available that can be used for showcasing outcomes of their research (all prototypes should be small enough to fit on the table surface). Details for how to prepare posters, the programme of the day and an annotated floor map that contains the exact location of each project will be provided a few weeks before the event. **Please note that the P4P Display**

Day is considered a public event, and no confidential information should be included in the poster.

Research Compendium

The research compendium should provide all the supporting materials to the project report. It should provide information about all undertaken research (e.g., for aspects of research that are not included in the report), details on the experiments, tests, and procedures (including experimental setups, equipment used, serial numbers, calibration, test conditions, special components, etc.), data that was used for analysis or to generate plots for the report, CAD files, images, video and/or audio files, as well as specification sheets of all major components/materials used. The research compendium should also contain a ReadMe file that will contain a detailed description of the structure, organisation, and contents.

6. Component Quality Expectations

Hereby we discuss what are the quality expectations for each research component:

Final Report (Compulsory)

Expectations: Clarity, professional structure, technical descriptions that convey understanding of the field, analysis of results, excellent English, technical accuracy, sufficient technical depth, conciseness and completeness, use of sufficient and relevant references.

Conference Presentation (Compulsory)

Expectations: Clarity of presentation, appropriate structure, accurate technical content, sufficient technical depth, appropriate question handling, professional presentation style and skill, descriptions that convey understanding of the field of research, focus on concepts over unnecessary details.

Display Day Poster Presentation (Compulsory)

Expectations: Clarity of presentation, good flow and good visual linking, good readability of poster content, use of appropriate diagrams, graphs and/or pictures, use of appropriate technical content that conveys essential components and outcomes of the research, sufficient technical depth, visual appeal: use of aesthetically pleasing colours, pictures, background etc.

Research Compendium (Compulsory)

Expectations: A well-presented compendium should contain sound information and materials that will allow replication of the research project work and outcomes by future students and/or researchers. A good research compendium can be easily read, followed, understood, and further developed. The compendium content should allow

for an assessment of the student initiative, competence, diligence, planning, execution, and professionalism.

Assessment and Marking Rubric

Each student is expected to: i) show evidence of advanced knowledge about a specialist field of enquiry, ii) demonstrate mastery of sophisticated theoretical subject matter, iii) evaluate critically the findings and discussion in the literature, iv) research, analyse and argue from evidence, v) engage in rigorous intellectual analysis, criticism and problem-solving, vi) demonstrate a high order of skill in the planning, execution and completion of an original, independent research project, vii) apply research skills appropriately. The rubric that will be provided to the academic staff members (examiners and assessors) to assist them with their assessment and marking can be found below.

Attention: Upon release to the students the grades are final.

P4P Assessment and Marking Rubric

<table>
<tr><th colspan="2">Grade</th><th>Description</th></tr>
<tr><td>A+</td><td>Exceptionally high level of performance</td><td rowspan="3">A thesis/portfolio in the A range is a sustained, coherent contribution that:
demonstrates broad understanding of the subject, including current debates
demonstrates clear evidence of a scholarly stance, including a high level of independent and critical thinking
demonstrates evidence of effective synthesis of ideas
demonstrates coherence between theoretical position, methodology and questions
demonstrates thorough investigative research, high level problem solving and/or high level creative performance
demonstrates the student’s ability to critically evaluate their own research in the context of the existing body of literature
may demonstrate originality in topic, method, theoretical development, creative practice or findings and conclusions (this would be expected at A+ level)
may include material of publishable quality (this criterion differs by discipline)
may include work that is exceptional or highly original in one area, but not fully realised or consistent in other sections/elements. Such work may reach A- standard
is presented to a consistently high standard
demonstrates that the student has the capacity for doctoral research and would be a viable scholarship candidate.</td></tr>
<tr><td>A</td><td>Clear high level of performance</td></tr>
<tr><td>A-</td><td>First Class</td></tr>
</table>

B+	Very Good	B grade theses/portfolios are sound and compelling, and demonstrate evidence of critical thinking and an understanding of a significant body of knowledge. Work at this level also: ● provides a logical overall argument ● selects and applies suitable methods ● gathers original data (where applicable) and analyses it in a careful and coherent manner ● provides evidence which clearly supports its findings and arguments ● may in parts be more descriptive than evaluative or synthesised ● may not fully realise the possibilities of the research data/findings ● includes discussions and/or conclusions which show some appreciation of the significance of the findings ● may make fewer or weaker links to existing research, theoretical concepts or creative practice than would be expected in A level work ● is presented to a generally high standard but may contain noticeable errors in referencing, punctuation, grammar and/or spelling ● the B+ level demonstrates that the student could be expected to be successful in doctoral research with strong supervisor support and further skill development in areas. ● at the B or B- level, does not demonstrate that the student has capacity for doctoral level research.
B	Good	
B-	Competent	
C+	Clear Pass	A thesis/portfolio in the C range: ● demonstrates understanding and analytical ability at a level that is clearly beyond undergraduate level ● presents an overall argument, but may not be fully developed or consistent in its application ● outlines a research plan and applies appropriate methods ● demonstrates competence in the formulation, conduct and analysis of an independent piece of research ● is generally sound but may be uneven or limited in some respect ● may demonstrate limited evidence of synthesis and critical engagement with literature ● is likely to focus more on description than analysis of findings ● has appropriate, but limited, evidence in support of its findings and arguments ● does not demonstrate that the student has capacity for doctoral level research
C	Pass	
C-	Marginal Pass	

		● is competent in its presentation, but may have numerous, obvious errors of referencing, punctuation, spelling or grammar.
D+	Fail	A thesis/portfolio in the D range demonstrates serious deficiencies in one or more expected elements: ● may present research literature, theory or methods ineffectively, inaccurately or in an unreflective way ● may lack an overall argument ● lacks breadth and depth ● lacks cohesion across the thesis/portfolio ● contains limited or inappropriate evidence ● interpretation may be minimal or flawed ● presentation is poor with numerous errors of referencing, punctuation, spelling and/or grammar

7. Record Keeping

Record keeping (in a journal book or electronically) is an important part of any research or engineering project. Whatever the nature of a project work is, students should keep comprehensive notes and log data ideally in a hardcover journal book (alternatively in an electronic format). If record keeping is done properly, the records contain a detailed and permanent account of every step of the project, from the initial brainstorming to the final data analysis. Many science and engineering projects require a complicated number of steps and multiple trials.

By recording the steps of the procedure, observations, and any questions that arise along the way, the project is properly documented, recording exactly what was done and when. With a complete record of the project, one can look back at the notes later if a question arises or if it is decided to pursue an alternative project idea based on something that was observed. Similarly, writing down the product design ideas, engineering challenges and testing data will help students keep track of all the ideas, what was already tried, and how well a particular idea or design performed. Well documented records can result in good quality reports at the end of the project, especially when the project spans over several months, as in a final year undergraduate research project.

The outcomes of your meetings with supervisor(s) and others (your partner and/or any adviser) that concern the project should be recorded in the logbook for later use. Loose sheets of paper are easily lost and are to be avoided. Tidied up minutes of meeting (in electronic form) should be sent to the meeting attendees for their comments.

8. Experimental Work

To obtain the maximum benefit from a series of experiments, they must be properly designed. How can the experimental program be designed to achieve the experimental objectives in the simplest manner with the minimum number of measurements and the least expense? A successfully designed experimentation is a series of organised trials which enables one to obtain the most crucial information experimentally with the least amount of effort. Once a hypothesis, context and any theoretical models have been considered and the aims and objectives have been clearly identified, the experiments are designed so that it becomes clear:

- what variables are to be measured,
- how are these to be measured, what tools and what instruments will be required, and
- what methods of data analysis will be employed.

It is useful to produce a schematic diagram of the experimental setup. From this exercise, it will also be determined whether an existing test environment can be utilised, or a new one will need to be designed and built. Prior to performing the experiments, for example, some important steps include setting up and testing of the experimental environment and apparatus, calibration of instruments if needed, and the conduct of preliminary experiments need to be carried out depending on the research requirements. Details on how to plan the experiments and using proper data, tools, or equipment depends on the specific research project so you should consult with your supervisor.

9. Laboratory Access and Safety

Experimental and design/build/test-based projects inevitably require the use of laboratories and physical workspaces with tools, instruments, and rigs. Depending on the academic area of the project, each student group will be assigned to a laboratory. The student group will work with the lead technician or the assigned technician for all their project work requirements from the laboratory or the workshops. In these areas, safety is of paramount importance and the students are responsible for their own safety as well as the safety of others through the safe use of the space, tools, and equipment that the students have been authorised to use.

Requirements:

Students are not permitted to enter the laboratories unless they:

- Have completed online safety induction (ECE Health & Safety) either for Moderate Risk Labs or Power Labs. Electrical and Electronic

Engineering students need to complete the Power Lab induction. Others will need to complete induction for Moderate Risk Lab.

- Have completed the quiz related to the induction either General Safety Questionnaire for (Moderate Risk Labs) or Power Lab Safety Questionnaire for (High-Risk Labs). The score required to pass this quiz is 100%. You can attempt as many times as you like until you achieve 100%.
- Are aware of all the safety requirements of the laboratory through an in-person safety induction and a lab tour performed during Semester 1, reading the safety brief for students (if any), and/or discussing with the technical staff.
- Have completed a Risk Assessment Form, reviewed it with the project supervisor, and then submitted it on Canvas.

Forms to Be Submitted:

- Risk Assessment Form (1 per student) should be:
  - discussed and completed with the project supervisor,
  - signed by the project supervisor and the student,
  - and submitted by the student individually through Canvas under their assigned lab in Assignments.

10. Manufacturing Workshop

For the manufacturing of test rigs and designs, each group is required to finalise their design in discussion with their supervisor to address academic requirements, and with the technician to address practicalities that pertain to the capabilities of the laboratory and workshop, and constraints of cost. It can be helpful to visit the manager of the Faculty Technical Services Workshop, now located at the Newmarket Campus, with a technician (if possible), to obtain feedback before finalising a design. The Workshop utilises a First-In-First-Out (FIFO) system hence students are advised to complete their designs, and have their job submitted to the Workshop, early in the process. It should be noted that jobs can only be logged with the Workshop by a technician or supervisor (and not directly by the students).

11. Notes on Plagiarism

With regards to the individual nature of the project report and plagiarism issues that could arise, the following should be noted:

- Each individual student's report must show that it has been written independently of his/her partners.
- A declaration must be completed by all students, signed off by the student, and to appear in the report stating clearly what has been developed during the project and what was available from previous years (e.g. previous P4P).

- If the examiner and assessor judge that the text and/or structure of project reports show collaboration in terms of a lack of independent writing, analysis, or significant overlap in written material, the student will be severely penalised for plagiarism.
- TurnItIn is used to compare reports and derive a similarity score for each report.
- Students are advised/encouraged to use TurnItIn to check that their reports have low similarity scores.

The university regulations with respect to plagiarism are very strict and the penalties can be very severe (coursework penalties and severe fines). Students are very strongly advised not to share digital files or hard copies of written text.

Structure of the report: It is permissible that the two reports of a project have the same overall structure as dictated by the project itself. Beyond this, the reports must show no evidence of collusion.

Illustrations: It may be inevitable that the illustrations in reports of project partners are very similar, and this is allowed. If a figure that is used has been solely produced by one of the partners, this should be noted in the figure's caption.

12. Penalties and DNC Grades

Students are expected to follow professional standards and to submit all the project components on time and according to the provided instructions.

Final Report - Late Submission Penalty

All project components will be submitted through Canvas. Canvas automatically flags late submissions if they are submitted after the deadline even if your submission was uploaded a few seconds after the due date and time. Please make sure to submit at least 5 minutes before the deadline to avoid any late submission penalties. You can resubmit your files if you find a mistake has been made but note that only your latest submission will be considered. When resubmitting, you need to upload all the necessary files for that submission again. The following penalty will be applied for a late submission of the final report:

- **0.5% penalty per hour of lateness**

If a student submits the report 48 hours late, the penalty will be 24 out of 100 marks.

P4P Conference "No-Show"

Students are expected to participate in the P4P conference and give a seminar talk on their research. Students are also expected to attend **all sessions of the day** and attendance will be recorded at the beginning and the end of each session. If students fail to attend 1 or more sessions or present their work, this will incur a:

- **DNC grade** (Did Not Complete grade)

P4P Display Day “No-Show” Penalties

Students are expected to participate in the P4P display day and give a poster presentation of their research. Failure to participate and present the work will incur a:

- **DNC grade** (Did Not Complete grade)

ATTENTION: If the student grade after the penalties crosses a class or division of honours, or a pass/fail border, then the final grade will be discussed and confirmed or amended by the departmental P4P examiners committee.

13. Ethics Approval

Students conducting research involving human participants (such as interviews or surveys) are required to consult the guiding principles of the University of Auckland for conducting research with human participants. The Guidelines allow the University of Auckland to meet its obligation to ensure that all research by staff or students conforms to the highest appropriate ethical standards. In this way, research participants are treated with respect and dignity. Their privacy, safety, health, personal, social, and cultural sensitivities are protected. Those requiring University Ethics Approval should follow the guidelines and complete the research project application form that can be found at the following URL:

http://www.auckland.ac.nz/uoa/re-uahpec