澳門理工大學
Universidade Politécnica de Macau
Macao Polytechnic University

Faculty of Applied Sciences

Bachelor of Science in Computing

Instruction Handbook

for

COMP490 Final Year Project

Academic Year 2025/2026

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1 Overview

The Final Year Project (FYP) enables students to undertake an independent, substantial project addressing a real-world problem over two semesters. It allows in-depth exploration of a chosen area of information technology, applying and extending knowledge acquired during the degree.

The FYP develops advanced analytical and problem-solving skills, along with experience in project planning, execution, and reporting. Students engage with the full project lifecycle, including specification, design, implementation, documentation, testing, and evaluation. Successful completion equips students with competencies directly relevant to careers in computing and related fields.

Projects may take the form of software development or research investigations relevant to the student's degree programme. All projects must include a software development component, ensuring that students engage with the complete lifecycle of software creation.

1.1 Project Allocation

Students have the option to propose their own project topics or select from a list provided by the project supervisor team, which will be available before the start of the first semester. A panel from the supervisor team will review and approve all proposed project titles. Approval is contingent upon the project's potential for development to a satisfactory level.

While a first-come, first-served system will normally apply, supervisors will also consider each student's preparedness and suitability for more challenging projects. Each student will be assigned a supervisor, an assessor, and a presentation panel. Typically, the assessor will also be a member of the presentation panel. The project will be graded by the supervisor, the assessor, and the presentation panel, with each contributing different weighting to the final evaluation.

1.2 Student's Responsibilities

Students are expected to take ownership of their project. The responsibilities of the student may be summarized as follows:

- To define the project objectives and the possible outcomes;
- To monitor their project progress;
- To maintain regular contact and arrange appointments with the supervisor;
- To pick up the needed knowledge, and deal with implementation details;

- To formulate specific problems before asking the supervisor;
- To be self-motivated;
- To report immediately to the supervisor any equipment failure and other difficulties that would interrupt their work.

1.3 Supervisor's Responsibilities

The supervisor's responsibilities may be summarized as follows:

- To provide a list of project titles for selection
- To provide advice and guidance to the student on the project.
- To explain what resources (hardware and software) are available to the students.
- To explain the project assessment method to the students.
- To be available to the student for consultation.
- To evaluate the student's project in terms of quality and quantity.

As a guideline, supervisors should meet with their students on a weekly basis.

1.4 Assessor's and Presentation Panel's Responsibilities

The assessor's responsibilities may be summarized as follows:

- To assess students' progress report and final report. [Assessor]
- To assess students' presentations. [Presentation Panel]

The presentation panel consists of the Assessor and one other member of the supervisor team.

2 Project Work

Students are required to undertake a series of tasks throughout the Final Year Project (FYP) module in order to reach a satisfactory conclusion.

2.1 Project Implementation

The FYP encompasses two broad categories: system development projects and research-oriented projects.

- In a **system development project**, students are responsible for identifying a problem, analysing stakeholder needs, designing an effective solution using appropriate technologies and tools, and ensuring system quality through verification processes.
- In a **research-oriented project**, students engage in research activities under the guidance of a supervisor. Specific tasks vary by project, but typically include designing experiments and analysing findings.

Importantly, all projects MUST incorporate a software development component.

2.2 Project Management

To ensure timely completion, students are expected to develop a project schedule and use it to monitor and manage progress effectively. Multiple FYP deliverables provide evidence of students' project and risk management activities.

2.2.1 Project Proposal and Ethics Checklist

By the end of **Week 3 of Semester 1**, students MUST submit a **Project Proposal**. This document defines the project scope by specifying objectives and expected outcomes. It should also explain the project's relevance, highlight anticipated challenges, identify potential risks with proposed mitigation strategies, and present a tentative schedule of main tasks. The Project Proposal MUST follow the official Project Proposal template.

Students are also required to complete and submit an **Ethics Checklist Form** together with the proposal. The FYP panel will review the form, and where potential ethical issues are identified, these MUST be addressed during the course of the project. Evidence of ethical compliance and mitigation actions MUST be documented in the Final Report. Failure to demonstrate appropriate identification and mitigation of ethical issues will result in a failing grade.

2.2.2 Monthly Status Review

To support active project management, students MUST conduct a **monthly project status review**. By the end of each month, students are required to report briefly on tasks completed and outline plans for the upcoming month. This enables supervisors to track progress and provide timely feedback. Monthly status reviews will be included as sections in both the Progress Report and the Final Report.

2.2.3 Project Management Chapter in Final Report

Students are required to demonstrate effective project and risk management in the Final Report. This includes proper planning and risk assessment using the tools outlined in Chapter 5 of the Final Report. Supervisors will use these documents to monitor progress and evaluate project management skills.

2.2.4 Work Book

It is strongly recommended that students maintain a **Work Book** throughout the project. The Work Book should record key discussions with supervisors, decision-making processes during design and implementation, challenges encountered, and the solutions or workarounds adopted.

This record is particularly valuable when preparing the project reports, as the development process is considered as important as the final outcome. Students MUST describe their development methods in the Final Report, and the Work Book provides essential evidence to support this requirement.

2.3 Progress Report and Presentation

At the end of the first semester, students are required to submit a **Progress Report** and deliver a **Progress Presentation**.

The Progress Report is an important milestone within the Final Year Project. It consolidates the achievements from the first half of the project and sets out a plan for completion in the second half. In addition, it provides an opportunity for supervisors to give early feedback on formatting and writing style. The Progress Report MUST conform to the official FYP Progress Report template. An overview of the required content is provided in **Appendix A**.

The Progress Presentation requires students to showcase their work through a slideshow to the presentation panel. This presentation has two main purposes:

1. To provide valuable presentation experience that will be beneficial for the Final Presentation or Poster Session in the second semester.
2. To receive early feedback on presentation skills.

Important: Absence from the Progress Presentation without a valid reason will result in a **minimum 50% deduction** from the **motivation mark (S1)**, which is awarded at the end of the second semester.

2.4 Final Report

The **Final Report** is the primary deliverable of the Final Year Project and MUST be submitted at the end of the second semester.

The Final Report serves as the principal evidence of project work. Both the supervisor and the assessor will base their evaluation primarily on the **marking criteria R1 to R5**. The required content of the report is outlined in **Appendix B**.

Typically, the Final Report should:

- Define the project problem within the context of related work.
- Detail the methods used to develop a solution.
- Describe the project outcomes comprehensively.
- Provide evidence that the stated objectives have been met.
- Discuss the significance of the findings.

The Final Report MUST conform to the official FYP Final Report template.

The specific content will vary depending on the project type. For example, a **system development project** may require a detailed explanation of the user interface, supported with screen captures, while a **research-oriented project** may focus more on methodology and performance evaluation. Students are expected to consult their supervisor to ensure the report aligns with project-specific expectations.

It is essential that the Final Report addresses **all requirements outlined in the marking criteria**.

2.4.1 Draft of Final Report

By **Week 8 of the second semester**, students are required to submit a **Draft Final Report** to their supervisor.

The draft MUST include:

- Complete content in **Chapters 1 and 2**.
- At least **half of Chapters 3 and 4**, typically covering either *design and implementation* or *results and discussion*.
- For incomplete chapters, a **detailed writing plan** indicating the content to be included in the final version.

The draft report must therefore present a clear picture of the overall structure and logical flow of the Final Report. Supervisors will provide feedback on the overall structure and highlight any missing information.

Correcting structural issues at this stage is particularly important, as students opting to prepare a **Poster** will need to complete it by **Week 10**.

2.4.2 Conference-Ready Manuscript

For high-quality projects, students are encouraged to prepare a conference-ready manuscript, derived from their report content, that is suitable for submission to academic conferences. The manuscript is considered in the assessment of academic writing and is required to achieve a score within the 73–100 range, as assessed under criterion R5 (see Appendix C).

The conference-ready manuscript should be submitted as a separate document from the final report. It shall conform to the formatting requirements specified in the IEEE Manuscript Templates for Conference Proceedings [1]. The manuscript should be 4-6 pages in length, including references.

2.5 Final Presentation

At the end of the second semester, each student is required to present project outcomes in two activities: an **Oral Presentation** and, where applicable, a **Poster Session**.

2.5.1 Oral Presentation

Oral presentations are considered an important part of the final year project assessment. A good presentation does not only require proficiency in spoken English but also the ability to transfer information in a manner that is interesting, informative and accurate.

[1] https://www.ieee.org/conferences/publishing/templates

Students must present their project work to the presentation panel using a slideshow. The presentation MUST include and discuss the **major results** of the project. A passing mark in the Oral Presentation is required in order to pass the FYP module.

One important purpose of the Oral Presentation is to verify that the work has been undertaken by the student. During the **Q&A session**, students must respond to questions from the panel within a set time limit. Failure to demonstrate sufficient understanding of the project may result in failure of the module.

A **pre-recorded video demonstration** is strongly recommended as part of the presentation. In addition, students may choose to conduct a **live demonstration** during the final presentation. The purpose of the demonstration is to allow supervisors and assessors to evaluate the project more effectively.

2.5.2 Demo video

Students are required to submit a **demo video** as part of the Final Presentation. The video must be self-contained and provide a clear overview of the project objectives and major outcomes. The maximum duration of the demo video is 6 minutes. It should consist of two components:

- Problem Formulation (approximately 2 minutes) This section should present the project objectives and key challenges.
- Outcome Demonstration (approximately 4 minutes) This section should present and explain the project outcomes, typically through a demonstration of the application or system developed during the FYP.

Part of the demo video may be used during the Oral Presentation. In such cases, students are required to **narrate and explain the content in real time** rather than relying solely on the pre-recorded material.

2.5.3 Poster Presentation

For high-quality projects, students are encouraged to create a poster, based on their presentation content, that is suitable for display at an academic conference poster session. The poster is considered a component of the Final Presentation and is required to achieve a higher score in the 73–100 range, as assessed under criterion P1 (see Appendix C).

The FYP panel will select posters for presentation during the poster session. Students with selected posters will present their work and engage in discussions with attendees interested in their projects. Second- and third-year students, along with faculty from the Computing Program,

are invited to participate in this event. Attendance is required to answer any questions that may arise regarding the poster.

2.6 Schedule

The general schedule of FYP activities and deadlines is shown in Table 1. The exact date of the deadlines will be published in the module Canvas page.

Table 1 Project Schedule

Week	Event
Semester 1	
1	Project allocation
3	Project Proposal and ethics form submission
4	Supervisors return comments on Proposal
4–14	Regular meetings with supervisor. Monthly status review
5	Finish project planning, and write chapter 3 in Progress Report
12	Progress Report submission
13	Progress Presentation
15	Supervisors and assessors return comments on Progress Report
Semester 2	
1–13	Regular meetings with supervisor. Monthly status review
6	Implementation mostly done. Focus on report writing hereafter.
8	Final Report draft submission to supervisor
9	Supervisors return comments on Final Report draft
10	Poster submission (optional)
13	Final Presentation, Poster session Final Report submission Demo video submission Conference-ready manuscript submission (optional)

3 Assessment

Marking of the project is done is two parts: at the end of 1st semester, and the end of 2nd semester.

3.1 Marking Criteria and Markers

Each project is graded by a supervisor, an assessor and a presentation panel, based on the criteria detailed in Appendix C. Students are strongly recommended to read through the details of the marking criteria carefully.

Two markers, namely the supervisor and the assessor, will mark the progress report and final report. In the 1st semester, the supervisor and the assessor mark the progress report using criterion R0. In the 2nd semester, the supervisor and the assessor mark the final report using criteria R1-R5. The two reports contribute a total of 74% to the final mark.

The supervisor performs continuous assessment of the student using criteria S1 and S2. This constitutes 16% of the final mark. The presentation panel evaluates the progress and final presentation using criterion P1. The two presentations contribute a total of 10% to the final mark.

Table 2 summarizes the various components of the final mark. The table details different marking criteria, their markers and their weights.

Table 2 Composition of Final Mark

	Semester 1 [14%]		**Semester 2** [86%]							
Marking criteria	**R0**	**P1**	**S1**	**S2**	**R1**	**R2**	**R3**	**R4**	**R5**	**P1**
Supervisor [total=53%]	5		10	6	4	4	10	10	4	
Assessor [total=37%]	5				4	4	10	10	4	
Presentation panel [total=10%]		4								6

A brief description of the marking criteria is provided in Table 3.

Table 3 Summary of Marking Criteria

Criteria	Description	Graded based on …
S1	Motivation, independent learning	Maintain regular contact with supervisor. Final Report Appendix B.
S2	Project management and risk management	Proposal, Chap 5 of Final Report
R0	Mid-year progress	Progress Report
R1	Problem formulation (motivation and context)	Chap 1 of Final Report
R2	Background and related works (knowledge and positioning)	Chap 2 of Final Report
R3	Methodology (problem analysis and solution design)	Chap 3 of Final Report
R4	Outcome (results and critical evaluation)	Chap 4 of Final Report
R5	Academic writing skills	Final Report, conference-ready manuscript
P1	Presentation	Presentation slides, demo video, poster, communication skills

3.2 Marking Consistency

The supervisor team (team of all FYP supervisors) strives for consistency of marking via two mechanisms. First, the panel checks for deviation of marks between supervisors and assessors. Second, the final reports and the marks are made available to all supervisor team members for perusal. Afterwards, a meeting of all supervisor team members approves the final marks.

3.2.1 Deviation of Marks

After the supervisors and assessors submit the marks of the Final Report and Final Presentation, the panel will inspect the submitted marking sheets for integrity. The panel will also compare the marks from the supervisors and the assessors for any deviation. The overall marks (in a 100 marks scale) for the final report from supervisor and assessor are calculated from criteria R1-R5. Deviation is defined as more than 10 marks difference between the two marks.

When divergence occurs, the panel will assign a third person to be a moderator. The moderator will mark the final report using criteria R1-R5. Finally, the average of the supervisor mark, assessor mark and the moderator mark is used as the moderated mark for final report in 2nd semester. If the moderator mark has a deviation of more than 10 marks from both the supervisor mark and the assessor mark, the panel will examine the case and make a decision.

3.2.2 Marks Perusal and Approval

After moderation, the FYP panel will make all final reports and tentative marks of this cohort available for perusal from the supervisor team. In case some member of the supervisor team disagrees with marks of a project, the supervisor and/or assessor have to provide justification. The final marks of the cohort will then be approved by the FYP panel. This aims to ensure equity of marking across the whole cohort.

3.3 Plagiarism

According to the Merriam-Webster Online Dictionary, to "plagiarize" means

- to steal and pass off (the ideas or words of another) as one's own
- to use (another's production) without crediting the source
- to commit literary theft
- to present as new and original an idea or product derived from an existing source.

In other words, plagiarism is an act of fraud. It involves both stealing someone else's work and lying about it afterward. [*https://www.plagiarism.org/article/what-is-plagiarism*] For more details about plagiarism and how to prevent it, please refer to www.plagiarism.org.

Please note that any alleged cases of academic dishonesty[2], including plagiarism, will be reported to the Faculty Dean who shall conduct a thorough investigation. Established cases should be reported to the Pedagogic Committee for further consideration. Any proven acts of academic dishonesty may result in dismissal from the University.

A zero mark will be given if a student copy someone else's work or the student let someone copy their work.

3.4 Generative Artificial Intelligence Usage Policy

The Faculty of Applied Sciences has established a policy governing the use of Generative Artificial Intelligence (GenAI) tools (e.g., ChatGPT, GitHub Copilot, DALL-E, etc.) in learning, teaching, and assessment. This policy ensures that students uphold authenticity and professionalism in their academic achievements, meeting the required learning outcomes for accreditation.

[2] see https://www.mpu.edu.mo/teaching_learning/en/cheating_exam.php

For the Final Year Project, students must demonstrate their problem-solving skills by developing a solution to a real-world problem that includes a software development component. They are also expected to showcase their technical communication abilities through report writing and presentations. While students may use GenAI as a tool to assist in problem-solving, employing GenAI to generate solutions (including reports and software) and submitting them as their own work constitutes academic dishonesty. Students MUST produce original content for all aspects of their projects, particularly those evaluated according to the marking criteria outlined in Appendix C.

3.4.1 Acceptable Use of GenAI

Students may use GenAI tools for the following purposes, provided they are transparent and reflective about their use. Students MUST document their usage of GenAI tools using the FCA Declaration Form for GenAI Usage, attached as an appendix of their final reports. Students also need to critically evaluate the limitations and accuracy of generated content and assess their ethical implications.

- Idea generation (e.g., brainstorming project topics or design approaches)
- Code assistance (e.g., debugging, syntax suggestions)
- Language support (e.g., grammar correction, paraphrasing)
- Visualization (e.g., generating concept diagrams or mockups)

3.4.2 Prohibited Use of GenAI

The following uses of GenAI are not permitted:

- Submitting AI-generated content as original work without disclosure
- Using GenAI to write substantial portions of the report, literature review, or analysis
- Generating falsified data or results
- Using AI to bypass assessments or simulate experimental work

The supervisor, assessor, and presentation panel may require an oral examination to verify the authenticity and originality of submitted work. Any alleged cases of academic dishonesty will be addressed as outlined in Section 3.3.

3.5 Implication of Project Failure

If a student fails the individual project module, they have to retake it in another academic year. Since the project module is offered in year 4, failing the module will delay the award of the degree.

4 Concluding remarks

Please be reminded of a few important points that previous FYP students often forgot:

- The Final Report forms the primary basis for assessment. It should include sufficient detail to allow markers to fully understand the work completed and the methods employed throughout the project.
- The report must contain all required sections as outlined in Appendix B. This ensures that the submission provides the necessary information for a fair assessment according to the marking criteria. Submitting a conference or journal paper in place of the Final Report is not acceptable.
- Adequate time should be allocated for report preparation. It is recommended to begin early rather than postponing report writing until the end of the project.
- The final presentation is mandatory for passing the FYP module.

Appendix A. Overview of Progress Report Content

The Progress Report is an important milestone in the yearly project. It consolidates your accomplishment in the first half of the project, and lays out the plan to complete the project in the second half. Moreover, much of the content in the Progress Report will be reused in the Final Report. The main body of the Progress Report consists of five chapters and references. The following lists some important content you should include in these chapters.

- Chapter 1. Introduction
  - Define the project with clear SMART objectives.
  - Establish the relevancy of the problem, and put it in the context of related works.
  - Identify societal, user, business and customer needs as appropriate.
  - Ethical Consideration
- Chapter 2. Background and Related Works
  - Provide sufficient background knowledge that helps readers not familiar with the problem domain.
  - May provide more detail of related works and the literature.
- Chapter 3. Project Management and Risk Management
  - Break down your project into a list of activity list and apply the Precedence Diagramming Method and a Gantt chart to arrange a project schedule.
    - Show effective project planning for the 2nd semester
    - Exhibit clear idea of what to do to complete the project
  - Identify the major risks and their mitigation
  - Monthly status review
- Chapter 4. Completed work
  - Describe what you have accomplished in the 1st semester
  - *Include only original, creative content.* (Detailed description of others' work should be presented in Chapter 2)
  - Provide detailed analysis of the problem, and if possible, a high-level design of the system
  - Highlight difficulties encountered, alternatives evaluated and solutions adopted. The design process is as important as the decisions themselves!
- Chapter 5. Conclusion
  - Reflect on the progress of the project. Can use first person to write.

- References
    - List references to background information and related works
- Appendix A. Ethics Checklist
- Appendix B. Declaration of the Use of Generative AI

In addition, the Progress Report should be based on the standard template file to follow the formatting requirements. You should also update the front matter (pages before the main body), listed below.

- Cover page: fill in correct project title, project number, student and supervisor info
- Table of Contents
- Table of Figures
- List of Tables

Appendix B. Overview of Final Report Content

The Final Report is the main deliverable of the yearly project. It defines the project problem in context of related works, provides details of the methods used to solve the problem / develop a solution, describes the project outcome in detail, gives evidence that it achieves the objectives / solves the problem, and discusses its significance. The main body of the Final Report consists of six chapters and references. The report also has two required appendices. The following indicates key content in each chapter / appendix.

- Chapter 1. Introduction
  - Define the project with clear SMART objectives.
  - Establish the relevancy of the problem, and put it in the context of related works.
  - Identify societal, user, business and customer needs as appropriate.
  - Ethical Consideration
- Chapter 2. Background and Related Works
  - Provide sufficient background knowledge that helps readers not familiar with the problem domain
  - May provide more detail of related works and the literature
- Chapter 3. System Design / Methodology
  - Provides high-level description of the methods to solve the problem, and include low-level detail where appropriate.
  - Provide sufficient information on how the project is accomplished. There should be enough detail for others to replicate your work.
  - Perform detailed analysis of problem and methodical design.
  - Exhibit analytical thinking. Provide arguments why you believe your approach should work. Compare alternatives in design and justify decision.
  - Highlight difficulties encountered, alternatives evaluated and solutions adopted. The design process is as important as the decisions themselves!
- Chapter 4. Results and Discussion
  - Describe in detail the outcome (including software, hardware, system, experiment results, etc.)
  - Use screen shots to illustrate how software interacts with users. Include testing to ensure that the implementation is working properly.
  - Experiment projects usually have statistical verification and analysis, presented in suitable charts and figures. Add insightful analysis to explain your experimental result.
  - Discuss significance of the outcome and highlight your contributions.

    - Evaluate the societal and environmental impact of your solution throughout its life-cycle.
    - Identify security vulnerabilities and implement suitable mitigation measures throughout the developed system
    - Discuss whether or not the project outcome meets the project objectives. Provide evidence to defend your answer.
- Chapter 5. Project Management and Risk Management
    - Break down your project into a list of activity list and apply the Precedence Diagramming Method and a Gantt chart to arrange a project schedule.
    - Identify the major risks and their mitigation
    - Monthly status review
- Chapter 6. Conclusions and Further Work
    - Summarize the main contributions of your work, and how it fulfilled the objectives
    - Describe how your work may contribute to existing works in the field
    - Point out ways to extend your work, or how to overcome limitation of your work
- References
    - List references to background information and related works
- Appendix A. Ethics Checklist
- Appendix B. Reflection
    - Reflect on the progress of the whole project, your approach to addressing the challenges met, and how things might have been improved given the benefit of the experience that you have now gained. You can write in first person.
- Appendix C. Declaration of the Use of Generative AI

In addition, the Final Report should be based on the standard template file to observe the formatting requirements. You should also update the front matter (pages before the main body), listed below.

- Cover page: fill in correct project title, project number, student and supervisor info
- Declaration of originality: add signature
- Abstract
- Acknowledgement
- Table of Contents
- Table of Figures
- List of Tables

Appendix C. Marking Criteria

Note: the mark ranges correspond to letter grade in Macao Polytechnic University. For example, 88-100 mark maps to A- or A; 73-87 mark maps to B-, B or B+.

S1. Self-motivation and Independent Learning

Focus: The student takes full responsibility for the project and self-study.

- (0-34) The student is unresponsive to supervisor and out-of-contact most of the time. Apply previously taught technique incorrectly.
- (35-49) Student is often unresponsive and depends heavily on supervisor reminders. Attendance is irregular or without preparation. Shows little initiative in self-study. Frequently misapplies previously taught techniques.
- (50-57) Student is usually responsive to the supervisor and attends meetings with acceptable regularity. Basic preparation is evident. Minimal but sufficient self-study is undertaken, and previously taught techniques are applied correctly.
- (58-72) Student is generally responsive, with only occasional reminders needed. Attends most meetings, though preparation may be uneven. Engages in some self-study and demonstrates superficial but correct use of new concepts or techniques.
- (73-87) Student is self-motivated, proactive in communication, and attends most meetings well-prepared. Regularly engages in self-study of new concepts or techniques, with good understanding and application in the project.
- (88-100) Student is highly self-motivated and consistently proactive. Attends all scheduled meetings fully prepared. Demonstrates strong self-study, successfully mastering new concepts and techniques, and independently solves technical difficulties.

S2. Project management and risk management

Focus: How effectively the student plans, tracks, and manages project progress, including identification and mitigation of risks.

- (0-34) Little effort on project management and risk management.
- (35-49) Some limited evidence of project management or risk management, but not at an acceptable level. Records are sparse or inconsistent. Risks are ignored or addressed only superficially.
- (50-57) Student demonstrates basic project management with steady but slow progress.

Keeps sketchy but sufficient records of progress. Produces a minimal project outcome. Shows some awareness of risks and provides basic consideration of how they might be mitigated.

- (58-72) Student shows slow but steady progress, supported by adequate record keeping. Applies basic project management methods with appropriate documentation. Risks are identified and considered, though mitigation strategies may be limited in depth.
- (73-87) Student maintains good progress and clear records. Project management is generally effective, with minor flaws. Documentation is reasonable and risk management includes identification, evaluation, and mitigation of risks with evidence of systematic consideration.
- (88-100) Student demonstrates strong and consistent project progress with excellent record keeping. Applies formal project management methods effectively. Risk management is systematic, showing clear evidence of formal techniques to identify, evaluate, and mitigate risks throughout the project.

R0. Mid-year Progress (Progress Report)

Focus: Tangible progress at the mid-year stage, including interim products, project planning, and technical understanding.

The "interim product" refers to a tangible output that contributes substantially to the system development, experiment, or mathematical framework that the student aims to deliver in the project.

- (0-34) Very limited detectable progress. No meaningful interim product. Work completed is far from sufficient to indicate the student can complete a final-year project. No coherent project plan is evident.
- (35-49) Some progress is visible, but it falls well short of what is expected at the mid-year stage. Limited engagement with the problem area, with only superficial understanding. A project plan may exist but is unrealistic or lacking in detail. The student is unlikely to succeed without major intervention and close supervision.
- (50-57) The student has made reasonable progress, even if an interim product is not yet in place. Shows familiarity with the project area and has produced a basic project plan, though it contains oversights. Demonstrates an emerging understanding of what is required to complete the project. With continued guidance, the project is on track to succeed.
- (58-72) A modest but promising interim product has been produced, or substantial preparatory work (e.g., mastering specialised tools or external APIs) is complete. The student shows a clear understanding of the technical and professional context, with a project plan that

is generally feasible though not flawless. Demonstrates confidence in what they aim to achieve.

- (73-87) The student has developed a substantial interim product that shows strong potential for the final outcome. Their analysis of the problem area is thorough, and they have established a clear, feasible project plan. Evidence of creativity and sound design decision-making is apparent.
- (88-100) The student has produced an impressive interim product demonstrating considerable progress. Their analysis of the problem area is detailed, leading to high-level system designs and a robust, feasible project plan. Considerable creativity, originality, and independence are evident, indicating strong likelihood of an excellent final outcome.

R1. Problem Formulation (Motivation and Context)

Focus: How clearly and convincingly the project problem is defined and why it matters.

- (0-34) Little or no effort to define a problem. Project motivation is absent or irrelevant. No connection to real-world needs.
- (35-49) Some attempt at defining a problem, but vague, generic, or poorly motivated. Shows limited awareness of users, business, or societal needs.
- (50-57) A clear problem is stated with defined objectives that demonstrate a basic but sufficient level of motivation. The project shows awareness of its relevance to at least one stakeholder group (e.g., user, business, or society), though justification is limited in depth.
- (58-72) Problem and objectives are clearly defined and mostly relevant. Motivation is reasonable, with some attention to user, business, societal, or environmental needs, though not fully integrated.
- (73-87) Problem is well-defined and justified. Motivation is clear, convincing, and strongly linked to relevant user, business, societal, or environmental needs. Project scope is appropriate and clearly articulated.
- (88-100) Problem formulation is original, compelling, and highly convincing. Motivation is strong and well-integrated within a socio-technical context. Project scope is precise and feasible. Demonstrates deep understanding of real-world relevance, including ethical, societal, and sustainability considerations.

R2. Background and Related Works (Knowledge and Positioning)

Focus: How effectively the student reviews existing knowledge/works and positions the project in that landscape.

- (0-34) Little or no effort to review relevant literature, prior systems, or technical material.
- (35-49) Limited or superficial review; sources are few, poorly selected, or loosely connected to the project.
- (50-57) Sufficient selection of relevant sources. Demonstrates basic understanding of prior work and some connection to the project. Review is mainly descriptive.
- (58-72) Adequate review of relevant sources. Shows understanding of how prior work relates to the project, though analysis may lack depth or consistency.
- (73-87) Effective and critical engagement with prior work. Sources are relevant, well-chosen, and clearly connected to the project. Student identifies gaps, limitations, or opportunities in existing knowledge and practice.
- (88-100) Comprehensive and critical synthesis of prior work. Demonstrates mastery of relevant academic, technical, and professional sources. Project is convincingly positioned as filling a clear gap or building upon existing work in a novel way.

R3. Methodology (Problem Analysis and Solution Design)

Focus: How systematically the student analyses the problem and develops a methodical approach to the solution.

- (0-34) No meaningful methodology or design process. Work appears ad hoc or undeveloped.
- (35-49) Some effort is shown, but the approach is incomplete, inconsistent, or inappropriate. Analysis is superficial and design lacks structure.
- (50-57) A clear and relevant method is described at a basic level. Key steps of the analysis and design process are covered, though justification is limited. Provides a workable foundation for the project.
- (58-72) Methodology is adequately described. Design decisions are generally sensible with partial justification. Analysis covers main problem aspects but may lack consistency or depth.
- (73-87) Methodology is strong and systematic. Most design decisions are well-justified with sound reasoning. Supporting technology is applied appropriately. The approach is reproducible, coherent, and demonstrates good technical judgement.
- (88-100) Methodology is rigorous, systematic, and exemplary. Comprehensive problem analysis and all major design decisions are thoroughly justified. Alternative solutions are

critically compared. Supporting technologies are fully understood and applied effectively. Approach is transparent, replicable, and reflects best practice in the field.

R4. Outcome (Results and Critical Evaluation)

Focus: What results were achieved, and how critically they are evaluated, including consideration of environmental and societal impacts.

- (0-34) No meaningful results are presented; no evaluation attempted.
- (35-49) Some results are produced, but they are incomplete, weak, or poorly presented. Little attempt to analyze or interpret them.
- (50-57) A basic set of results demonstrates minimum acceptable achievement. Evaluation is limited but shows the student can assess performance or quality at a simple level. Environmental and societal impacts are considered at a basic level.
- (58-72) Results are clearly presented and show that the project meets its aims in several aspects. Evaluation is adequate, with analysis of quality, performance, or significance. Environmental and societal impacts are acknowledged with some relevant discussion.
- (73-87) Results are substantial and clearly demonstrate the project's value. Evaluation is thorough, providing critical insights into performance, quality, or significance. Environmental and societal impacts are thoughtfully considered across relevant stages or stakeholders.
- (88-100) Results are innovative, ambitious, or high-impact. Evaluation is rigorous, systematic, and critical, including robust testing, benchmarking, or validation. Environmental and societal impacts are comprehensively assessed across the full life cycle. Limitations and broader implications are addressed thoughtfully, demonstrating high-level professional judgement.

R5. Academic Writing Skills

Focus: Clarity, structure, and professionalism in written communication, including use of visuals and referencing.

- (0-34) Writing is incoherent, fragmented, or incomprehensible. No clear structure. Frequent errors in grammar, spelling, and punctuation make the report unreadable.
- (35-49) Writing shows frequent and distracting errors. Structure is inconsistent or confusing. Paragraphing is poor, with unconnected sentences. Figures and tables (if present) are unclear or irrelevant. Referencing is minimal or incorrect.
- (50-57) Writing is mostly clear and readable, with some errors that do not prevent understanding. Basic structure is present, with paragraphs showing some development. Figures and tables are included but may be unevenly presented. Referencing is adequate.
- (58-72) Writing is clear, generally well-structured, and mostly error-free. Paragraphs are mostly well-developed with topic sentences. Figures, tables, and diagrams are relevant and mostly well-presented. Referencing is mostly consistent.
- (73-87) Writing is polished, coherent, and largely error-free. Arguments are clearly expressed and progress logically with effective transitions. Paragraphs are consistently well-developed. Figures, tables, and diagrams are clearly labeled and well-integrated. Referencing is accurate and consistent throughout. The report adheres to the FYP module template, and relevant content is effectively adapted into a conference-ready manuscript that meets the required format.
- (88-100) Writing of both the report and the conference-ready manuscript demonstrates mastery of technical communication. Style is precise, concise, and tailored to the intended audience, anticipating and addressing reader questions while remaining focused and engaging. Structure is sophisticated, with excellent flow and coherence. Visual elements are expertly used to support arguments. Referencing strictly follows a recognized style. Both the report and the conference-ready manuscript fully comply with their respective formatting requirements and meet professional academic standards.

P1. Presentation

Focus: Clarity, organization, and effectiveness in delivering the project orally, including handling of questions and use of visual aids.

- (0-34) No submitted work, or the student is absent in the presentation.
- (35-49) Presentation fails to meet minimum standards. Communication is unclear, making it difficult for the audience to follow.
- (50-57) Covers most important points but lacks detail. Minor errors or omissions do not seriously impede understanding. Student is generally confident and can answer at least one question correctly, though clarification may be needed.
- (58-72) Key points are addressed with adequate detail. Organization is fair but may include minor topic jumps. Student is confident in most sections, and the audience can generally follow. Questions are answered correctly but may require some clarification.
- (73-87) All major points are covered clearly and correctly, with logical and engaging organization. Student demonstrates confidence throughout the presentation. Time is well managed, and questions are answered accurately and concisely. Visual aids are clear and effectively support communication. As part of the final presentation, the student extracts suitable content and formats it to meet basic conference poster presentation standards.
- (88-100) Presentation is highly confident, engaging, and expertly organized. Major points are supported with relevant detail, including demonstrations or experimental results where appropriate. Time is used optimally, and complex or challenging questions are answered accurately and smoothly. Visual aids are professional, clear, and integrated seamlessly to enhance audience understanding. The submitted poster exemplifies standards suitable for professional or academic conferences.