Subject Description Form

Subject Code	EIE3117
Subject Title	Integrated Project
Credit Value	3
Level	3
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	At a mid-stage of the programme, this subject plays the role of applying knowledge acquired in other subjects in an integrated manner. While the emphasis will be placed on the technical challenges that may encompass system integration, software development and troubleshooting, students will also be given opportunities to face various non-technical difficulties behind the development of information security systems.
Intended Subject Learning Outcomes	**Upon completion of the subject, students will be able to:** Category A: Professional/academic knowledge and skills 1. Design effective and reliable software programs to achieve the objectives of a project 2. Critically evaluate the different alternatives and strategies when implementing a project 3. Locate and resolve problems in an information security system and the related software Category B: Attributes for all-roundedness 4. Search, self-learn and try untaught solutions 5. Effectively use the limited resource and exercise discipline and time-planning to meet deadlines 6. Present ideas and findings effectively
Subject Synopsis/ Indicative Syllabus	**Syllabus:** The project(s) shall be of software development in nature with defined milestones (or **Subtasks**). The scope to be covered will include information security system design. The project will not be close-ended in nature and will provide ample headroom for the more enthusiastic students to excel. Each **Subtask** will be given a certain period of time to complete. Progress will be measured by functional **Demonstrations**, and one or two written **Progress Reports**. Upon the completion of the project, each student will give a demonstration/presentation of the completed system and submit a **Final Report**. Students are required to individually keep an electronic **Logbook** on the work performed during the entire period. The logbooks are to be evaluated by the supervisor /assessor. At the end of the project, the logbooks will be collected and graded. **Lectures:** Lectures are to be conducted at the beginning of the semester. During these lectures, the instructor shall give clear explanation on the functional and technical requirements, with a schedule for submitting deliverables. Concepts specific to the project(s), which are not yet learnt by the students, are to be covered in these lectures. Concepts behind critical use of tools and equipment will also be strengthened. Copies of supplementary/reference material will be distributed, or, links to on-line material will be provided for self-paced learning.

Guided Laboratory Experiments:

The project will normally require the students to learn to use specific tools and/or equipment. Laboratory demonstrations and exercises will be arranged in the early weeks. Below are some examples:

1. Use of project-specific development tools, software and hardware.
2. Implementation of the basic framework of the project.
3. Software techniques to optimize the performance of the system.

Self-Paced Work:

Multiple sessions of laboratory will be scheduled to cater for self-paced work in the laboratory, particularly during the second half of the semester. To ensure the students are working in a correct direction, defined milestones are given in the course of their work. Students are required to demonstrate their works at each milestone to show their progress.

Teaching/Learning Methodology

Teaching and Learning Method	Intended Subject Learning Outcome	Remarks
Lectures	1, 2, 3	Principles and key concepts of the information security platform used in the project are explained to students. Uses of tools are demonstrated. The goals are specified. Various problems to be encountered are explained.
Supervised Laboratory Sessions	1, 2, 3	Students need to learn to use the provided software modules and expand them to accommodate new functionalities.
Extended self-paced laboratory work	1, 2, 3, 4, 5, 6	Students will work to construct an information security system. They need to learn to use the provided software modules and expand them to accommodate new functionalities.

Assessment Methods in Alignment with Intended Subject Learning Outcomes

Specific Assessment Methods/Tasks	% Weighting	Intended Subject Learning Outcomes to be Assessed (Please tick as appropriate)					
		1	2	3	4	5	6
1. Continuous Assessment	100%						
• Lab reports		✓	✓	✓			
• Log book and reports		✓	✓	✓	✓	✓	✓
• Progress and final demonstrations		✓	✓	✓	✓	✓	✓
Total	100%						

Assessment on individual student's ability and contribution will be conducted, according to the attributes detailed below.

INSIGHT	as evidenced by how well the concepts are understood
CREATIVITY	as evidenced by ingenuity and imagination
WORKMANSHIP	as evidenced by how well ideas are implemented and how problems are resolved
DRIVE	as evidenced by initiative, diligence and tenacity
COMMUNICATION	as evidenced by an ability to express ideas clearly and succinctly
MANAGEMENT	as evidenced by how time, manpower and other resources are effectively used

At the completion of each subtask, the student will be asked to give a demonstration to the assessor. Based on the presentation and response to questions addressed to the members, the assessor will rate the contribution, achievement, and performance of each member. Other assessment items include lab reports, logbook, progress report, final demonstration, report and presentation.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Specific Assessment Methods/Tasks	**Remark**
Lab reports	To measure the students' understanding of the theories and concepts as well as some practical issues in their subject materials
Progress and final demonstrations	Students need to think critically and creatively in order to come up with good alternate solution for an existing problem. Oral examination on the approach taken will be conducted for each student to evaluate his contribution, technical knowledge and communication skills.
Log book and reports	Each student is required to produce one or two progress reports and a final report. Accuracy and the presentation of the reports will be assessed. Each student needs to explain in the reports the solutions they plan to use or have been used in the project. The reason behind of choosing such solutions should also be exemplified. The students also need to explain how the limited resources are used in the project. Logbooks are assessed to evaluate contributions and the quality of records on the progress.

Student Study Effort Expected	**Class contact (time-tabled):**	
	• Lecture	12 Hours
	• Laboratory	12 Hours
	• Mini-project / Meetings / Presentation	15 Hours
	Other student study effort:	
	• Revision	12 Hours
	• Additional laboratory work	12 Hours
	• Mini-project work / presentation / report writing	42 Hours
	Total student study effort:	**105 Hours**
Reading List and References	**Reference Books:** To be specified by the subject lecturer for each project.	
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