

1.	Name of Course					Thesis I (Electrical and Electronic Engineering)				
2.	Course Code					JFYP7016				
	JFYP = the first alphabet identify the faculty within which the subject is offered., JFYP = the remaining three alphabet identify the course that offers the subject, 7016 = the first digit identify level of study; in this case undergraduate level, 7016 = the second and third digits identify subject identity and 7016 = the fourth digit identify credit value or credit hours									
3.	Name(s) of academic staff					All academic staffs (lecturer and above) will be involved as project supervisors.				
4.	Rationale for the inclusion of the course/module in the programme					To expose students to the techniques and skills involved project planning, design, implementation and management and to enable students to acquire hands-on experience in fields related to their major of study so that they are able to relate and reinforce what has been taught in the class				
5.	Semester and Year offered					Year 4, Semester1				
6.	Total Student Learning Time (SLT)			Face to Face			Total Guided and Independent Learning			
	L = Lecture T = Tutorial P = Practical IS = Independent Study			L	T	P	IS	Total Guided and Independent Learning = 80		
				7	-	28	45			
7.	Credit Value					2.0				
	Supervising and Consultation(1 hour per week x 7 weeks) Practical: 2 hours x 14 weeks									
	Details of Subject: Each student shall be required to undertake a project which is of academic value for a period of 2 trimesters (Trimester 1 and Trimester 3). The project involves problem solving using engineering theories and techniques, and the implementation of the project design. The student is expected to design a possible solution to the problem, taking into account various aspects such as professionalism, economy, costing and engineering viability. At the end of the first trimester, the student is to present his/her progress at a seminar. At the end of the project, it is expected that the student submits a proper written report and to present his/her work at a seminar.									
8.	Prerequisite (if any)					None				
9.	Course Objectives 1. To expose students to the techniques and skills involved research project planning, design, implementation 2. To enable students to acquire hands-on experience in fields related to their major of study so that they are able to relate and reinforce what has been taught in the class. Course Learning Outcomes (CLO) At the end of the semester students should be able to: CLO1: To enhance problem solving skill; CLO2: To expand capability in working independently and To conduct project planning, design, implementation and management; CLO3: To identify system implementation constraints and work within constraints and To prepare and write a scientific/technical report to disseminate results and findings of the project;									

10.	Transferable Skills: This course is expected the development of the following transferable skills: ▪ An ability to manage time and task ▪ An ability to learn both independently and co—operatively; ▪ An ability to take responsibility and carry out laboratory test; ▪ An ability to take initiative and lead other; ▪ An ability to use software where relevant to the subject.				
11.	Teaching-learning and assessment strategy A variety of learning strategies are used throughout the course, including the following • Classroom Lesson; Lecturer and power point presentation • Tutorial session • Student- lecturer Discussion • Collaborative and co-operative learn; • Independent study. Assessment: <table> <tr> <td><u>Presentation and report writing</u></td> <td><u>100%</u></td> </tr> <tr> <td><u>Total</u></td> <td><u>100%</u></td> </tr> </table>	<u>Presentation and report writing</u>	<u>100%</u>	<u>Total</u>	<u>100%</u>
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<u>Total</u>	<u>100%</u>				
12.	Synopsis: Student would be given a wide selection of thesis titles of their interest related to the course they take. Each student would be assigned a thesis title and work independently under the supervision of an academic staff.				
13.	Mode of Delivery: Consultation will be given to students 1 hour per week. Students will carry out laboratory works/research 2 hours per week.				

14.	Assessment Methods and Types:					
	Performance Criteria :					
	CLO-PLO	Assessment Tool	1	2	3	4
	Marks		0-39	40-49	50-59	60-74
	Grade		(F)	(D,D+)	(C-,C,C+)	(B-,B,B+)
	CLO1: To enhance problem solving skill ,	Consultation Lab works/ Research Report writing Presentation	Fail To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Poor To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Satisfactory To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Good To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test
	CLO2: To expand capability in working independently and To conduct project planning, design, implementation and management	Consultation Lab works/ Research Report writing Presentation	Fail To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Poor To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Satisfactory To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Good To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test
	CLO3: To identify system implementation constraints and work within constraints and To prepare and write a scientific/technical report to disseminate results and findings of the project.	Consultation Lab works/ Research Report writing Presentation	Fail To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Poor To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Satisfactory To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test	Good To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test
						Excellent To: - manage time and task - learn both independently and cooperatively - take responsibility and carry out laboratory test

15. Mapping of the Programme Objectives to the Programme Learning Outcomes

Programme Learning Outcomes (PLO) Programme Objectives (PO)	PLO1: Ability to acquire and apply knowledge of science and engineering fundamentals.	PLO2: Acquired in-depth technical competence in engineering discipline.	PLO3: Ability to undertake problem identification, formulation and solution;	PLO4: Ability to utilise systems approach to design and evaluate operational performance.	PLO5: Understanding of the principles of design for sustainable development;	PLO6: Understanding of professional and ethical responsibilities and commitment to them.	PLO7: Ability to communicate effectively, not only with engineers but also with the community at large.	PLO8: Ability to function effectively as an individual and in a group with the capacity to be a leader or manager;	PLO9: Understanding of the social, cultural, global and environmental responsibilities of a professional engineer	PLO10: Recognising the need to undertake lifelong learning, and possessing/acquiring the capacity to do so	PLO11: Ability become entrepreneur
PEO1: To produce graduates with excellent knowledge and competency in Electrical and Electronic Engineering;	✓		✓			✓	✓	✓		✓	
PEO1: To produce graduates with professional, generic attributes to meet the present and future global demands.							✓				
PEO3: To produce graduates with Islamic humanistic values and reinvention skills to meet the requirement of a dynamic environment. These skills include Civil Intelligence, Moral Intelligence, Self-Reliance and Communication Skills ;							✓				

16.	Mapping of the course Learning Outcome to the Programme Outcome											
Programme Learning Outcomes (PLO) Course Learning Outcome (CLO)		PLO1: Ability to acquire and apply knowledge of science and engineering fundamentals.	PLO2: Acquired in-depth technical competence in engineering discipline.	PLO3: Ability to undertake problem identification, formulation and solution;	PLO4: Ability to utilise systems approach to design and evaluate operational performance.	PLO5: Understanding of the principles of design for sustainable development;	PLO6: Understanding of professional and ethical responsibilities and commitment to them.	PLO7: Ability to communicate effectively, not only with engineers but also with the community at large.	PLO8: Ability to function effectively as an individual and in a group with the capacity to be a leader or manager;	PLO9: Understanding of the social, cultural, global and environmental responsibilities of a professional engineer	PLO10: Recognising the need to undertake lifelong learning, and possessing/acquiring the capacity to do so	PLO11: Ability become entrepreneur
CLO1: To enhance problem solving skill;		✓		✓			✓	✓	✓		✓	
CLO2: To expand capability in working independently;		✓		✓			✓	✓	✓		✓	
CLO3: To conduct project planning, design, implementation and management;		✓		✓			✓	✓	✓		✓	

17.	Content outline of the course/module and the SLT per topic						
	Details		SLT(Hour)				
			L	T	P	IS	Total
	Topic	- Topics are carefully selected by the Departmental Head and or his committee so that reasonable results could be obtained within the time stipulated and the resources available. Individual study is encouraged though in exceptional cases, two or more students may collaborate (for example, where the approved topics require co-operative effort to see reasonable progress within the time and resources available) but each student must submit an individual report. - Co-supervisor could be from outside the Department or outside bodies and agencies. - The topics should be selected before the end of year 3. The course 'Experimental Techniques' will form and exposition and presents the opportunity for discussion of some types of project. - A study/investigation project may be undertaken through laboratory experimental investigations. Other areas include case histories, investigation, computational and analytical studies. In these cases, data obtained from "secondary" recourses such as published report are preferably be treated with further analysis or interpretation before being included in the thesis. - The presentation of the thesis include objective, literature review , research methodology , expected results or product and project schedule - Specific and detailed requirements of the thesis submission, assessment and format are as according to Departmental Regulations. The report would be assigned together with the oral presentation by the student at the end of the semester	7	-	28	45	80
	Total SLT (Hour)		7	-	28	45	80
18.	Main references supporting the course						
	1. Reference materials relevant to the individual project to be provided by the project supervisor ;						
	Additional references supporting the course						
19.	Other additional information						
	All materials will be available to the students in the library.						