COURSE OUTLINE

Department & Faculty: Electrical Engineering	Page : 1 of 3
Course Code : SKEL 3742 Course Name : SPECIALISED 3RD YEAR LAB Total Laboratory Hours: 36	Semester: 1 Academic Session: 2018/2019

This is a sample of Course description for Third Year Specialised Lab 2018/2019-02.
Detailed information is available online at: **3yearlab.fke.utm.my**

Synopsis : 3rd Year Laboratory is a required course for third year students in Bachelor of Engineering degree program. This course requires students to conduct four experiments in four different laboratories depending on their degree major and electives. This laboratory is conducted as a Project Based approach. The students are grouped into 3-4 students, and they will be given problems to solve that require them to conduct experiments in-lab (3 hours/week) and out-of-lab (equivalent to 2 hour/week) within three weeks. The students are required to solve the given project as a team, design suitable experimental procedures and conduct the experiments, present the problem solutions and submit a report following the IEEE standard journal format.

LEARNING OUTCOMES

By the end of the course, students should be able to:

No.	Course Learning Outcome	Programme Learning Outcome(s) Addressed Mapped to PO, BT, and HS	Assessment Methods
CLO1	Use appropriate techniques, skills, and modern engineering tools, instrumentation, software and hardware necessary for solving complex engineering problem with understanding of their limitations.	PLO4, C3, P3, A2	Inlab Activities (Proficiency Score) & Group Demo (Flow)
CLO2	Conduct experiments, perform analysis and interpret data for complex engineering problem.	PLO2, C4, P3, A2	Inlab Activities (Analytical & Technical Scores)
CLO3	Articulate ideas; communicate effectively, in writing and verbally, on complex engineering problem.	PLO6, CS3	Technical Reports (Individual and Group)
CLO4	Function effectively as an individual, and as a member or leader in diverse team.	PLO7, P4, TS	InLab (Team Work Score), Peer Review
CLO5	Execute responsibility professionally and ethically	PLO11	InLab (Discipline)
CLO6	Demonstrate knowledge and understanding of engineering and management principles to manage projects in multidisciplinary environments	PLO12	Group Proposal & Group Demo (Project Outcome)

List of Abbreviations: C = Cognitive, P = Psychomotor, A = Affective, CS = Communication Skill, TS = Teamworking Skill, ES = Entrepreneurship, EM = Ethics and Moral

STUDENT LEARNING TIME

Teaching and Learning Activities		**Student Learning Time (hours)**
1.	**Direct Learning**	
	(i) Lecture	**-**
	(ii) Student-centred learning (with facilitation)	
	(a) Laboratory works (12 x 3hrs)	36 hrs
2.	**Self-Directed Learning**	
	(i) Revision (preparation for laboratory works) (12 x 2 hrs)	24 hrs
	(ii) Lab. Report writing (6 x 4hrs)	24 hrs
3.	**Formal Assessment**	
	(i) Oral interview (12 x 0.5 hrs)	6 hrs
	Total	**90 hrs**

WEEKLY SCHEDULE FOR MEDICAL ELECTRONICS ELECTIVE

WEEK	:	**TOPIC**
Week 1		Registration
Week 2		Briefing & Grouping
Week 3 - 5	:	Project 1 (VLSI System Design Lab - FPGA) - Group discussion / Proposal / Interview - Experiment / Data Collection / Interview - Data Analysis / Demonstration / Interview
Week 6 - 8	:	Project 2 (Digital Communication Lab) - Group discussion / Proposal / Interview - Experiment / Data Collection / Interview - Data Analysis / Demonstration / Interview
Week 9 - 11	:	Project 3 (Advanced Electronic Lab) - Group discussion / Proposal / Interview - Experiment / Data Collection / Interview - Data Analysis / Demonstration / Interview

Week 12 - 14	:	Project 4 (Bioelectronic Lab) - Group discussion / Proposal / Interview - Experiment / Data Collection / Interview - Data Analysis / Demonstration / Interview

REFERENCES

1. http://www.fke.utm.my/laboratories.php

2. Journals/books related to the problems.

GRADING (60% Individual & 40% Group Marks):

Week Number	Assessment	%	Assessor
Week 1	Group Proposal	10%	Lecturer
	Individual InLab Activity + Interview	60%	
Week 2	Individual Report (5%)		
	Individual InLab Activity + Interview		
Week 3	Individual InLab Activity + Interview		
	Group Demonstration- just show experiment is working, not a presentation	10%	
After Week 3 (Week 4)	Group Report	15%	
	Peer Review	5%	Student
	Total	**100%**	