KEMENTERIAN PENGAJIAN TINGGI

POLITEKNIK MALAYSIA MERLIMAU

PROGRAMME HANDBOOK

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA IN ELECTRONIC COMPUTER ENGINEERING (DTK)

POLITEKNIK MERLIMAU
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Sixth Edition

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PREFACE

Bismillahirrahmanirrahim

Assalamulaikum w.b.t and Salam Sejahtera.

Dear Students,

First and foremost, I would like to welcome you to our beloved Politeknik Merlimau (PMM). As you can see, the atmosphere and the ambience here are very conducive for teaching and learning.

As we are aware, the industry requires graduates who are knowledgeable and have impeccable track records and self-discipline. We in PMM have taken measures to ensure all these requirements are met.

Furthermore, in order to add value to our graduates, we greatly emphasize our students to be involved in co-curricular activities, especially the uniformed bodies.

I believe that with the quality courses offered by the Civil, Electrical and Mechanical Engineering Departments as well as Commerce and Tourism and Hospitality, we would be able to produce high quality of towering personality graduates who would contribute to the development of our nation.

I am looking forward to meeting you and I hope that you would take advantage of all the facilities provided in order for you to attain the best knowledge and become the contributing citizen for our beloved Malaysia.

Thank you.

Sincerely,

Mohd Hatta bin Zainal

Director

Politeknik Merlimau

PREFACE

Assalamualaikum w.b.t

This Programme Handbook is meant to provide a comprehensive guidelines for the students of Department of Electrical Engineering pertaining to the programmes offered by this department.

Department of Electrical Engineering offers programmes which are the Diploma in Electronic Engineering (Computer) DTK, Diploma in Electronic Engineering (Communication) DEP and Diploma in Electrical Engineering DET. Those programmes cater to four categories of courses or subjects. It means that students have to complete all the courses listed for their programmes in order to graduate. The four categories of courses are core, elective, compulsory and common courses.

Politeknik Merlimau (PMM) will be the ground for students to develop themselves holistically because PMM provides various kinds of activities that cater to both academic and non-academic purposes. Amongst those activities are Innovation, Pre-graduation Night, Industrial Attachment, Head of Department Award/List, Collaboration and Community Service. The activities organised gear the students to develop themselves into more competitive and resourceful people that would lead to the creation of towering personality graduates.

The Department of Electrical Engineering provides a vast range of facilities as to ensure the success of our teaching and learning process. The facilities are such as Wiring Laboratory, Project Laboratory , Power System Laboratory , Electronic Laboratory , Audio and Communication Room, Telecommunication Laboratory , Computer Repair Laboratory , Computer Hardware Laboratory , Computer Programming Laboratory , Computer Aided Design Laboratory , Power Electronic Laboratory , Lecture Hall and Server Room.

Heartiest thanks to the Director and to all the lecturers as well as the supporting staff who work as an effective and efficient team for the success of our students. I also thank the other Academic Departments that have helped us to mould the students. It is our hoped that the graduates will excel globally and be well-balanced in terms of spiritual, intellectual, emotional and physical.

All the best and welcome to the Department of Electrical Engineering . Thank You.
Sincerely,

Saifful Bahari Bin Omar
The Head of Electrical Engineering Department
Politeknik Merlimau

INTRODUCTION

Politeknik Merlimau (PMM) is the 14th polytechnic of the Department of Polytechnic Education Ministry of Higher Education. PMM is located in the District of Merlimau, 26 kilometers south of the state capital city, Melaka Historical City.

Established in 2002, PMM started in Politeknik Melaka (back then was Politeknik Kota Melaka). Moving to its own Merlimau campus in the end of 2002, Politeknik Merlimau since then has risen to the forefront of achievements in various fields, emerging as the catalyst polytechnic in academic, innovation as well as social responsibilities activities.

The PMM campus is spread across the area of 100 acres which houses seven academic departments, two non-academic departments and twelve supporting service units. Those academic departments consist of five main departments and two ancillary departments. The main departments are the Department of Civil Engineering, Department of Electrical Engineering, Department of Mechanical Engineering, Department of Commerce and Department of Hospitality and Tourism. The ancillary departments, on the other hand, are the Department of Mathematics, Science & Computer and Department of General Studies.

PMM believes that learning environments play a critical role in the development of strong learning communities which is one of the key aims of curriculum evolution at PMM. These communities are supported by place, technology and cohort-targeted of diploma graduate students. Thus, PMM provides a wide range of facilities and spaces that can be utilized by both the staff and students of PMM such as the CIDOS e-learning tools which serves as the Learning Management System. It is developed for the purpose of teaching and learning processes continuous improvement.

PMM provides a broad-based curriculum underscored by multi-disciplinary courses with the enrichment of the ancillary department's courses which are aligned with the transformative pillars of the Department of Polytechnic Education, Ministry of Higher Education. The classroom lessons and activities are based on sound principles of pedagogy and practice where lectures are given in English. These promote to nurture well-rounded graduates characterized by innovative thinking and relevant skills to thrive in a knowledge economy.

All in all, PMM provides students an ideal, supportive and innovative environment in which students can find their future direction, while making full use of their valuable time. This is further enhanced with practicality, entrepreneurship, and the pursuit of academic and management excellence. It is hoped that the well-rounded graduates enveloped with outstanding leadership qualities will enable them to make valuable contributions to tomorrow's society .

VISION & MISSION

VISSION

To Be the Leading-Edge TVET Institution

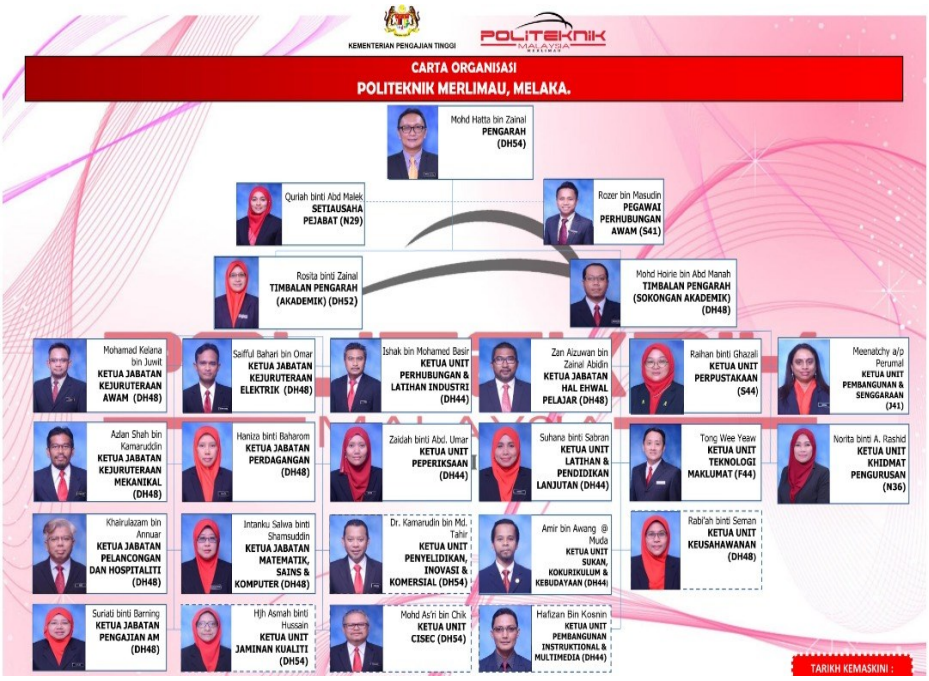
TAG LINE

Expertise For Excellence, X4X

MISSION

1.To develop holistic, entrepreneurial and balanced TVET graduates through dynamic education in-line with the current Industrial Revolution.
2.To capitalise on smart partnership with stakeholders.
3.To empower communities through life-long learning, research and innovation.

MANAGEMENT ORGANISATION



OUTCOME BASED EDUCA-

Ministry of Higher Education, Malaysian Qualification Agency (MQA) and related professional bodies require all programs offered by Institution of Higher Learnings to adopt the Outcome Based Educatio (OBE) approach in their teaching and learning activities. This is in line with the paradigm shift mooted by the Ministry of Higher Education to enhance the quality of education in Malaysia.

Outcome-based education (OBE) is an educational approach that focuses on what students are able to do upon completion of a course. All curriculum and teaching decisions are made based on how best to facilitate the desired outcome. The term outcomes in this matter would be a set of values or 'wish list' on what students should acquire upon their educational program completion. Outcome-based education is designed so that "all students are equipped with the knowledge, skills and qualities needed to be successful after they exit the educational system" (Spady, 1994, p. 9).

In brief, OBE answers the following questions:

- What must the student learn?
- What do the teachers or lecturers want the student to learn?
- How does what student learn affect the overall educational outcome?
- How do the teachers or lecturers make sure that the students learn what they are intended to learn?

Thus, OBE outlines the guidance for planning, delivering and evaluating teaching and learning activities to achieve the results expressed in terms of individual student learning outcomes as shown in Figure 5.1 below.

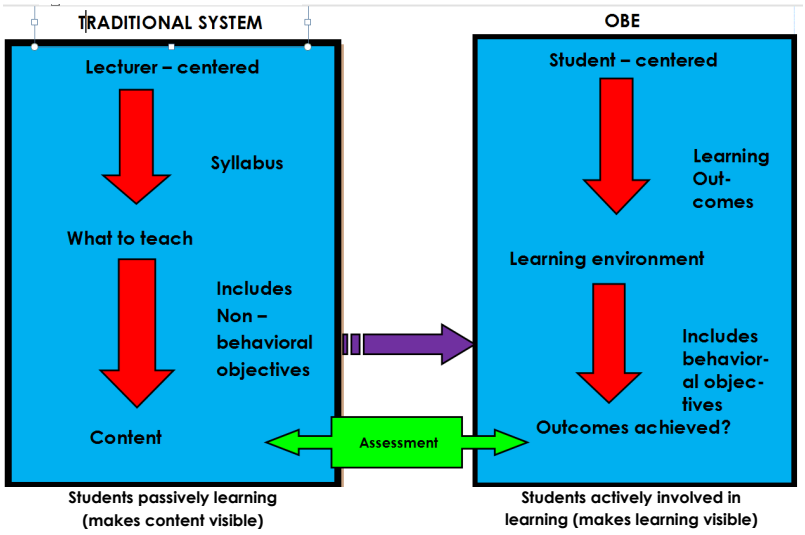
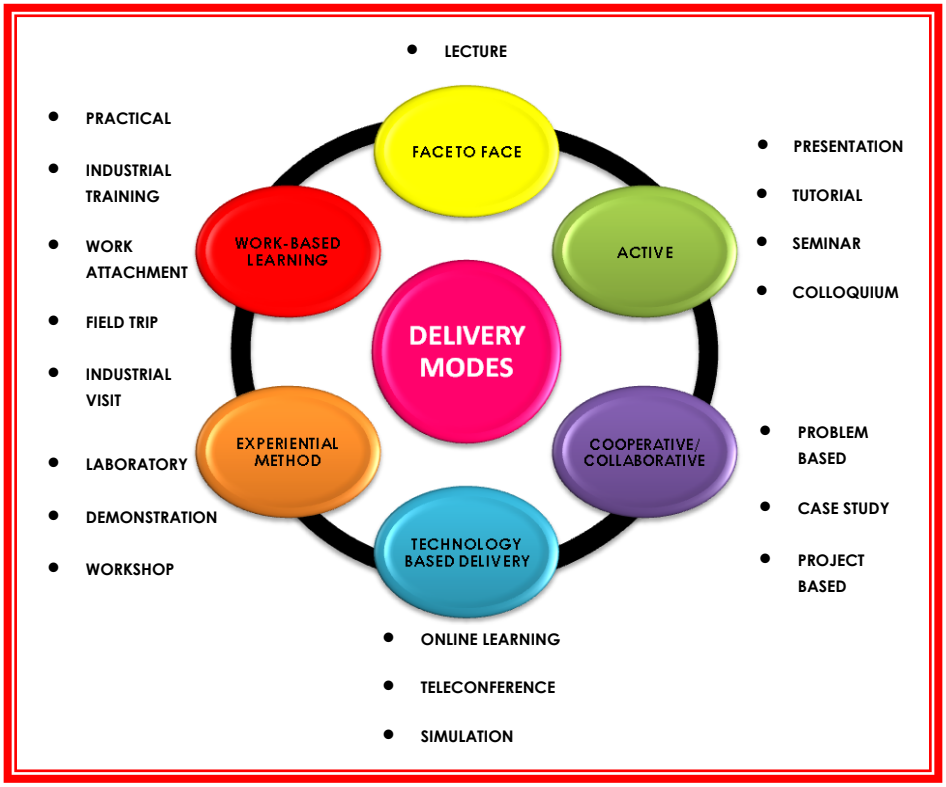


Figure 5.1: A Paradigm Shift for Educational System

DELIVERY MODES

The diversity of teaching and learning methodologies can be adapted by lecturers as to cater to the hetrogeneous or different students' potentials. This is important to ensure that different students are at the maximum level while the less potential ones are not left behind. Figure 5.2 shows that there are many modes of delivery that can be employed to suit various teaching and learning purposes.



OUTCOME BASED EDUCA-

OBE EDUCATIONAL FRAMEWORK

Programme Educational Objectives (PEO):

The broad statements that describe the career and professional accomplishments which the program is preparing graduates to achieve.

Programme Learning Outcomes (PLO):

The statements that describe what students are expected to know and able to perform or attain in terms of skills, knowledge and behaviour or attitude by the time of graduation.

Course Learning Outcomes (CLO):

The statements that describe the specification of what a student should learn upon completing a course .

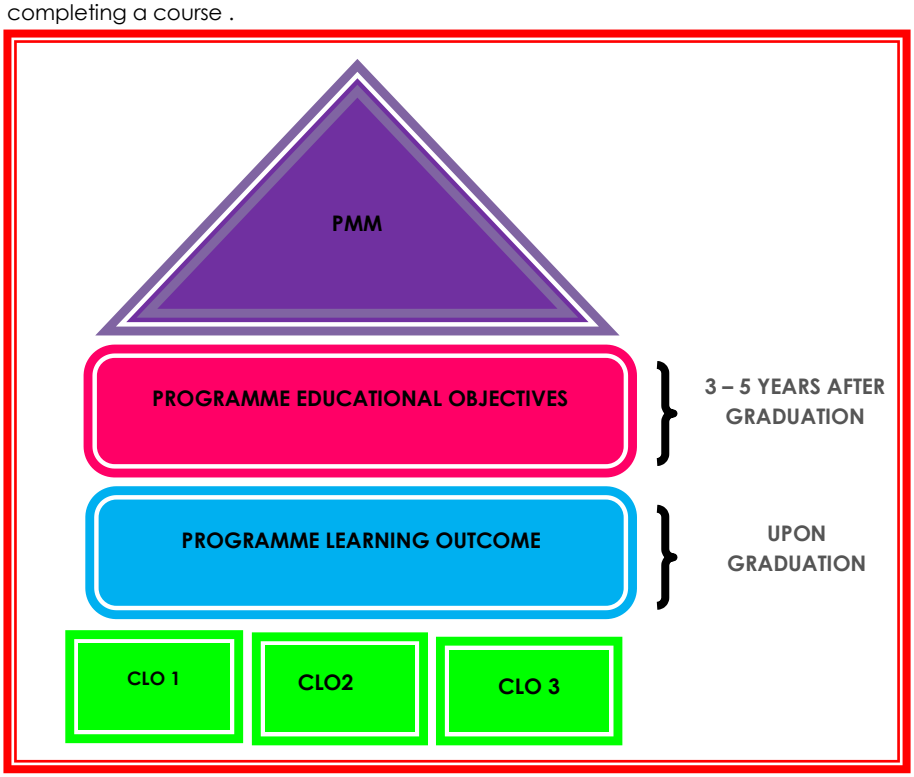


Figure 5.3 : OBE Educational Framework

OUTCOME BASED EDUCATION (OBE)

FORMATION OF LEARNING OUTCOMES

The achievement of students is measured by learning outcomes. These learning outcomes should specify the competencies acquired by students upon completion of their studies. The Learning outcome consist of 8 domains that have been clustered into 5 clusters. The diagram Malaysian Qualifications Framework 2nd Edition: Level Descriptors below shows the cluster ;

MQF LEVEL	Summary of Learners' Profile	CLUSTER 1: Knowledge and Understanding	CLUSTER 2: Cognitive skills	CLUSTER 3: FUNCTIONAL WORK SKILLS				CLUSTER 4: Personal and entrepreneurial skills	CLUSTER 5: Ethics and Professionalism
				Practical skills	Interpersonal and Communication Skills	Digital and Numeracy Skills	Leadership, Autonomy and Responsibility		
Level 4 **DIPLOMA**	Learners will have a broad knowledge of the general theories, principles and demonstrate skills in a focused area of study/ discipline enabling them to undertake specialized work leading to a career path in technical, professional or management fields. Learners express interest in pursuing further education. Learners will have a commitment for appropriate ethical behavior and express an appreciation of national aspirations within global perspectives.	Demonstrate systematic comprehension (understanding) of a broad range of complex technical and theoretical knowledge and skills to undertake varied, complex, routine and non-routine tasks/ study within afield/ discipline.	Identify, interpret, apply and evaluate general concepts, theory and/ or operational principles within a well-defined context of a subject/discipline and/or work with minimal supervision. Solve problems of a common and well- defined kind as well as those others of a non-routine nature.	Apply a limited range of practical skills, essential tools, methods and procedures to perform required tasks/work. Reflect and make adjustments to Practices and processes, as necessary, related to routine or non- routine tasks.	Communicate clearly, both orally and in writing, ideas, information, problems and solutions, to others including peers, experts and non-experts. Interact effectively, individually or as member of a team with supervisors, Peers and subordinates. Demonstrate a high level of proficiency in at least one other language besides the national language.	Use a range of digital applications to support study /work as well as to seek and process data related to work or study. Demonstrate skills to use and interpret routine and complex numerical and graphical/visual data.	Perform work with significant degree of personal responsibility and autonomy under broad guidance and direction on well- defined and non- routine study /work activities performed in a variety of contexts. Lead and manage diverse teams to manage issues at work.	Identify self-improvement initiatives and possibilities for further education. Develop realistic Career and professional goals. Explore and engage in activities relating to entrepreneurship. Show interest in and participate at professional and civic activities leading to local and region wide communities building.	Demonstrate ability to understand and comply with, organizational and professional ethics in work environment. Demonstrate ability to apply sustainable practices in the context of local and global work and social environment.

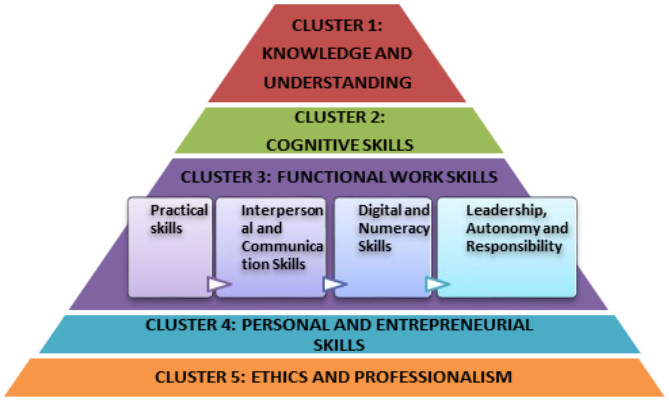


Figure 5.4 :Competency Domain to be applied in MQA Outcomes

(Learning Outcomes, LO)

THREE MAIN STAGES IN TEACHING AND LEARNING PROCESS

In general, OBE concept divides teaching and learning activities into three parts, namely:

i. Planning,
ii. Implementation and
iii. Assessment

At the planning stage, learning outcomes should be determined in advance by taking into account what students can do after attending a teaching process.

At the implementation stage, the teaching and learning activities should be designed to achieve the specified learning outcomes.

Finally, the assessment is to be determined where it measures how far students have achieved the specified learning outcomes and assessment provides input to continuously improve the teaching and learning process.

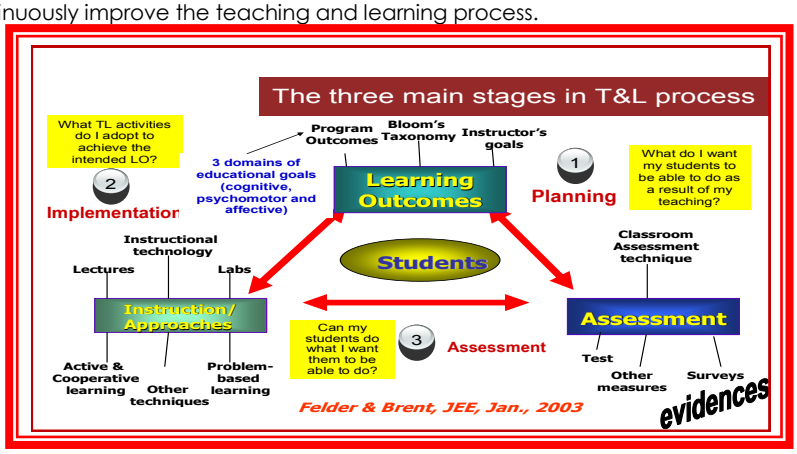


Figure 5.5 : Three Main Stage in Learning and Teaching Process

Towards the future of OBE:

1. Courses will help students to want, passionately, to do things, rather than just 'be able to' do things.
2. Assessment will assess whether students actually and spontaneously achieve the outcomes, rather than just 'being able to'
3. Outcomes will include values and principles and purposes as well as abilities.

In conclusion, the call for accountability is inevitably one of the reasons that lead to the introduction of OBE in Politeknik Merlimau. All parties need to make necessary changes, modifications, and improvements in the light of the changes aimed. The roles of curriculum, lecturers or instructors and assessment must gear the students towards the intended outcomes.

UNIT OF E-LEARNING

Introduction

CeLT (Center for e-Learning & Teaching) is a special name for Digital Learning Unit under the Instructional and Digital Learning Division, Polytechnic Education Department, Ministry of Higher Education Malaysia. CeLT is created to help empower the special National e-Learning agenda for all Malaysian Polytechnic.

VISION

Transforming Politeknik Merlimau towards global competitiveness through e-learning.

MISSION

Build a competitive, creative and sustainable e-learning framework.

OBJECTIVE

1. Encourage quality, fair and equitable education opportunities through e-learning (open, neutral and active)
2. Provide appropriate infrastructure and e-learning friendly
3. Creating a variety of creativity to strengthen the 21st century learning and teaching process
4. Improve staff and student skills through e-learning in the 21st century

The roles and responsibility of the e-Learning Unit are to :

1. Coordinate, support and monitor the implementation of e-Learning through the CIDOS platform.
2. Develop and improve CIDOS functionality to meet the effective R & D requirements and suit the rapid development of ICT (including Mobile-ready).
3. Improve literacy and training and mentoring on e-Learning.
4. Plan training and mentoring and support e-Content development support for academic and student staff.
5. Designing strategies and coordinating the EDOLA competition organized by CELT's Department of Polytechnic Education such as TVET Tunes, Poli TV, EMCC, VR 360 and Augmented Reality (AR).

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UNIT OF E-LEARNING

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FACILITIES

Electrical Principle&Technolgy Laboratary

Instrumentation Laboratary

Wiring Laboratary

Project Laboratary

Power System Laboratary

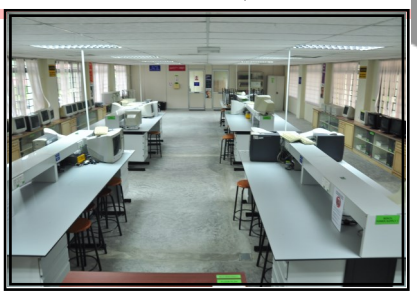
Advanced Telecommunication Laboratary

Electronic Repair Laboratary

Electronic Laboratary

FACILITIES

Telecommunication Laboratary



Computer Repair Laboratary

Computer Hardware Laboratary

Computer Programming Laboratary

Power Electronic Laboratary

Electrical Machine Laboratary

Measurement Laboratary

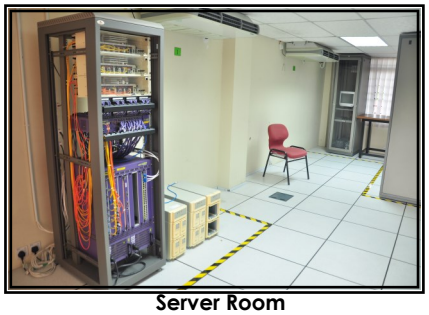
Data Communication Laboratary

FACILITIES

Computer Aided Design Laboratary

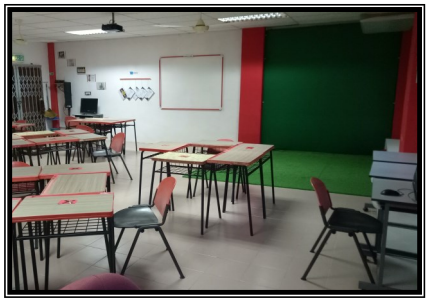
Entrepreneurship Incubator Room

Meeting Room



Server Room

Lecture Hall



TECC Room

Classroom

Student Corner

DIPLOMA IN ELECTRONIC ENGI-

Programme Overview

Introduction

Electrical engineering is the field of study which generally deals with the application of electrical and electronics towards designing, testing and development of circuitry and equipment for well-defined engineering activities. It requires the application of scientific and engineering knowledge and methods combined with practical skills in supporting well-defined engineering activities to prepare students for their future role in the industry. The electrical engineering diploma graduates of the Polytechnic's Ministry of Higher Education are exposed to a comprehensive curriculum consisting of courses in personal development, mathematics, science, electrical disciplines and workplace competencies requirements. Graduates of the electrical engineering diploma programme will be equipped with specialized knowledge and skills which include power engineering, green technology, energy efficiency, computer technology, communication, medical electronics, optoelectronic and industrial automation. The Diploma in Electronic Engineering (Computer) is a three-year full-time programme comprising of five semesters coursework with one full semester of industrial training

Synopsis

The Diploma in Electronic Engineering (Computer) covers broad discipline of electronics engineering, with specialization in computer technology which includes electrical and electronic fundamentals, computer fundamentals and programming, semiconductor devices and computer aided design while emphasizing the area of specialization. The specialization courses include microprocessor fundamental, computer architecture and organization, database system, operating system, internet based controller, computer diagnosis and maintenance, CMOS IC design and fabrication and project.

Job Prospects

This programme provides the knowledge and skills in electronics engineering that can be applied to a broad range of careers related to computer technology. The knowledge and skills that the students acquire from the programme will enable them to participate in the job market as: -

a. Electrical/Electronic Engineering Technician
b. Assistant Engineer
c. Technical Assistant
d. Maintenance technician
e. Production technician

DIPLOMA IN ELECTRONIC ENGI-

Vision

To be the Leading-Edge TVET Institution

Mission

a. To provide wide access to quality and recognized TVET programmes
b. To empower communities through lifelong learning
c. To develop holistic, entrepreneurial and balanced graduates
d. To capitalise on smart partnership with stakeholders

Educational Goal

To produce holistic and competent TVET graduates capable of contributing to the nation development

Programme Aims

This programme believes that all individuals have potential to be a resourceful and adaptable technician to support the nation aspiration in providing engineering talent

Programme Educational Objectives (PEO)

The engineering programme should produce balanced TVET graduates who are:

PEO1: Practicing technician in electrical engineering related field.

PEO2: Contributing to society with professional ethic and responsibilities.

PEO3: Engaging in enterprising activities that apply engineering knowledge and technical skills.

PEO4: Engaging in activities to enhance knowledge for successful career advancement.

Programme Learning Outcomes (PLO)

Upon completion of this programme, students should be able to:

PLO1: Apply knowledge of applied mathematics, applied science, engineering fundamentals and an engineering specialisation as specified in DK1 to DK4 respectively to wide practical procedures and practices .

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4).

PLO3: Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations (DK5).

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6).

PLO6: Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to well-defined engineering problems (DK7).

PLO7: Understand and evaluate the sustainability and impact of engineering technician work in the solution of well-defined engineering problems in societal and environmental contexts (DK7).

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice.

PLO9: Function effectively as an individual, and as a member in diverse technical teams.

PLO10: Communicate effectively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions.

PLO11: Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments.

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge.

PROGRAMME STRUCTURE

CLASSIFICATION	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PROGRAMME LEARNING OUTCOME (PLO)												PREREQUISITE / CO REQUISITE
			L	P	T	O		PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	
								Knowledge	Problem Analysis	Design/Development of Solutions	Investigation	Modern Tool Usage	The Engineer and Society	Environment and Sustainability	Ethics	Individual and Teamwork	Communications	Project Management and Finance	Life Long Learning	
								CLS1	CLS2	CLS2	CLS2	CLS3a	CLS3c	CLS3f	CLS5	CLS3d	CLS3b	CLS4	CLS4	
SEMESTER 1																				
Compulsory	DUE10012	Communicative English 1	1	0	2	0	2										√		√	
	MPU24XX1 MPU24XX1	Sukan Unit Beruniform 1	0	2	0	0	1									√			√	
Common Core	DUW10022	Occupational, Safety and Health for Engineering	2	0	0	0	2	√							√		√			
	DBM10013	Engineering Mathematics 1	2	0	2	0	3	√					√				√			
	DBS10012	Engineering Science	2	1	0	0	2	√				√								
Discipline Core	DET10013	Electrical Technology	2	2	0	0	3	√				√				√				
	DET10022	Electrical Wiring	1	3	0	0	2	√				√			√					
	DEE10013	Measurement Devices	2	2	0	0	3	√				√					√			
TOTAL			**26**				**18**													
SEMESTER 2																				
Compulsory	MPU21032	Penghayatan Etika dan Peradaban	1	0	2	0	2								√				√	
	MPU24XX1	Kelab/Persatuan	0	2	0	0	1									√			√	
	MPU24XX1	Unit Beruniform 2																		MPU24XX1
Common Core	DBM20023	Engineering Mathematics 2	2	0	2	0	3	√					√				√			DBM10013
Discipline Core	DET20033	Electrical Circuits	2	2	0	0	3	√				√				√				DET10013
	DEE20023	Semiconductor Devices	2	2	0	0	3	√				√					√			
	DEE20033	Digital Electronics	2	2	0	0	3	√				√	√			√				
	DEC20012	Programming Fundamentals	1	2	0	0	2	√				√	√						√	
TOTAL			**24**				**17**													
SEMESTER 3																				
Compulsory	DUE30022	Communicative English 2	1	0	2	0	2										√		√	DUE10012
Common Core	DBM30043	Electrical Engineering Mathematics	2	0	2	0	3	√					√				√			DBM20023
Discipline Core	DEE30043	Electronic Circuits	2	2	0	0	3	√				√					√			
	DEE30061	Computer Aided Electrical Drawing	0	2	0	0	1	√				√	√			√				
	DEC30023	Computer Networking Fundamentals	2	2	0	0	3				√	√	√			√				
	DEC30032	Computer Architecture and Organization	2	0	0	0	2		√					√						
	DEC30043	Microprocessor Fundamentals	2	2	0	0	3	√				√			√					DEC20012
TOTAL			**23**				**17**													

PROGRAMME STRUCTURE

CLASSIFICATION	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PROGRAMME LEARNING OUTCOME (PLO)												PREREQUISITE / CO-REQUISITE
			L	P	T	O		PLO1 Knowledge CLS1	PLO2 Problem Analysis CLS2	PLO3 Design /Development of Solutions CLS2	PLO4 Investigation CLS2	PLO5 Modern Tool Usage CLS3a	PLO5 Modern Tool Usage CLS3c	PLO6 The Engineer and Society CLS3b	PLO7 Environment and Sustainability CLS5	PLO8 Ethics CLS5	PLO9 Individual and Teamwork CLS3d	PLO10 Communication CLS3b	PLO11 Project Management and Finance CLS4	PLO12 Life Long Learning CLS4	
SEMESTER 4																				
Compulsory	DUE50032	Communicative English 3	1	0	2	0	2										√		√	DUE30022
	MPU22012	Entrepreneurship	2	0	2	0	3										√	√		
Discipline Core	DEE30061	Computer Aided Electrical Drawing	0	2	0	0	1	√				√	√			√				
	DEC40053	Embedded System Application	2	2	0	0	3			√	√	√	√						√		DEC20012
Specialisation	DEC50132	Internet Based Controller	1	2	0	0	2	√				√	√		√					
	DEC50143	Database System	2	2	0	0	3				√	√	√						√		
	DEE40082	Project 1	1	2	0	0	2		√		√	√	√	√				√	√	√	
Elective		Elective 1	0	0	0	0	2														
TOTAL			**22**				**17**														
SEMESTER 5																				
Compulsory	MPU23052 MPU23042	Sains Teknologi dan Kejuruteraan Islam* Nilai Masyarakat Malaysia**	1	0	2	0	2								√				√	
Specialisation	DEC50103	Operating Systems	2	2	0	0	3				√	√	√			√				
	DEC50113	Computer System Diagnosis and Maintenance	2	2	0	0	3		√			√	√	√							DEE20023 & DEE20033
	DEC50143	CMOS Integrated Circuit Design and Fabrication	2	2	0	0	3			√		√	√		√						DEE40082
	DEE50102	Project 2	0	3	0	0	2			√	√	√	√		√			√	√		
Electives	DEE40082	Elective 2	0	0	0	0	2														
TOTAL			**18**				**15**														
SEMESTER 6																				
Industrial Training	DUT600610	Engineering Industrial Training	0	0	0	0	10					√	√			√	√	√	√	√	
TOTAL			**0**				**10**														

ELECTIVE COURSES																				
1	DEC40082	Interactive Multimedia Application	1	2	0	0	2			√	√	√	√				√			
2	DEJ40052	Operations Management	2	2	0	0	2	√				√			√					
3	DEC50122	Embedded Robotic	1	2	0	0	2			√	√	√	√					√		DEC20012
4	DEJ40033	Programmable Logic Controller (PLC) and Automation	2	2	0	0	3		√			√			√					
5	DEE30052	Electronic Equipment Repair	1	2	0	0	2		√			√	√							DEE20023

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DET10013 ELECTRICAL TECHNOLOGY	3	ELECTRICAL TECHNOLOGY course will introduce students to the principles related to DC electrical circuits. It covers the fundamental laws, theorems and circuit techniques of the electrical technology basic fundamental. This course also covers inductor, capacitor, magnetic and electromagnetic circuits.	Upon completion of this course, students should be able to: 1. Apply the concept and principles of the related electrical circuit theorems and law to solve DC electrical circuit using various method and approach (C3, PLO 1) 2. Construct DC circuit and measure related electrical parameters using appropriate electrical equipments (P4 , PLO 5) 3. Demonstrate ability to work in team to complete assigned tasks within the stipulated time frame (A3 , PLO 9) .
	DET10022 ELECTRICAL WIRING	2	ELECTRICAL WIRING course exposes students to the various aspects of wiring installation according to the MS IEC 60364 standard. Students will be able to relate theoretical aspect in practical work on electrical wiring during workshop sessions. This course also provides students with the knowledge and skill in doing different types of wiring installation, wiring protection, wiring inspection, wiring testing and sustainable energy practices in electrical wiring.	Upon completion of this course students should be able to:- 1. Apply the concept and principle of electrical safety and regulation in performing electrical wiring according to NIOSH, MS IEC 60364 standard. (C3 , PLO 1) 2. Construct single phase domestic wiring according to MS IEC 60364 (P4 , PLO 5) 3. Demonstrate an understanding and commit to professional ethics and responsibilities of engineering norms and sustainable energy practices in electrical wiring during performing single phase domestic wiring

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DEE10013 MEASUREMENT DEVICES	3	MEASUREMENT DEVICES introduces students to the basic concept of electrical instrument and measurement. It covers the basic principles of measurement, safety precautions and meter calibration. Students will also use measurement devices such as analogue meters, DC meters, analogue and digital multimeters, oscilloscopes, signal generators and power meters during practical session. This course also covers the basic concept and simple application of DC Bridge	Upon completion of this course, students should be able to: 1. Apply the concept of measurement in electrical and electronicequipment using appropriate theorem (C3 , PLO 1) 2. Perform meter calibrating and measuring technique using the correct measuring equipment(P4 , PLO 5) 3. Demonstrate good communication skill in oral presentation within a stipulated time frame (A3 , PLO 10)
	DUW10022 OCCUPATIONAL SAFETY AND HEALTH FOR ENGINEERING	2	OCCUPATIONAL SAFETY AND HEALTH FOR ENGINEERING course is designed to impart understanding of the self-regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA). This course presents the responsibilities of workers in implementing and complying with the safety procedures at work. Understanding of notifications of accidents, dangerous occurrence, poisoning and diseases and liability for offences will be imparted upon students. This course will also provide an understanding of the key issues in OSH management, incident prevention, Emergency Preparedness and Response (EPR), fire safety, Hazard Identification, Risk Control and Risk Assessment (HIRARC) and guide the students gradually into this multi-disciplinary science.	Upon completion of this course, students should be able to: 1. Explain briefly Occupational Safety and Health (OSH) procedures, regulation and its compliance in Malaysia.(C2, PLO1) 2. Initiates incident hazards, risks and safe work practices in order to maintain health and safe work environment.(A3, PLO8) 3. Forms communication skills in a team to respond for an accident action at workplace.(A3, PLO10)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	DET20033 ELECTRICAL CIRCUITS	3	ELECTRICAL CIRCUITS is designed to provide students with the knowledge related to AC of electrical circuits. It emphasized on the principles of an alternating current AC waveform and sinusoidal steady state circuit analysis. This course also covers the applications of three phase system and operation of various types of transformers.	Upon completion of this course, students should be able to: 1. Apply the concept and principle in solving problems of electrical circuits using the appropriate AC electrical laws and theorem (C3 , PLO 1) 2. Construct of an AC electrical circuit and measured related electrical parameter using appropriate electrical equipments (P4 , PLO 5) 3. Demonstrate ability to work in team to complete assigned tasks within the stipulated time frame (A3 , PLO 9)
	DEE20023 SEMICONDUCTOR DEVICES	3	SEMICONDUCTOR DEVICES introduces students to the basic electronic theories and devices. It covers the fundamentals of electronic devices which includes diodes, bipolar junction transistors and field effect transistors. The content encompasses devices structure to biasing basic applications	Upon completion of this course, students should be able to: 1. Apply the theoretical characteristics and electrical properties of semiconductor by using appropriate measuring operations and theorem (C3 , PLO 1) 2. Construct the various applications of semiconductor devices circuit by using schematic diagrams (P4 , PLO 5) 3. Demonstrate good communication skill in oral presentation within a stipulated time frame (A3 , PLO 10)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	DEE20033 DIGITAL ELECTRONICS	3	DIGITAL ELECTRONICS introduces the theories on the basic of digital systems. This course emphasizes on the digital system fundamentals and applications. This course mainly covers number systems, code systems, logic gates, Boolean operations, flip-flops, counters and registers	Upon completion of this course students should be able to:- 1. Apply the knowledge of logic operations using Boolean Algebra or Karnaugh Map in digital logic circuit (C3 , PLO 1) 2. Construct the logic diagrams, truth tables and timing diagrams using logic gates and flip-flop (P4 , PLO 5) 3. Demonstrate ability to work in team to complete assigned task during practical work sessions (A3 , PLO 9)
	DEC20012 PROGRAMMING FUNDAMENTALS	2	PROGRAMMING FUNDAMENTALS course provides the skills necessary for the effective of application of computation and computer programming in engineering applications. Students will develop their programming skills through a variety of assignments and labs and by reviewing case studies and example programs. The learning outcome is proficiency in writing small to medium programs in a procedural programming language.	Upon completion of this course students should be able to:- 1. Apply knowledge of basic concepts and fundamentals of structured programming in solving a variety of engineering and scientific problems using a high level programming language (C3 ,PLO 1) 2. Build programs written in C language for assigned mini project during practical work sessions (P4 , PLO 5) 3. Demonstrate continuous learning skill in independent acquisition of new knowledge and skill in developing a mini project (A3 , PLO 12)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DEE30043 ELECTRONIC CIRCUITS	3	ELECTRONIC CIRCUITS emphasizes the concept of electronic device applications. The course covers the fundamental of electronic circuit application which include power supply unit, oscillator, operational amplifier, timer, filters and AD/DA converters. The content cover circuit configurations, operation and application of the electronic circuits.	Upon completion of this course students should be able to:- 1.Apply the principles of electronic circuits devices by using block diagram or circuit diagram. (C3 , PLO 1) 2. Construct the various applications of electronic circuits based on the theory and principle operation of the circuits(P4 , PLO 5) 3. Demonstrate good written communication skill through essay writing in group within a stipulated time frame (A3 , PLO 10).
	DEE30071 ELECTRONIC COMPUTER AIDED DESIGN	1	ELECTRONIC COMPUTER AIDED DESIGN covers the basic concept and fundamentals of electronic circuit simulation. It also covers the applications of electronic packages for electronic circuit simulation at the circuit level and the logic level. Emphasis is given to the simulation for analogue, digital logic and mixedsignal circuits using various types of simulation analysis. Printed Circuit Board (PCB) layout is then produced for the circuits. The simulation and the PCB layout are done using electronic software package such as Protel / Altium Designer, ORCAD, PSpice, Circuit Maker or Electronic Workbench.	Upon completion of this course students will be able to: 1. Apply the simulation results for the various types of simulation analysis based on the electronic circuit theory and operations (C3 , PLO 1) 2. Construct the simulation and the PCB layout for digital and analogue circuits using a schematic capture software (P4 , PLO 5)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DEC30023 COMPUTER NETWORKING FUNDAMENTALS	3	COMPUTER NETWORK FUNDAMENTALS introduce students to the concepts and principles of data transmission and computer networks. This course enables students to correctly use standard terminology in describing the main Local Area Network (LAN) topologies, hardware and software components used in networking. This course provides students with the knowledge and skills to build a network infrastructure using copper cabling, and wireless devices wisely. Students also learn to troubleshoot and secure the network.	Upon completion of this course, students should be able to:- 1. Investigate a computer network structure to determine the network protocol, network services, network problem and network security when implementing specific networking requirements (C4 , PLO 4) 2. Construct a simple LAN or WLAN in accordance to IEEE or TIA/EIA- 568-A/B wiring standard and network troubleshooting using network simulation or tools (P4 , PLO 5) 3. Demonstrate awareness of the norm practice of professional bodies such as IEEE or TIA/EIA-568-A/B during practical work session (A3 , PLO 8)
	DEC30032 COMPUTER ARCHITECTURE AND ORGANIZATION	2	COMPUTER ARCHITECTURE AND ORGANIZATION course introduces students to the concepts and principles of computer hardware operation and computer's component logic design. This course enables students to correctly evaluate the design of typical logic computer, connection between computer components and use block function to implement operation. This course provides students with the knowledge about basic computer logic circuit that is use in computer hardware system .	Upon completion of this course, students should be able to:- 1. Evaluate the architecture and organization of a computer and variuos functional modules in a computer (C5 , PLO 2) 2. Demonstrate the awareness on the responsibility of an engineer towards society, health, safety, legal issues through assignments on assigned topics (A3 , PLO 6)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DEC30043 MICROPROCESSOR FUNDAMENTAL	3	MICROPROCESSOR FUNDAMENTALS covers the basic processor architecture and application of ARM processor (microcontroller products). Students will learn the fundamental concepts and techniques to apply ARM Development Tools using inline assembler in C language. This course also provides the skills to control external peripherals using digital input and output peripherals .	Upon completing this course students should be able to: 1 Apply the concept of microprocessor architecture related to the internal register, the memory and the input/output of ARM processor to operate external peripherals (C3 , PLO 1) 2. Build the assembly language program to enable features of various peripherals in the ARM processor (P4 , PLO 5) 3. demonstrate continuous and independent learning to enhance programming skill through an assigned essay (A3 , PLO 12)
4	DEC50132 INTERNET BASED CONTROLLER	2	INTERNET BASED CONTROLLER provides knowledge and exposure in advanced technology. The course focuses on the basic knowledge of hardware component, wireless communication technologies and wireless sensor network. Green network in Internet of Things will help student to exploits on environmental conservation and surveillance to minimize the cost and power consumption in development of project .	Upon completion of this course, students should be able to:- 1. Apply knowledge of basic concept, structure and component of Internet of Things in electrical and electronic engineering field (C3 , PLO 1) 2. Manipulate various types of input/output application, data acquisition and communication during practical work using embedded system platform/board (P4 , PLO 5) 3. demonstrate social responsibility in making our environment more sustainable through mini project development theme-based (A3 , PLO 7)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DEC40053 EMBEDDED SYSTEM APPLICATIONS	3	EMBEDDED SYSTEM APPLICATIONS cover the basic concept and application of microcontroller system based on Peripheral Interface Controller (PIC) microcontroller. Students will learn software and hardware development on PIC16F/PIC18F microcontroller development system and understand how to do interfacing with external devices using suitable internal chip features. Students are exposed to the new Microcontroller Unit (MCU) simulation software such as Proteus	Upon completion of this the course, students should be able to: 1. Investigate internal features of PIC16F/PIC18F to interface properly with external devices (C4 , PLO 4) 2. Design embedded system application based on PIC16F/ PIC18F microcontroller effectively (C6,PLO3) 3. Construct and simulate real-time embedded system application based on PIC16F/PIC18F microcontroller effectively (P4 , PLO 5) 4. Demonstrate knowledge of engineering project management principles through a written report on an assigned mini project (A3 , PLO 11)
	MPU22012 ENTREPRENEURSHIP	2	ENTREPRENEURSHIP focuses on the fundamentals and concept of entrepreneurship in order to inculcate the value and interest in students to choose entrepreneurship as a career. This course can help students to initiate creative and innovative entrepreneurial ideas. It also emphasizes a preparation of a business plan framework through business model canvas.	Upon completion of this course, the students should be able to: 1. Propose the value proposition of entrepreneurial idea using Business model Canvas(A3, CLS3b)2. 2. Develop a viable business plan by organizing business objectives according to priorities (A4, CLS4) 3. Organise the online presence business in social media marketing platform(A3, CLS4)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DEE30061 COMPUTER AIDED ELECTRICAL DRAWING	3	COMPUTER AIDED ELECTRICAL DRAWING provides knowledge and exposure on the usage of AutoCAD software. The course focuses on the application of the software to produce drawings of graphics, electrical / electronic component symbols, circuit schematics and electrical wiring layout diagram. The skills acquired from this course will also equip students with the ability to learn and use other similar software	Upon completion of this course students will be able to: 1. Apply computer aided design concept, applications and capabilities in electrical engineering environment (C3 , PLO 1) 2. Construct simple and complex electrical wiring diagrams and electronic schematics using AutoCAD software and based on American/British technical symbol standard (P4 , PLO 5) 3. Adhere to professionalism and ethics in drawing electrical consumer wiring diagram in practical work according to Energy Commission (EC) and MS IEC 60364 standard (A3 , PLO 8)
4	DEC40073 DATABASE SYSTEM	3	DATABASE SYSTEM course offers a comprehensive coverage of basic concept and application of data manipulation. Student will learn the fundamental concepts and techniques for designing and developing database and manipulating data using Structured Query Language (SQL).	Upon completion of this course, the students should be able to: 1. Investigate the requirements of database models by applying normalization technique in logical database designs (C4 , PLO 4) 2. Manipulate correctly Structured Query Language (SQL) for database using a database management system during practical works (P4 , PLO 5) 3. demonstrate good ability in managing a well-defined Structured Query Language (SQL) project in a cost effective manner (A3 , PLO 11)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DEE40082 PROJECT 1	2	PROJECT 1 provides knowledge regarding the implementation and development methods of a project based on hardware or software or a combination of hardware and software. This course provides exposure to the project management and finance, techniques to develop project and proposal preparation. The students are allowed to do an individual or group project but will be assessed individually through the project assessment tasks throughout the course.	Upon completion of this course, students should be able to:- 1. Investigate well defined problem in order to make improvements on a chosen project (C4 , PLO 4) 2. Evaluate engineering problem and conduct research in order to make improvements on a chosen project whether the project is on the hardware, software or hardware-software interface type (C5 , PLO 2) 3. Perform project construction procedures (hardware project) or produce flowchart and draft algorithm for system programme (software project) and record the progress systematically (P4 , PLO 5) 4. Display good project management and finance through a Gantt Chart (milestone) and final proposal (A3 , PLO 11) 5. Demonstrate continuous learning, information management and independent acquisition of new knowledge and skill to support the development of the project through the final proposal (A3 , PLO 12) 6. Display written communication skill through a final proposal (A3 , PLO 10) 7. Describe the impact of the proposed project to the society in the final proposal (A3 , PLO 6)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DEC50103 OPERATING SYSTEMS	3	OPERATING SYSTEMS course introduces the fundamentals of operating systems. Topics included are inter-process communication, process scheduling, deadlock, memory management, virtual memory and file system. Formal principles are illustrated with examples and case studies of one or more contemporary operating system. The course shall enable students to develop skills to install and configure a server using Microsoft Windows network operating system or Open Source network operating system.	Upon completion of this course students will be able to: 1. Investigate the background process performed by operating systems based on management of memory, resource and file to ensure the computer system operates at optimum performance (C4 , PLO 4) 2. Perform installation for workstation and domain server using MS Windows server or Open Source server operating system (P4 , PLO 5) 3. demonstrate awareness of professionalism and computer ethics during practical work to comply with professionals bodies such as ACM or IEEE (A3 , PLO 8)
	DEC50113 COMPUTER SYSTEM DIAGNOSIS AND MAINTENANCE	3	COMPUTER SYSTEM DIAGNOSIS AND MAINTENANCE course provides knowledge on the general concept of computer system diagnosis and maintenance. Students are exposed to computer system hardware, laptop system, computer peripherals and security. The course focuses on the methods of operation, installation, diagnostic, troubleshooting and maintenance in computer hardware.	Upon completion of this course, the students should be able to: 1. Evaluate the fault in personal computer, laptop, printer and computer peripherals using diagnostic procedures (C5 , PLO 2) 2. Construct systematically the installation, configuration, optimization, upgrade and preventive maintenance on personal computer, laptop, computer peripherals and security system (P4 , PLO 5) 3. demonstrate awareness of social responsibility safety and health in practical work during computer troubleshooting and maintenance using proper troubleshooting procedures (A3 , PLO 6)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DEC50143 CMOS INTEGRATED CIRCUIT DESIGN AND FABRICATION	3	CMOS INTEGRATED CIRCUIT DESIGN AND FABRICATION course exposes the students to the basic integrated circuit (IC) and CMOS IC fabrication processes which include oxidation, doping, photolithography, metallization and etching. This course also covers IC testing, reliability and failure analysis. The students will be equipped with the knowledge of inverter design and simple to complex CMOS logic gates. The students will experience developing the physical layout of integrated circuit based on specific transistor feature size and using CAD tools while adhering to specific design rules. Finally, this course also covers the topic on design methodology used in designing integrated circuits.	Upon completion of this the course, students should be able to: 1. Design the basic logic gates, digital circuits from Boolean function and integrated circuit layout based on the knowledge of integrated circuit design methodology (C6 , PLO 3) 2. Construct the layout design of CMOS circuits using layout design software based on specific CMOS layout design rules (P4 , PLO 5) 3. Demonstrate elements of environmental sustainability in implementing reduce and reuse techniques in design parameters and design consideration through practical work (A3 , PLO 7)
	DEC50122 EMBEDED ROBOTIC	2	EMBEDDED ROBOTIC presents the combination of mobile robots and embedded systems, from introductory to intermediate level. It is structured in three parts, which are embedded systems, mobile robot, and mobile robot applications. These parts are essential to students in mastering the crucial steps of building a complete working robotic system. They will help them to develop robots that not only can move, but intelligent as well	Upon completion of this the course, students should be able to: 1.Investigate the concept and fundamentals of mobile robotic, embedded controller, sensors and actuators based on land mobile robot design (C4 , PLO 4) 2. Design the concept of robot positioning, identification and communication in mobile robot control according to a standard robot organization regulation (C6 , PLO 3) 3.Manipulate the application of sensor and actuator, robot identification and communication during practical work based on land mobile robot design (P4 , PLO 5)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DEE50102 PROJECT 2	2	PROJECT 2 is the continuation of DEE40082 PROJECT 1 course. The course focuses on methods of circuit construction, testing, troubleshooting, debugging, repair and also completion of the project which was planned during the previous semester. This course also requires students to manage an economical engineering based project, prepare a project report in a given format and deliver a project presentation at the end of the semester. The students are allowed to do an individual or group project but will be assessed individually through the project assessment tasks throughout the course.	Upon completion of this the course, students should be able to: 1.Investigate the various alternative preliminary design and software programming for the previous chosen project (C4 , PLO 4) 2.Design project prototype (for hardware and interfacing project) with suitable and attractive casing or complete system programme (for software project) with user interface (C6 , PLO 3) 3.Perform systematically the relevant test and measurement to determine circuit fault and functionality and construct project casing (hardware project) or test run, debug and execute system programme (software project) using modern tools (P4 , PLO 5) 4.Display element of environment and sustainability awareness in project implementation (A3 , PLO 7) 5.Display effective communication skill in report writing and during presentation (A3 , PLO 10) 6.Display good ability in project management and finance using a Gantt Chart (milestone chart) and an effective costing respectively

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DEJ40033 PROGRAMMABLE LOGIC CONTROLLER (PLC) AND AUTOMATION	3	PROGRAMMABLE LOGIC CONTROLLER (PLC) AND AUTOMATION provides knowledge regarding the concept and principle of automation system. This course emphasizes the relationship between conventional/hardwired/ relay ladder logic (RLL) and PLC system, application of various industrial input and output devices of PLC, designing process, programming, constructing and PLC maintenance method. This course also provides knowledge and skills in designing environmentally friendly of automation control system based on conventional/ hardwired/relay ladder logic (RLL) and PLC	Upon completion of this course, students should be able to: 1.evaluate environmentally-friendly automation control system using electromechanical devices and PLC (C5 , PLO 2) 2. display the ability to construct, troubleshoot and do maintenance of hardwired and PLC systems using appropriate equipment (P4 , PLO 5) 3. demonstrate an understanding of PLC environmentally-friendly automation system norm by following PLC IEC standard during practical work session (A3 , PLO 7)
	DEE30052 ELECTRONIC EQUIPMENT REPAIR	2	ELECTRONIC EQUIPMENT REPAIR provides the knowledge and skills on troubleshooting and repairing the electronics equipment. This course focuses on the identification of faults in regulated dc power supply, audio equipment and television system. This course also provides knowledge and skills on troubleshooting and repairing broken cell phones	Upon completion of this course, the students should be able to: 1. Diagnose fault of electronic equipment related to electronic equipment repair using the correct diagnosis technique and tools (C4 , PLO 2) 2. Fix the post-consumer's electronic equipment fault using the correct diagnosis technique (P4 , PLO 5) 3. Demonstrate good social responsibility in solving well defined engineering problems during performing electronic system and appliances maintenance task (A3 , PLO 6)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DEJ40052 OPERATIONS MANAGEMENT	2	OPERATIONS MANAGEMENT provides knowledge in manufacturing organizations, involved the application of production process, planning, assuring product quality and deciding on the production hardware. Students will be exposed to the various techniques of controlling material and learn the new techniques to optimize production technology in manufacturing	Upon completion of this course, students should be able to: 1.Apply the field of operation management in manufacturing organization correctly (C3 , PLO 1) 2. Distinguish the process of selection and process layout, JIT and maintenance in manufacturing operation (P1 , PLO 5) 3. demonstrate understanding professional ethics in manufacturing practice management (A3 , PLO 8)
	DEC40082 INTERACTIVE MULTIMEDIA	2	INTERACTIVE MULTIMEDIA APPLICATION exposes students to the process of creating interactive multimedia presentation including the role and design of multimedia systems which incorporate digital audio, graphics and video, underlying concepts and representations of sound, pictures and video, data compression and transmission, integration of media, multimedia authoring, and delivery of multimedia. Students will produce a final digital interactive multimedia	Upon completion of this course, the students should be able to: 1.Investigate suitable latest software and techniques to effectively produce interactive multimedia project (C4 , PLO 4) 2.Design a multimedia interactive presentation incorporating motion graphics or animation, with typography, sound, and special effects to produce interactive multimedia project using the four primary stages (C6 , PLO 3) 3.produce multimedia elements like typography, graphic, sound, video and animation for efficient delivery methods in a ready to use files using multimedia authoring software (P4 , PLO 5) 4.demonstrate good oral communication skill in presentation for assigned mini project within a stipulated time frame (A3 , PLO 10)

HIGHER ACADEMIC PATH-

CAREER PATHWAYS FOR POLYTECHNIC STUDENTS.

Graduates of polytechnics in general are able to advance their studies through these three academic career pathways;

Institution of Higher Learning (Public/Private)

This pathway allows polytechnic students to advance their studies in other public universities, as well as other private learning institutions. Apart from this, students are also

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
UTM UNIVERSITI TEKNOLOGI MALAYSIA	• Bachelor Of Engineering (Electrical) • Bachelor Of Engineering (Electrical -Electronics)	**Universiti Teknologi Malaysia (UTM)** Bangunan Canselori Sultan Ibrahim 81310 Johor Bahru Tel : (6)07-5533 333 www.utm.edu.my
UNIVERSITI TEKNOLOGI MARA	• Bachelor Of Electrical Engineering With Honours • Bachelor Of Electronics Engineering With Honours • Bachelor Of Electrical and Electronics Engineering With Honours	**Universiti Teknologi MARA (UiTM)** 40450 Shah Alam, Selangor Tel : (6)03-5544 2000 www.uitm.edu.my

HIGHER ACADEMIC PATH-

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
	• Bachelor Of Electronic Engineering With Honours • Bachelor Of Electrical Engineering With Honours • Bachelor Of Information Technology • Bachelor Of Electrical Engineering Technology With Honours • Bachelor Of Electronics Engineering Technology With Honours	**Universiti Teknikal Malaysia Melaka (UTeM)** Hang Tuah Jaya, Durian Tunggal 76100 Durian Tunggal Melaka Tel : (6)06-270 1000 www.utem.edu.my
	• Bachelor Of Electrical Engineering With Honours • Bachelor Of Electronics Engineering With Honours • Bachelor of Vocational Education(Electrical and Electronic) with Honours	**Universiti Tun Hussein Onn (UTHM)** Parit Raja, 86400 Batu Pahat Johor Tel : (6)07-4537689 www.uthm.edu.my
	• Bachelor of Electrical Engineering Technology (Hons) • Bachelor of Electronic Engineering Technology (Hons)	**Universiti Malaysia Perlis (UniMAP)** Kampung Kubang Gajah 02600 Arau Perlis Tel : (6)04 979 8008 www.unimap.edu.my
	• Bachelor of Electrical Engineering	**Universiti Malaysia Pahang (UMP)** Lebuhraya Tun Razak, 26300 Gambang Kuantan, Pahang Darul Makmur Tel : (6)09-424 5000 www.ump.edu.my

DEPT. OF MATHEMATICS, SCIENCE

Introduction

The Department of Mathematics, Science & Computer which is also known as JMSK is an academic supporting department. It is responsible for the B code courses in three different fields that are Mathematics, Science and Computer. Besides, it also performs the academic supporting tasks (administration) in PMM.

This department was set up in November 2002 and is currently running with 31 lecturers, one laboratory assistant, one computer technician and one operational assistant.

JMSK is managed by the head of department ; supported by three (3) head of courses of Mathematics, Science and Computer. These head of courses are responsible in monitoring staffs under their supervisions in order to ensure the learning and teaching implementations run effectively. Besides, JMSK also managed a Pre Diploma Science programme which is supervised by a Head of Programme.

This department is equipped with computer laboratories, science laboratories, Technology Enabled Collaborative Classroom (TECC), meeting room, discussion room, prayer room and R & R corner.

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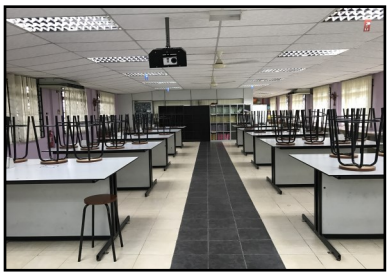
FACILITIES

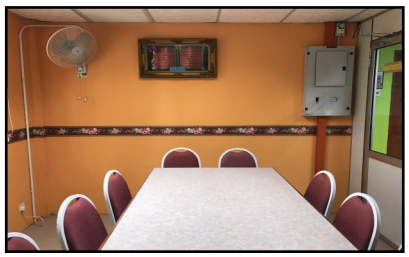
TECC

Computer Laboratory

Classroom



Science Laboratory



Discussion Room

Lecturer Meeting Room

Prayer Room

Gazebo

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DBM 1001	2	ENGINEERING MATHEMATICS 1 exposes students to the basic algebra including resolve partial fractions. This course also covers the concept of trigonometry and the method to solve trigonometry problems by using basic identities, compound angle and double angle formulae. Students will be introduced to the theory of complex number and concept of vector and scalar. Students will explore advanced matrices involving 3x3 matrix.	Upon completion of this course, students should be able to: CLO1 : Use mathematical statement to describe relationship between various physical phenomena. (C3 , CLS 1) CLO2 : Show mathematical solutions using the appropriate techniques in mathematics. (C3 , CLS 3c) CLO3 :Use mathematical expression in describing real engineering problems precisely, concisely and logically. (A3 , CLS 3b)
1	DBS10012 Engineering Science	2	ENGINEERING SCIENCE course introduces the physical concepts required in engineering disciplines. Students will learn the knowledge of fundamental physics in order to identify and solve engineering physics problems. Students will be able to perform experiments and activities to mastery physics concepts.	Upon completion of this course, students should be able to: CLO1 : Use basic physics concept to solve engineering physics problems (C3, CLS 1) CLO2 : Apply knowledge of fundamental physics in activities to mastery physics concept. (C3, CLS 1) CLO3 : Perform appropriate activities related to physics concept (P3, CLS 3a)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	DBM20023 Engineering Mathematics 2	3	ENGINEERING MATHEMATICS 2 exposes students to the basic laws of indices and logarithms. This course introduces the basic rules of differentiation concepts to solve problems that relates maximum, minimum and calculate the rates of changes. This course discusses integration concepts in order to strengthen student's knowledge for solving area and volume bounded region problems. In addition, students will learn application of both techniques of differentiation and integration.	Upon completion of this course, students should be able to: CLO1 : Use algebra and calculus knowledge to describe relationship between various physical phenomena. (C3 , CLS 1) CLO2 : Solve the mathematical problems by using appropriate and relevant fundamental calculus techniques. (C3 , CLS 3c) CLO3 : Use mathematical language to express mathematical ideas and arguments precisely, concisely and logically in calculus. (A3 , CLS 3b)
3	DBM30043 Electrical Engineering Mathematics	3	ELECTRICAL ENGINEERING MATHEMATICS exposes students to the statistical and probability concepts and their applications in interpreting data. The course also introduces numerical methods concept to solve simultaneous equations by using Gaussian Elimination method, LU Decomposition using Doolittle and Crout methods, polynomial problems using Simple Fixed Point Iteration methods and Newton Raphson method. In additional, the course also discuss Ordinary Differential Equation (ODE). In order to strengthen the students in solving engineering problems, Laplace Transform by using the Table of Laplace is also included. It is designed to build students' teamwork and problems	Upon completion of this course, students should be able to: CLO1 : Demonstrate an understanding of the common body of knowledge in mathematics (C3 , CLS 1) CLO2 : Demonstrate problems solving skills in engineering problems. (C3 , CLS 3c) CLO3 : Use mathematical expression in describing real engineering problems precisely, concisely and logically. (A3 , CLS 3b)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DBM3023	3	**ELECTRICAL ENGINEERING MATHEMATICS** exposes students to the statistical and probability concepts and their applications in interpreting data. The course also introduces numerical methods concept to solve simultaneous equations by using Gaussian Elimination method, LU Decomposition using Doolittle and Crout methods, polynomial problems using Simple Fixed Point Iteration methods and Newton Raphson method. In additional, the course also discuss Laplace Transform by using the Table of Laplace. In order to strengthen the students in solving advanced engineering	1. solve the mathematical problems by using appropriate mathematical technique and solution. (C3, LD1) 2. show the solution for statistical and probability problems and Laplace Transformation by using related mathematical methods. (C3, LD1) 3. practice mathematical knowledge and skills in different mathematical problem. (C3, LD1)

DEPARTMENT OF GENERAL

Introduction

The General Studies Department strives to produce excellent students in both cognitive and spiritual faculties. For that end, the department provides courses that complement the programmes offered by the main departments.

The English courses prepare the students with the essential knowledge and skills in communication to meet the challenges in their future workplace. Apart from that, students are also nurtured with the teachings of Islam, moral values and the knowledge of Islamic civilization. In addition, Arabic Language and Mandarin courses are currently offered as an elective subject for the Tourism and Hospitality Department's students.

This department comprises the Head of Department, together with two Heads of Course and also lecturers from the English Language Unit and the Islamic Education and Moral Studies Unit. The English Language Unit consists of 22 lecturers while the Islamic Education and Moral Studies unit has a total number of 20 lecturers. Furthermore, the department has two language laboratories that are equipped with the necessary peripherals to enhance the languages learning and teaching sessions.

Lastly, it is with high expectation that this Programme Handbook will enlighten the students regarding the courses offered by the Department of General Studies, Politeknik Merlimau.

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SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	MPU21032 Penghayatan Etika dan Peradaban	2	PENGHAYATAN ETIKA DAN PERADABAN ini menjelaskan tentang konsep etika daripada perspektif peradaban yang berbeza. Ia bertujuan bagi mengenal pasti sistem, tahap perkembangan, kemajuan dan kebudayaan merentas bangsa dalam mengukuhkan kesepaduan sosial. Selain itu, perbincangan dan perbahasan berkaitan isu-isu kontemporari dalam aspek ekonomi, politik, sosial, budaya dan alam sekitar daripada perspektif etika dan peradaban dapat melahirkan pelajar yang bermoral dan profesional. Penerapan amalan pendidikan berimpak tinggi (HIEPs) yang bersesuaian digunakan dalam penyampaian kursus	CLO1 : membentangkan konsep etika dan peradaban dalam kepelbagaian tamadun. (A2 , CLS 5) CLO2 : menerangkan sistem, tahap perkembangan, kesepaduan sosial dan kebudayaan merentas bangsa di Malaysia. (A2 , CLS 5) CLO3 : mencadangkan sikap yang positif terhadap isu dan cabaran kontemporari dari perspektif etika dan peradaban. (A3 , CLS 4)
	DUE10012 Communicative English 1	2	COMMUNICATIVE ENGLISH 1 focuses on developing students' speaking skills to enable them to communicate effectively and confidently in group discussions and in a variety of social interactions. It is designed to provide students with appropriate reading skills to comprehend a variety of texts. The students are equipped with effective presentation skills as a preparation for academic and work purposes.	CLO1 : Participate in a discussion using effective communication and social skills to reach an amicable conclusion by accommodating differing views and opinions (A3 , CLS 3b) CLO2 : Demonstrate awareness of values and opinions embedded in texts on current issues (A3 , CLS 3b) CLO3 : Present a topic of interest that carries identifiable values coherently using effective verbal and nonverbal communication skills (A2 , CLS 4)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	MPU23052 Sains, Teknologi dan Kejuruteraan dalam Islam*	2	SAINS, TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pencapaiannya dalam tamadun Islam, prinsip serta peranan syariah dan etika Islam, peranan kaedah fiqh serta aplikasinya	CLO1 : Melaksanakan dengan yakin amalan Islam dalam kehidupan seharian (A2 , CLS 4) CLO2 : Menerangkan etika dan profesionalisme berkaitan sains teknologi dan kejuruteraan dalam Islam (A3 , CLS 5) CLO3 : Menghubungkait minda ingin tahu dengan prinsip syariah, etika dan kaedah fiqh dalam bidang sains, teknologi dan kejuruteraan menurut perspektif Islam (A4 , CLS 4)
	MPU23042 Nilai Masyarakat Malaysia**	2	NILAI MASYARAKAT MALAYSIA membincangkan aspek sejarah pembentukan masyarakat, nilai-nilai agama, adat resam dan budaya masyarakat di Malaysia. Selain itu, pelajar dapat mempelajari tanggungjawab sebagai individu dan nilai perpaduan dalam kehidupan di samping cabaran- cabaran dalam membentuk masyarakat Malaysia	CLO1 : Membincangkan sejarah dan nilai dalam pembentukan masyarakat di Malaysia (A2 , CLS 4) CLO2 : Menerangkan etika dan profesionalisme terhadap konsep perpaduan bagi meningkatkan semangat patriotisme masyarakat Malaysia (A3 , CLS 5) CLO3 : Menghubungkait minda ingin tahu dengan cabarancabaran dalam membentuk masyarakat Malaysia (A4 , CLS 4)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DUE30022 Communicative English 2	2	COMMUNICATIVE ENGLISH 2 emphasises the skills required at the workplace to describe products or services as well as processes or procedures. This course will also enable students to make and reply to enquiries and complaints.	CLO1 : Describe a product or service effectively by highlighting its features and characteristics that appeal to a specific audience (A3 , CLS 3b) CLO2 : Describe processes, procedures and instructions clearly by highlighting information of concern (A3 , CLS 4) CLO3 : Demonstrate effective communication and social skills in handling enquiries and complaints amicably and professionally (A3 , CLS 3b)
4	DUE50032	2	COMMUNICATIVE ENGLISH 3 aims to develop the necessary skills in students to analyse and interpret graphs and charts from data collected as well as to apply the job hunting mechanics effectively in their related fields. Students will learn to gather data and present them through the use of graphs and charts. Students will also learn basics of job hunting mechanics which include using various job search strategies, making enquiries, and preparing relevant resumes and cover letters. The students will develop communication skills to introduce themselves, highlight their strengths and abilities, present ideas, express opinions and respond appropriately during job	CLO1 : Present gathered data in graphs and charts effectively using appropriate language forms and functions (A2 , CLS 3b) CLO2 : Prepare a high impact resume and a cover letter, highlighting competencies and strengths that meet employer's expectations (A4 , CLS 4) CLO3 : Demonstrate effective communication and social skills in handling job interviews confidently (A3 , CLS 3b)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	MPU22042 Bahasa Keangsaan A	2	BAHASA KEBANGSAAN A menawarkan kemahiran berbahasa dari aspek mendengar, bertutur, membaca dan menulis sesuai dengan tahap intelek pelajar, serta meningkatkan kecekapan berbahasa dalam konteks rasmi dan tidak rasmi	CLO1 : Menunjukkan cara berinteraksi yang baik dalam pelbagai situasi (A3 , CLS 3b) CLO2 : Menulis pelbagai jenis bentuk penulisan dengan jelas dan bersistematik (A2 , CLS 3b) CLO3 : Menunjukkan kaedah bertutur dalam komunikasi lisan dengan sebutan dan intonasi yang betul (A3 , CLS 4)

UNIT OF SPORTS, CO CURRICULUM &

Introduction

Unit of Sports, Co-curriculum and Cultural (USKK) Politeknik Merlimau is responsible for the planning, management and implementation of all activities regarding sports, co curriculum and cultural events in PMM. This unit comprises of three sub-unit, the sports, co-curriculum and also cultural. The activities are designed for every semester based on given schedule and academic calendar.

The sports sub unit is responsible for planning the implementation of sports activities for PMM students. In PMM the sporst sub-unit is directly involved with the Polytechnic Sports Council (MSP) in conducting sports competitions among polytechnics students in other polytechnics in Malaysia.

For the learning and teaching activities, the Co-curriculum sub-unit plays an important role in coordinating, supervising, and monitoring the co-curriculum courses. The co-curriculum sub-unit offers 3 types of courses, the DRB1000, DRS2001 and DRK3002 that is compulsory for every student to enrol.

The cultural and heritage sub-unit is responsible for the management and organization of the implementation of arts and cultural programmes in PMM. This sub-unit also helps students and polytechnics in particular in the handling of protocol and etiquette such as convocation ceremony.

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En Mohd Izuddin bin Yusop Head of Co-curicullum Course	Ext : 1221 Email: izuddin@pmm.edu.my
En. Mohd Alif Al Bakri bin Abdullah Cultural & Heritage Officer	Ext : 1224 Email: alfred@pmm.edu.my
En. Zailani bin Siran Sports Officer	Ext : 1222 Email: zailani@pmm.edu.my
En Rashidi bin Ya'amat Operation Assistant	Ext : 1225 Email: rashidi@pmm.edu.my

UNIT OF SPORTS, CO CURRICULUM

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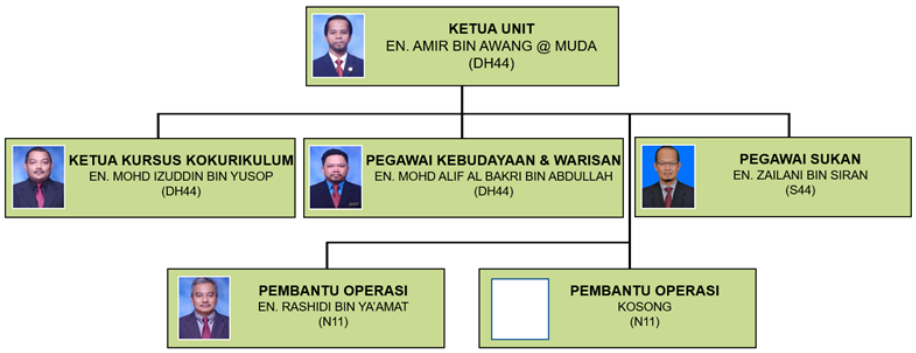
CARTA ORGANISASI
UNIT SUKAN, KOKURIKULUM DAN KEBUDAYAAN
POLITEKNIK MERLIMAU MELAKA 2020



FACILITIES

Basketball Court

Takraw Court

Tennis Court

Futsal Court

Rugby Field

Football Field

Petanque Field

Volleyball Court

FACILITIES

Music Studio

Music set

Squash Court

Table Tennis

Multi Purpose Court (Indoor)

Golf Green

Sport Centre

Multipurpose Court

DEPT. OF STUDENT AFFAIR AND DEVELOP-

Introduction

Department of Student Affair is entrusted for the students' activities and governance under two main sub-officers pertaining to Recruitment & Data and Welfare & Discipline. Thus, this department deals with managing students' registration, updating students' records, managing financial support for students, and also monitoring students' discipline and welfare.

Activities of the Department :-

Recruitment & Data

- Managing students' registration
- Managing students' card (smartcard)
- Managing the record and statistic of student
- Managing recruitment - please log to www.politeknik.edu.my

Welfare & Discipline :-

- Managing students' welfare
- Managing financial aid and support such as students' study loans
- Managing vehicle pass for students
- Monitoring students discipline
- Managing Student representative committee

CONTACT PERSON	CONTACT NO
Ts. Zan Aizuwan Bin Zainal Abidin Head of Department	Ext : 1180 Email: zanaizuwan@pmm.edu.my
Pn. Azrina Binti Mohamad Sabiri Students Affair Officer (Recruitment & Data)	Ext : 1181 Email: azrina@pmm.edu.my
En Mohd Shafie Bin Osman Students Affair Officer (Welfare & Discpline)	Ext : 1184 Email: mohdshafie@pmm.edu.my
En Mohd Izwan Bin Md. Pojan Students Affair Officer (Registration)	Ext : 1183 Email: mohdizwan@pmm.edu.my
Pn Masitah Yaakub Scholarship Officer	Ext : 1187 Email: masitah@pmm.edu.my

UNIT OF EXAMINATION

Introduction

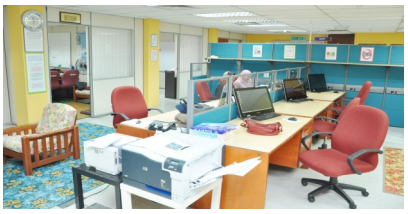
Examination Unit is responsible to coordinate and to handle activities regarding final examination and certification. The unit is fully supported by all departments to fulfil the responsibilities given. Examination Officer is responsible to monitor the whole examination process of polytechnic while Examination Coordinator is to manage things regarding examination for their respective departments. Other than that, Examination Unit also cooperate in organising workshops related to examination such as Assessments and Vetting Workshop which is organised every semester in order to produce high quality examination questions to be applied in the Final Examination of Politeknik KPT.

The unit is led by the Head of Unit who is responsible to coordinate and facilitate the management of the process of assessment and examination. The Head of Unit is supported by two Examination Officers whom one is in charge of the Records, Data and Certifications and the other is in charge in Management, Assessment and Bank Rate question :-

Activities carried out by the Examination Unit

- Preparing examination papers
- Conducting the final examination
- Processing the results of assessments
- Certification and Student Excellence Award
- Enforcement of assessment rules
- Administrating the Examination Unit

CONTACT PERSON	CONTACT NO
Zaidah Binti Abd Umar Head of Unit	Ext :1040 Email : zaidah@pmm.edu.my
Dewi Muhiani binti Tumiran Examination Officer (Records & Certification)	Ext :1041 Email : dewimuhuani@pmm.edu.my
Norarsaliana binti Arbain Examination Officer (Assessment Management)	Ext :1042 Email : norarsaliana@pmm.edu.my



UNIT OF TRAINING & CONTINUING

Introduction

The Unit of Training and Continuing Education (ULPL) is a unit under the office of Deputy Director of Academic Support, Politeknik Merlimau. The unit is responsible for the re-skilling and up-skilling of human capital of Politeknik Merlimau and also for private sector or other government departments / agencies.

The main activities of this unit are to:

1. manage training or courses for staffs.
2. manage part-time programme (*Kursus Secara Sambilan — KSS*) as to provide opportunities for those who want to pursue their diploma whilst working.
3. implement live long training program. The program offers opportunities for private sector or other government departments / agencies to develop their human capital through training and education resources in polytechnic with affordable rates.
4. manage and coordinate the use of polytechnic training facilities for private sector or other government departments / agencies.

CONTACT PERSON	CONTACT NO
Suhana binti Sabran Head of Unit	Ext :1150 Email : suhanasabran@pmm.edu.my
Hazreen bin Othman Training & Continuing Education Officer	Ext : 1151 Email : hazreen@pmm.edu.my

PEMBANGUNAN SUMBER MANUSIA BERHAD (PSMB)
HRDF
Claimable

ULPL PMM

UNIT OF LIBRARY

Introduction

The Library Unit has been established since 2002. The objectives are to:

1. Become the centre of excellence for information and referral centre
2. Support PMM in producing semi-professional, knowledgeable workforce
3. Develop, document and maintain the information sources for the requirements of teaching and learning by:
   a. using the world standard cataloguing classification (Library of Congress Classification Outlines)
   b. using the new technology of cataloguing system (WEBOPAC) and electronic resources
   c. digitizing the documents related to learning such as examination paper, bulletin etc.
4. Provide and manage information services and conducive library facilities such as:
   a. Open shelf Collection
   b. Reference Collection
   c. Serial Collections
   d. Examination paper Collection

CONTACT PERSON	CONTACT NO
Norshazreen Binti Yunos Librarian	Ext :1121 Email : norshazreen@pmm.edu.my
Rominah Binti Ghani Assistant librarian	Ext :1122 Email : rominah@pmm.edu.my

UNIT OF PSYCHOLOGY

Introduction

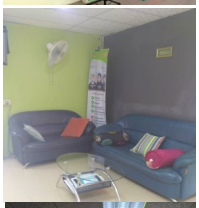
Psychology Management Unit Politeknik Merlimau, Melaka is an academic support unit which works in the development and soft skills for both students and staff.

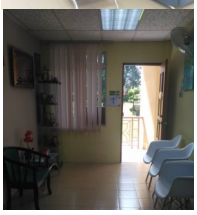
Currently, Management Psychology comprises 3 Psychology Officer and is one unit under the supervision of Head of the Student Affairs Department and the Deputy Director (Academic Support).

The goal of this unit is to help the student progress toward academic excellence, social, personal, spiritual and career;
planning, implementation, evaluation and control of Psychology and Counseling Services Program effectively at the Polytechnic.

What Is Counseling? Counseling is a face to face relationship between normal individuals to understand themselves and the situation, using potential by utilizing the self, family, religion, society and religion also learn how to deal with problems in meeting their needs today and tomorrow.

Counseling Ethics Code is to respect client privacy and confidentiality of information.





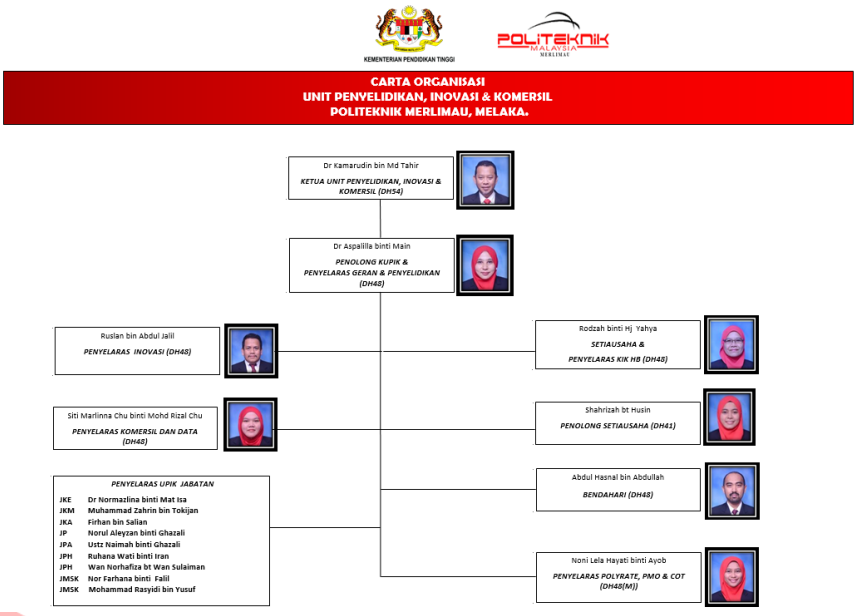
UNIT OF RESEARCH AND IN-

Introduction

Research Unit, Innovation and Commercial (UPIK) created by the system of Polytechnic Education Department, Ministry of Higher Education to inculcate the culture of research at the polytechnic. UPIK plan an important role as a centre of coordination of research, innovation and commercial lecturers and staff. UPIK also serves as a central collection and scientific writing reference material, material innovations and research institutions, zones, national and international.

The objectives of the unit are to ;

1. become the centre of research, innovation and commercialization activities.
2. coordinate and collaborate with industries and agencies the affairs pertaining to Research & Development (R&D), commercialization and innovation.
3. become the centre of information and data management related to the students' as well as lecturers' products/projects, innovations and commercialisation at polytechnic level.
4. plan, manage and monitor the implementation and data gathering with regard to R&D, educational research and publication.



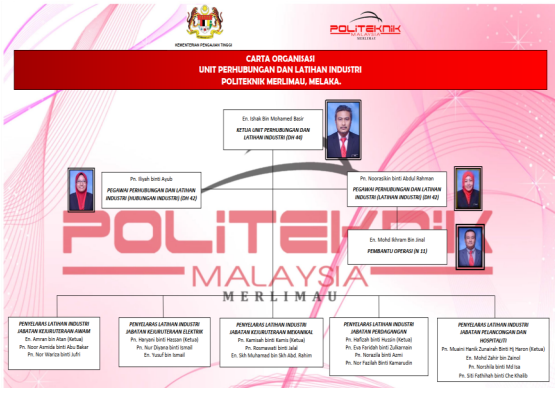
UNIT OF INDUSTRIAL LIAISON &

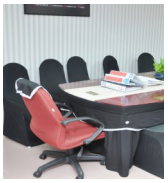
Introduction

Industry Training is a major component of the learning curriculum at polytechnic. Students at diploma level must go through 20 weeks of internship training prior to graduation. The course covers a total of 10 credit hours inclusive of hands work, presentation, oral feedback session and report writing. During the training, students will have the opportunity to gain knowledge and experience on multiple discipline which include engineering, management, account and safety procedure.

Industrial training provides an avenue for students to practice and apply both their knowledge and skills in real working environments. Thus the internship, student should be able to achieve the following objective;

- Perform hands-n task, usage of tools and equipment, adapt a variety of technologies, apply the knowledge gained to perform task, show development in knowledge and skills and think creatively and critically.
- Ability to acquire and understand information, carry out instruction, analyze linear and non-linear information , shows appropriate non-verbal communication, communicate with employees at all levels and have basic negotiation skills.
- Show positive personality traits, participate actively as a members of the team, carry out task in appropriate situation and build and maintain good relationship.
- Comply with the policies and rules of the organization, job procedures and safety and health regulations.
- Report handed-in on time and verified by the supervisor, work independent with minimum supervision, attendance, punctuality and solve problem by taking right action.
- Present ideas and views and task reporting.





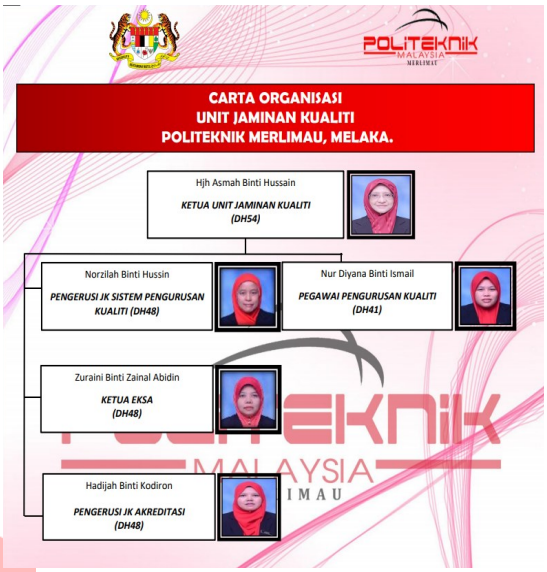
UNIT OF QUALITY ASSUR-

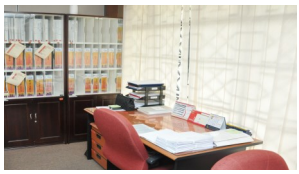
Introduction

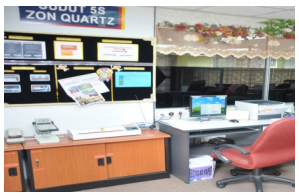
Quality Assurance Unit is responsible for planning, implementing and monitoring the effectiveness of the programs related to the quality management system, in addition to being a coordinator (the coordinator) to officials in the department and the quality of the unit. This unit is under the responsibility of the Quality Manager and Deputy Director (Academic).

To further enhance the quality management system in PMM, it's run by two (2) weight of the Working Committee on Quality (JKKQ) chaired by the Quality Manager and comprises all Heads of Department and Head of Unit, while the Secretariat Quality (UQ), chaired by the Chief Executive Officer quality acting as the coordinator of the quality Officer and Administration Department. Both the operator is responsible for applying the values of quality to all citizens PMM through activities that have been planned.

The objective of this unit is to coordinate and implement a quality management system to strengthen the role of citizens PMM is more committed to the continuation of organizational excellence. The main task of the unit is to plan, implement and monitor the effectiveness of programs related to quality management for the excellent work culture and implement continuous improvement practices towards realizing the vision, mission and quality policy PMM. In addition, it is also responsible for coordinating the implementation of quality systems in PMM.







UNIT OF CISEC

Introduction

Establishment of the Corporate Industrial Services & Employability Center (CISEC) in polytechnics as an initiative towards stronger polytechnic and industrial relations. CISEC will be the one-stop center in meeting the needs of the industry interested in working with Polytechnic especially for commercialization projects and the management of facilities or consultancy services. Through CISEC, the process of matching workforce needs in the industry with the job search of polytechnic graduates is expected to be implemented more efficiently and systematically.

The CISEC was set up in July 2010 to support one of the Polytechnic Transformation agenda that enhances the marketability of polytechnic graduates. Therefore, CISEC will be the intermediary of polytechnics and industry in coordinating career development and graduate marketing programs through joint ownership and accountability, governance, student industrial training or training needs.

CONTACT PERSON	CONTACT NO
Mohd As'ri Bin Chik Head of CISEC	Ext : 1160 Email: mohdasri@pmm.edu.my
Azuan Binti Alias CISEC Officer	Ext : 1163 Email: azuan@pmm.edu.my

UNIT OF KAMSIS

Introduction

Unit Kamsis role is to manage the placement of students. This unit is placed under the Student Affair Department. It is headed by a Assistant Manager Hostels, Senior Supervisor, four Hostel Supervisor and thirteen Warden (total of warden should be twenty eight).

Merlimau Polytechnic Hostel has six blocks of four-storey building that can accommodate a total of 1404 student with each building about 234 students. The capacity of each blocks for male and female student may change following application for each sessions.

FACILITIES PROVIDED

Kamsis provide complete facilities such as mattresses, pillows, beds, wardrobes, tables and chairs, curtains, bookshelves and so on. Other facilities include:

a) Study room;
b) Common Room is equipped with television broadcasts Njoi;
c) In-room ironing;
d) washing machine in every level;
e) Field and playground;
f) The cafeteria operates from 7 am to 11 pm;
g) Islamic Center;
h) Internet (wifi); and
i) Ease of filter machine hot / cold water in every block.

APPLICATION CONDITIONS KAMSIS RANKED

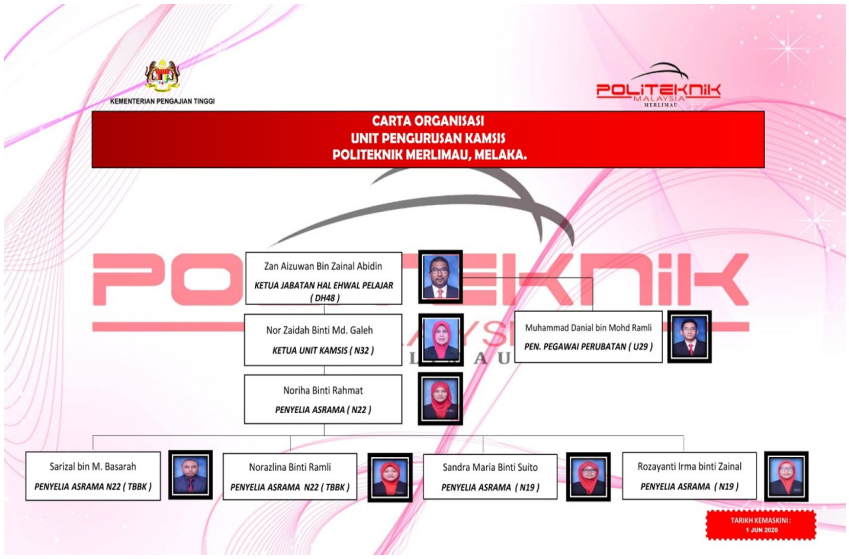
1) Applications can be made online via the Student Information Management System (SPMP) in PMM portal.
2) Completed forms that have been submitted online must also be printed and sent to the Office of Management Kamsis before the closing date, together with other supporting documents such as:

    i. salary slip / income verification letter that was approved by the headman or officer of the Management and Professional Group;
    ii. health report that was confirmed by a physician for students who have serious health problems; and
    iii. Death Certificate for orphans.

UNIT OF KAMSIS

SELECTION CRITERIA FOR STUDENTS OF KAMSIS POLITEKNIK MERLIMAU

Here are the selection criteria's for the Kamsis application:
- Salary and dependents of parents / guardians;
- Orphans;
- Discipline;
- Activities participated in Kamsis / Department;
- Distance home to the Polytechnic;
- Health problems;
- Form complete and the information is correct; and
- On availability



UNIT OF ENTREPRENEURIAL

Introduction

The entrepreneurship unit supports students, alumni, small business and researchers to promote the creation of new businesses in industrial, technological, and social services.

The unit aims to promote the created businesses to be innovative, technology-based, with capacity to grow and commitment to create high-quality jobs in the region. It also promotes self-employment of young graduates and educate them in starting a new business with a proper management.

The Entrepreneurship Unit of Politeknik Merlimau is located at Ground Floor of Commerce Department and open to public every working days from 8.30am to 5.30pm. The main objectives of the entrepreneurship unit are:

- Cultivate entrepreneurial attitudes and skills among students from any field of education;
- Organize entrepreneurship activities among students accordingly;
- Coordinate the creation of start-up business among students
- Provide entrepreneurship facilities for students;
- Build networking with industries and agencies for student's business matching
- Involve professionals, entrepreneurs and agencies in the transmission of the entrepreneurial experience and as sponsors of activities that take place.

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EDITORIAL BOARD

EDITORIAL BOARD