KEMENTERIAN PENGAJIAN TINGGI

POLITEKNIK MALAYSIA MERLIMAU

PROGRAMME HANDBOOK

CIVIL ENGINEERING DEPARTMENT

DIPLOMA IN CIVIL ENGINEERING

(DKA)

POLITEKNIK MERLIMAU
KB 1031, Pejabat Pos Merlimau
77300 Merlimau, Melaka
https://www.pmm.edu.my
06-2636687
06-2636678

Sixth Edition

TABLE OF CONTENTS

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 and Salam 1 Malaysia.

Praise to Allah SWT for this great opportunity that had been given to me to have a word in this program handbook. Civil Engineering Department consists of three main courses name Civil Engineering, Geomatic, and Architecture.

Furthermore, Civil Engineering's Unit offers Diploma in Civil Engineering which takes 6 semesters to be completed. The Head of Civil Engineering program is Mr Mohd Khairolnizam bin Yunos. There are 27 dedicated lecturers of Civil Engineering program whose struggles to prepare the students to excel in civil engineering knowledge. The facilities offered in this program are Civil Engineering lab (consists of Concrete, Structure, Highway, Geotechnic and Hydraulic lab), Engineering Workshop (Wood, Pipe and Brick), Draughting and CAD room. This program opens to all SPM holders whose meet the requirement needed.

Geomatic's Unit offers Diploma in Land Survey. The Head of Geomatic Program is Sr. Yee Wui Chee. The programme was run by the help of 8 dedicated lecturers. The courses of Geomatic take 6 semesters to be completed. This program will enable students to gain knowledge in the new technology of Land Survey. The facilities which offered in this unit are Surveying Lab, Computer lab for the ease of GIS, Remote Sensing and Cartography subject. This program was offered to all SPM holders whose meet the entire requirement needed.

In addition, Architecture's Unit offers Diploma in Architecture which to be completed within 3 years (6 semesters). The Head of Architecture Program is Mdm. Nor Azilla Wati binti Zamri. The course was run by 9 dedicated lecturers. The students were prepared with the latest technology and knowledge in architecture. The facilities offered in this program are Architecture studios, printing, crit and architecture working room. This program opens to all SPM holders whose meet the requirement needed.

Lastly, with the existence of this Programme Handbook will help to give an overview to the students about the courses offered by Civil Engineering Department, Polytechnic of Merlimau.

All the best and welcome to the Civil Engineering Department. Thank You.

Sincerely,

Sr. Mohamad Kelana Bin Juwit
The Head of Civil Engineering Department
Polytechnic of 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

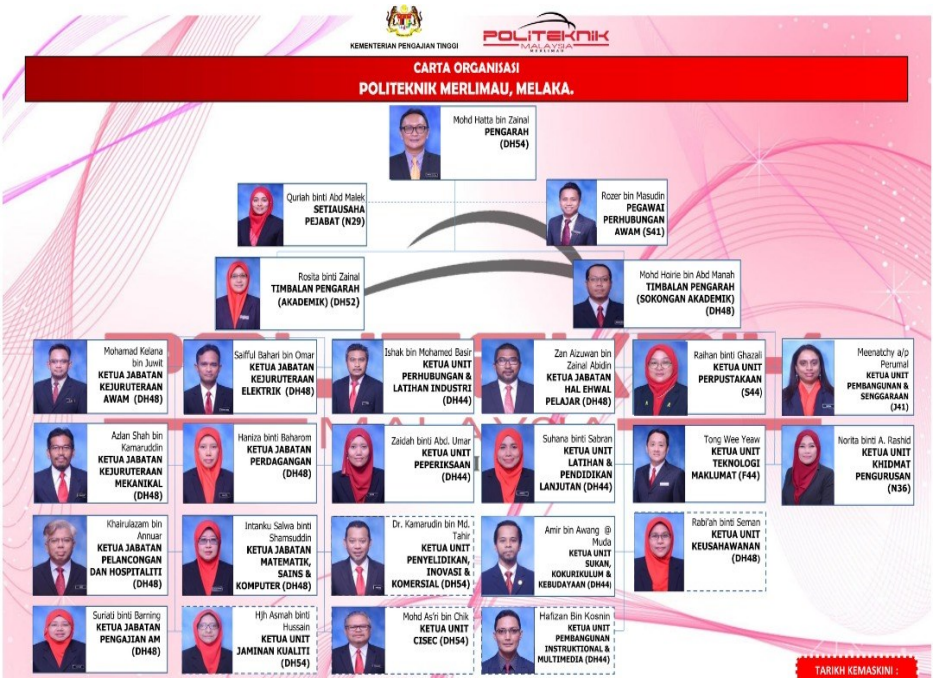
TAG LINE

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.

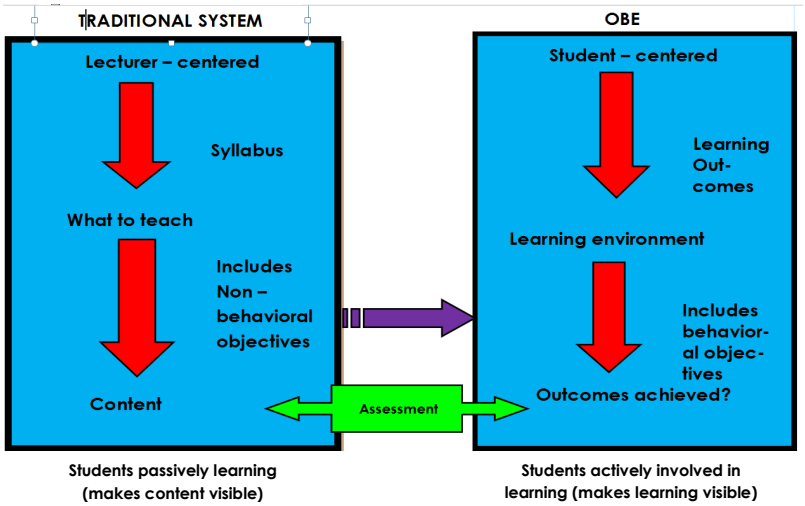
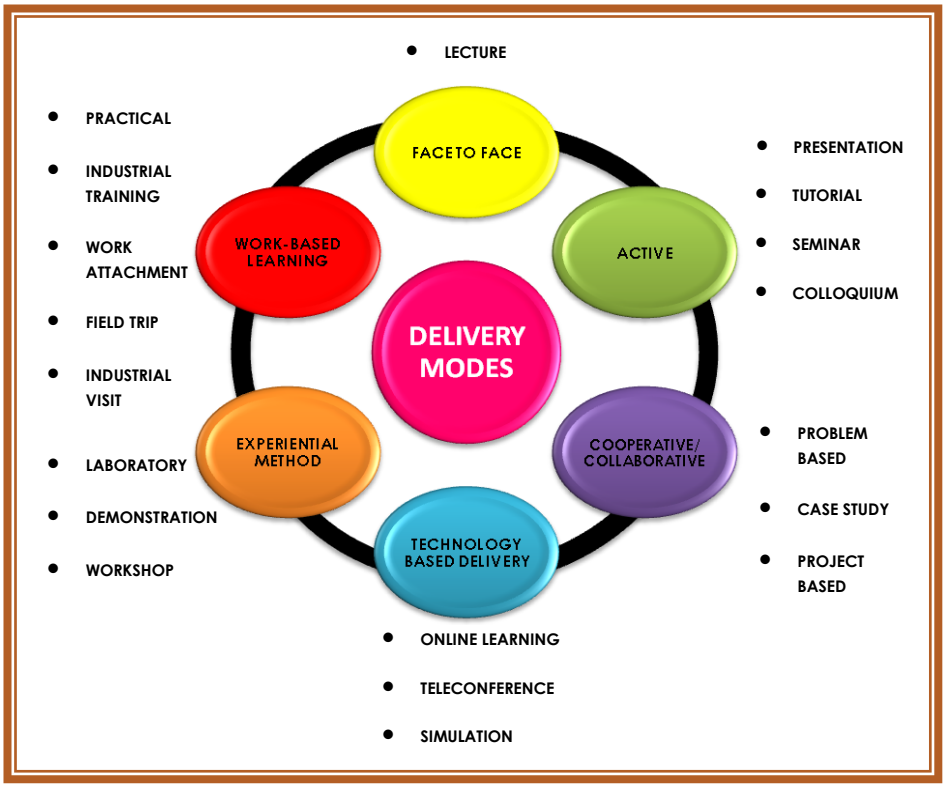


Figure 5.1: A Paradigm Shift for Educational System

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 .

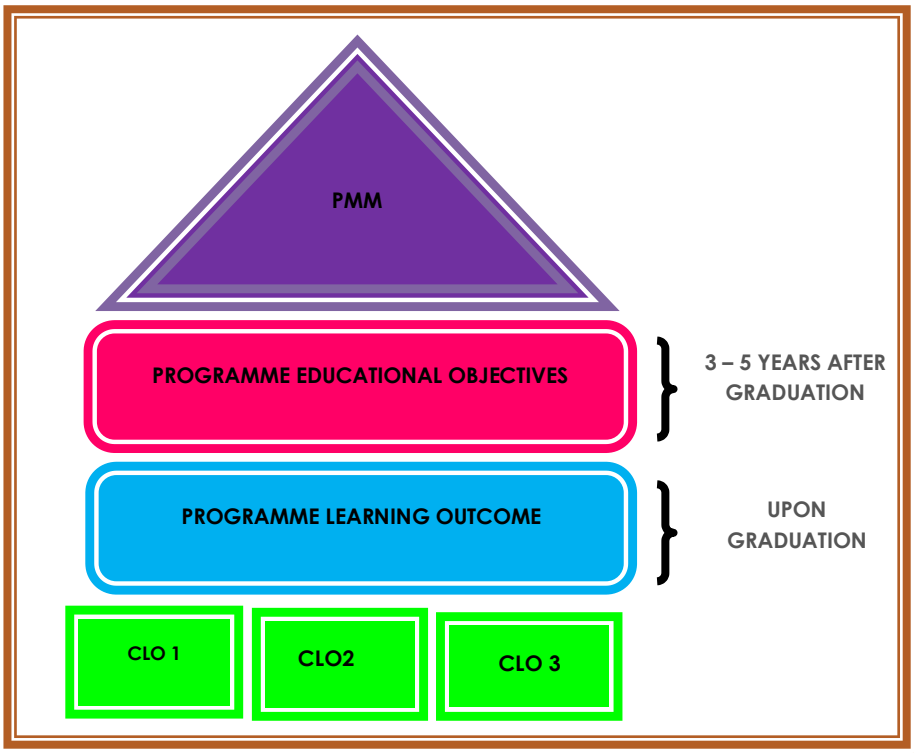


Figure 5.3 : OBE Educational Framework

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.

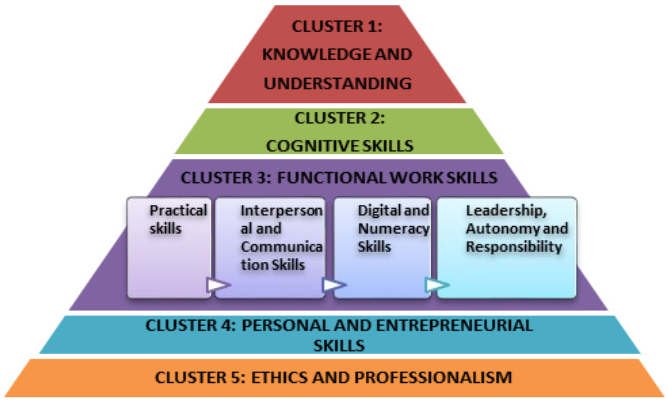


Figure 5.4 :Competency Domain to be applied in MQA Outcomes

(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.

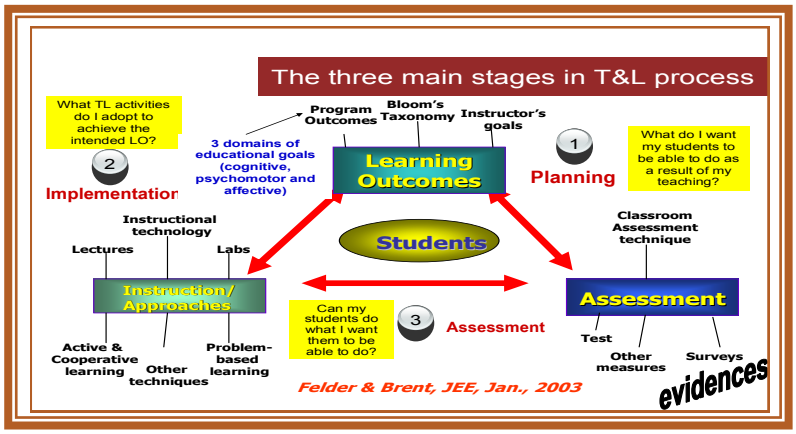


Figure 5.5 : Three Main Stage in Learning and Teaching Process

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).

UNIT OF E-LEARNING

CONTACT PERSON	CONTACT NO
Ariffuddin Bin Ibrahim **E-Learning Officer**	Ext : 3021 Email: ariffuddin@pmm.edu.my
Amirudin bin Mohd Salim **Assistant E=Learning Officer**	Ext : 5006 Email: amirudin@pmm.edu.my
Nisrina binti Abd Ghafar **Secretary**	Ext : 5012 Email: nisrina@pmm.edu.my
Azrina Binti Mohmad Sabiri **Treasurer**	Ext : 1181 Email: azrina@pmm.edu.my
Juhaidah Binti Abd Hakim **ICT Coordinator**	Ext : 1172 Email: juhaidah@pmm.edu.my
Zid Abrar Bin Akbar **UPIM Coordinator**	Ext : 1131 Email: zid@pmm.edu.my

UNIT OF E-LEARNING

CONTACT PERSON	CONTACT NO
Sr. Firhan bin Salian (Leader Coordinator) Zuraini Binti Basarudin Ayu Wirdawati binti Po'a Ts. Amran bin Atan **E-Learning Coordinator of Civil Engineering Department**	Ext : 2008 Email: firhan@pmm.edu.my
Rodzah binti Hj. Yahya (Leader Coordinator) Zahrim bin Abd Rahman Hafidah binti Mahat Mohd Fauzi bin Hassan **E-Learning Coordinator of Electrical Engineering Department**	Ext : 3006 Email: rodzah@pmm.edu.my
Mohamad Shahril bin Ibrahim (Leader Coordinator) Alfred Bakri Syahrain bin Mat Yamin **E-Learning Coordinator of Mechanical Engineering Department**	Ext : 4000 Email: shahril@pmm.edu.my
Hamidah binti Abd Latiff (Leader Coordinator) Amirudin bin Mohd Salim Abdul Hasnal bin Abdulllah Norhazma binti Nafi Nisrina binti Abd Ghafar **E-Learning Coordinator of Commerce Department**	Ext : 5006 Email:hamidah@pmm.edu.my
Aylin Binti Kamarudin (Leader Coordinator) Nurul Aqilah Hawaliana Binti Mazelan Dek Afifa Binti Nordan Zuraida Binti Yaacob **E-Learning Coordinator of Tourism and Hospitality Department**	Ext : 6013 Email: ak_aylin@pmm.edu.my
Suziyana binti Ahmad Aman (Leader Coordinator) Norzaliza Binti Mohamed Nor Zid Abrar bin Akbar **E-Learning Coordinator of Mathematics, Science & Computer Department**	Ext : 7008 Email: suziyana@pmm.edu.my
Naimah binti Ghazali (Leader Coordinator) Ida Sariani Binti Mohd Isa Rosheela binti Muhammad Thangaveloo Bobby Chew Han Yong **E-Learning Coordinator of General Studies**	Ext : 8007 Email: naimah@pmm.edu.my

LIST OF CIVIL ENGINEERING

Name: Sr. Mohamad Kelana bin Juwit
Position: Head of Department
Majoring: Land Survey
Ext: 2057
Email: kelana@pmm.edu.my

Name: Mohd Khairolnizam in Yunos
Position: Head of Programme (Civil Engineering)
Majoring: Civil
Ext: 2033
Email: khairol_nizam@pmm.edu.my

Name: Sr. Yee Wui Chee
Position: Head of Programme (Geomatic)
Majoring: Land Survey
Ext: 1182
Email: yeewuichee@pmm.edu.my

Name: Nor Azilla Wati binti Zamri
Position: Head of Programme (Architecture)
Majoring: Architecture
Ext: 2035
Email: norazilla@pmm.edu.my

Name: Hajjah Asmah Bt Hussain
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 1140
Email: asmah.hussain@pmm.edu.my

Name: Hj Zamali bin Omar
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 2030
Email: zamali@pmm.edu.my

Name: Alvy Bartholomeus Philip
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 1185
Email: alvy@pmm.edu.my

Name: Siti Marlinna Chu bt Mohd Rizal Chu
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 1186
Email: sitimarlina@pmm.edu.my

LIST OF CIVIL ENGINEERING

Name: Suhaila bt Safie
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 1181
Email: suhaila@pmm.edu.my

Name: Anafiah Bt Hamzah
Position: Senior Lecturer
Majoring: Civil Engineering
Ext:
Email: @pmm.edu.my

Name: Firhan bin Salian
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1182
Email: firhan@pmm.edu.my

Name: Hajjah Zuraini Bt Basaruddin
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1114
Email: @pmm.edu.my

Name: Hasniza bt. Harun
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1108
Email: @pmm.edu.my

Name: Ayu Wirdawati binti Po'a
Position: Lecturer
Majoring: Civil Engineering
Ext: 1120
Email: wirdawati @pmm.edu.my

Name: Noorhaslizah Bt Ahmad Rosli
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 1120
Email: @pmm.edu.my

Name: Suriawati bt Jusoh
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1108
Email: suriawati@pmm.edu.my

Name: Noor Asmida bt. Abu Bakar
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1114
Email: @pmm.edu.my

Name: Hjh.Ayati bt Parmen
Position: Senior Lecturer
Majoring: Land Survey
Ext: 1184
Email: @pmm.edu.my

Name: Ab. Razak Bin Ahmat
Position: Senior Lecturer
Majoring: Architecture
Ext: 2038
Email: ab.razak@pmm.edu.my

Name: Hassan Bin Ismail
Position: Senior Lecturer
Majoring: Civil
Ext: 2021
Email: hassan@pmm.edu.my

Name: Munirah Binti Abdul Rahim
Position: Senior Lecturer
Majoring: Civil Engineering
Ext: 2022
Email: munirah@pmm.edu.my

Name: Nor Syazlyn bin Alwi
Position: Lecturer
Majoring: Civil Engineering
Ext: 1108
Email: norsyazlyn@pmm.edu.my

Name: Hazilah binti Hamzah
Position: Lecturer
Majoring: Civil Engineering
Ext: 1108
Email: hazilah @pmm.edu.my

Name: Mohd Nizamuddin Bin Mohd Dawang
Position: Lecturer
Majoring: Civil Engineering
Ext: 1190
Email: mohdmizamuddin@pmm.edu.my

LIST OF CIVIL ENGINEERING

Name: Hajjah Nor wariza Bt Jufri
Position: Lecturer
Majoring: Civil Engineering
Ext: 2023
Email: norwariza@pmm.edu.my

Name: Siti Zawiyah Bt Hussain
Position: Lecturer
Majoring: Civil Engineering
Ext: 2005
Email: sitizawiyah@pmm.edu.my

Name: Amran b. Atan
Position: Lecturer
Majoring: Architecture
Ext: 1048
Email: amran@pmm.edu.my

Name: Aizaliana Bt. Mohamad Adnan
Position: Lecturer
Majoring: Architecture
Ext: 2017
Email: aizaliana@pmm.edu.my

Name: Juliawati binti Jama'on
Position: Lecturer
Majoring: Civil Engineering
Ext: 2017
Email: juliawati@pmm.edu.my

Name: Mohd Shafrizal Bin Md. Hasan
Position: Lecturer
Majoring: Architecture
Ext: 2014
Email: mohdshafrizal@pmm.edu.my

Name: Izalisa bt. Ahmad
Position: Lecturer
Majoring: Architecture
Ext: 2012
Email: izalisa@pmm.edu.my

Name: Rohafiza binti Md Darus
Position: Lecturer
Majoring: Land Survey
Ext: 2013
Email: rohafiza@pmm.edu.my

Name: Azah bt Abas
Position: Lecturer
Majoring: Civil Engineering
Ext: 2021
Email: azah@pmm.edu.my

Name: Fadhillah binti Mohd Nasir
Position: Lecturer
Majoring: Architecture
Ext: 2012
Email: fadhillah@pmm.edu.my

Name: Syahidah Bt Salleh
Position: Lecturer
Majoring: Civil Engineering
Ext: 2004
Email: syahidah@pmm.edu.my

Name: Saripah Bt Hj. Abdullah
Position: Lecturer
Majoring: Architecture
Ext: 2012
Email: saripah@pmm.edu.my

Name: Nurul Aqillah Bt Johar
Position: Lecturer
Majoring: Architecture
Ext: 2007
Email: aqilah@pmm.edu.my

Name: Siti Noor Asyikin bt Haji Alias
Position: Lecturer
Majoring: Civil Engineering
Ext: 2013
Email: sitinoorasyikin@pmm.edu.my

Name: Hj. Mubin b. Minhaj
Position: Lecturer
Majoring: Civil Engineering
Ext: 2138
Email: mubin@pmm.edu.my

Name: Noraidawati Binti Nordin
Position: Lecturer
Majoring: Civil Engineering
Ext: 2023
Email: noraidawati@pmm.edu.my

LIST OF CIVIL ENGINEERING

Name: Rosilawati Binti Ahmad Khalil
Position: Lecturer
Majoring: Civil Engineering
Ext: 2012
Email: rosilawati@pmm.edu.my

Name: Ahmad Faizal bin Aziz
Position: Lecturer
Majoring: Civil Engineering
Ext: 1190
Email: ahmadfaizal@pmm.edu.my

Name: Noraisyah bt Mohammad
Position: Lecturer
Majoring: Civil Engineering
Ext: 1098
Email: noraisyah@pmm.edu.my

Name: Siti Nurazrin binti Sheikh Ismail
Position: Lecturer
Majoring: Land Survey
Ext: 2007
Email: sitinurazrinbinti@pmm.edu.my

Name: Intan Zuriana bt Bakri
Position: Lecturer
Majoring: Civil Engineering
Ext: 2124
Email: intanzuraini@pmm.edu.my

Name: Hairy b. Omar
Position: Lecturer
Majoring: Civil Engineering
Ext: 2138
Email: hairy@pmm.edu.my

Name: Nur Hidayah Bt Mohamad
Position: Lecturer
Majoring: Civil Engineering
Ext: 2007
Email: nurhidayah@pmm.edu.my

FACILITIES

Main Entrance

Foyer

Lecturer Room Ground Level

Lecturer Room First Floor

Meeting Room

Inovation Hub

Gallery

Archaive Room

FACILITIES

TECC Room

Lecturer Hall

Lecturer Room

AVA Room

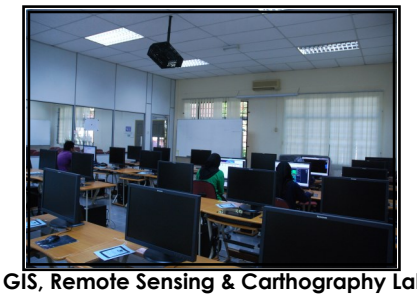
CADD Lab 1

CADD Lab 2

Architectural Studio

Exhibition Hall

FACILITIES



GIS, Remote Sensing & Carthography Lab

Photogrammetry Lab

Brick Work Lab

Carpentry Workshop

Structure Lab

Plumbing Workshop

Hydraulic Lab

Eng. Survey, Cadastral and Hydrographic Survey Lab

DIPLOMA IN CIVIL ENGINEER-

Programme Overview

Introduction

Diploma in Civil Engineering provides knowledge, skills and attitude to adapt to new technology in civil engineering with the ability to demonstrate professionalism and work ethics in fulfilling responsibilities towards the creator, client and society. This programme provides theory as well as carries out practical work. This programme also offers courses in Civil Engineering area such as Engineering Graphics, Water & Water Resources Engineering, Environment, Strength & Structural Design, Road & Transportation, Engineering Management and Geotechnics. This programme is specially designed with hands-on training in addition to the theoretical learning in civil engineering. They are required to complete the industrial training to prepare graduates for employment in different sectors of the industry because the skills and knowledge acquired are used throughout modern industry. They will be able to use appropriate communication and interpersonal skills to perform tasks in various situations. Graduates will demonstrate desired behavioural traits like integrity, team work, problem solving and passion in performing the tasks related to their area of specialization. They will possess entrepreneurial skills to contribute to the economic growth for the nation's development in the construction industries. With these additional skills, they will be more competitive in the present job market.

Synopsis

This programme is designed to equip students with sound knowledge, skills, attitude and understanding of the environment, construction industries, construction designs and infrastructural development of civil engineering. The knowledge and skills acquired will be useful for success in future or current employment.

Job Prospects

The knowledge and skills that the students acquire from the program will enable them to participate in the job market such as specified as:

a. Technical Assistant
b. Site Supervisor
c. Inspector of Work
d. Assistant Engineer
e. Contractor
f. Health and Safety Officer
g. Research Assistant
h. Quality Control Assistant Engineer
i. Material Coordinator
j. Entrepreneur

DIPLOMA IN CIVIL ENGINEER-

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 proactive and responsible senior technicians to support national agenda in transforming construction industry to be highly productive, environmentally sustainable with globally competitive players while focused on safety and quality standards.

Programme Educational Objectives (PEO)

The Diploma in Civil Engineering programme shall produce semi-professionals who are:

PEO1: Working in the field of civil engineering
PEO2: Lead or team member to support their role in industries
PEO3: Engaged in activities to enhance knowledge or starting/embark their own enterprise
PEO4: Fulfill professional and communities responsibilities, conforming to ethical and environment values

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

Notes:

DK1: A descriptive, formula-based understanding of the natural sciences applicable in a sub-discipline
DK2: Procedural mathematics, numerical analysis, statistics applicable in a sub-discipline
DK3: A coherent procedural formulation of engineering fundamentals required in an accepted sub-discipline
DK4: Engineering specialist knowledge that provides the body of knowledge for an accepted sub-discipline
DK5: Knowledge that supports engineering design based on the techniques and procedures of a practice area
DK6: Codified practical engineering knowledge in recognised practice area
DK7: Knowledge of issues and approaches in engineering technician practice ethics, financial, cultural, environmental and sustainability impacts

PROGRAMME STRUCTURE

CLASSIFICATION	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PROGRAMME LEARNING OUTCOME (PLO)												PRE REQUISITE / 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 & Sustainability	Ethics	Individual and Team Work	Communications	Project Management and Finance	Life Long Learning	
								CLS1	CLS2	CLS2	CLS2	CLS3a / CLS3c	CLS3b	CLS5	CLS5	CLS3d	CLS3b	CLS4	CLS4	
SEMESTER 1																				
Compulsory	MPU21032	Penghayatan Etika dan Peradaban	1	0	2	0	2								√				√	
	DUE10012	Communicative English 1	1	0	2	0	2										√		√	
	MPU24XX1	Sukan ****	0	2	0	0	1									√			√	
	MPU24XX1	Unit Beruniform 1 ****																		
Common Core	DUW10022	Occupational, Safety & Health for Engineering	2	0	0	0	2	√							√		√			
	DBS10012	Engineering Science	2	1	0		2	√				√								
	DBM10013	Engineering Mathematics 1	2	0	2	0	3	√					√				√			
Discipline Core	DCC10012	Engineering Drawing and Computer Aided drafting (CAD)	0	4	0	0	2					√					√			
	DCC10022	Brickworks and Concrete Laboratory	0	3	0	0	2					√				√				
	DCC10032	Civil Engineering Material	2	0	0	0	2	√									√		√	
TOTAL			26				18													
SEMESTER 2																				
Compulsory	MPU23052	Sains, Teknologi dan Kejuruteraan Dalam Islam**	1	0	2	0	2								√				√	
	MPU23042	Nilai Masyarakat Malaysia**																		
	MPU24XX1	Kelab/Persatuan ****	0	2	0	0	1									√			√	MPU24XX1
	MPU24XX1	Unit Beruniform 2																		
Common Core	DBM20023	Engineering Mathematics 2	2	0	2	0	3	√					√				√			DBM10013
Discipline Core	DCC20042	Plumbing and Carpentry Workshop	0	3	0	0	2					√				√				
	DCC20053	Mechanic of Civil Engineering Structure	3	0	1	0	3	√	√								√			
	DCC20063	Engineering Survey	2	3	0	0	3	√				√				√				
	DCC20073	Contract and Estimating	3	0	1	0	3	√	√						√			√		
TOTAL			25				17													
SEMESTER 3																				
Compulsory	DUE30022	Communicative English 2	1	0	2	0	2										√		√	DUE10012
	MPU22012	Entrepreneurship	1	0	2	0	2										√	√		
Discipline Core	DCC30082	Industrialised Building System (IBS) in Sustainable Construction	0	4	0	0	2					√			√			√		
	DCC30093	Geotechnical Engineering	3	0	1	0	3	√	√		√						√			
	DCC30103	Highway and Traffic Engineering	3	0	1	0	3	√		√							√			
	DCC30112	Geotechnical and Highway Engineering Laboratory	0	3	0	0	2				√	√		√						
	DCC30122	Fluids Mechanics	2	0	1	0	2	√	√								√			
TOTAL			24				16													

PROGRAMME STRUCTURE

CLASSIFICATION	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PROGRAMME LEARNING OUTCOME (PLO)												PRE REQUISITE / 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 & Sustainability	Ethics	Individual and Team Work	Communications	Project Management and Finance	Life Long Learning	
								CLS1	CLS2	CLS2	CLS2	CLS3a	CLS3c	CLS3b	CLS5	CLS5	CLS3d	CLS3b	CLS4	CLS4	
SEMESTER 4																				
Compulsory	DUE50032	Communicative English 3	1	0	2	0	2										√		√	DUE30022
Discipline Core	DCC40132	Project Management and Practices	2	1	0	0	2	√				√						√		
	DCC40142	Steel Structure Design	2	0	1	0	2			√		√			√					DCC20053
	DCC40152	Water Supply and Waste Water Engineering	2	0	1	0	2	√						√			√			
	DCC40163	Theory of Structures	3	0	1	0	3	√	√											DCC20053
	DCC40172	Structure, Hydraulics and Water Quality Laboratory	0	3	0	0	2				√	√		√						
	DCC40181	Civil Engineering Project 1	0	2	0	0	1				√						√	√	√	
Electives		Electives 1	0	4	0	0	2													
TOTAL			25				16													
SEMESTER 5																				
Discipline Core	DCC50194	Civil Engineering Project 2	0	8	0	0	4				√	√					√			DCC40181
	DCC50203	Reinforced Concrete Design	3	0	1	0	3			√		√			√					
	DCC50212	Hydrology	2	0	1	0	2	√	√					√						
	DCC50222	Hydraulics	2	0	1	0	2	√	√							√				DCC30122
	DCC50232	Engineering in Society	2	0	0	0	2						√		√				√	
Electives		Electives 2	2	0	0	0	2													
TOTAL			22				15													
SEMESTER 6																				
Industrial Training	DUT40110	Industrial Training	0	0	0	0	10													
TOTAL			0				10													
TOTAL CREDIT VALUE							92													
ELECTIVES COURSES																				
1	DCC50242	Building Information Modeling (BIM)	0	4	0	0	2					√			√			√		
2	DCC50252	Building Services	2	0	0	0	2				√			√		√				
3	DCC50262	Environmental Pollution and Control	2	0	0	0	2				√			√		√				
FREE ELECTIVES [a]																				
1	DUD10012	Design Thinking	1	0	0	1	2		√											

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DCC10012 ENGINEERING DRAWING AND COMPUTER AIDED DRAFTING (CAD)	2	ENGINEERING DRAWING & COMPUTER AIDED DRAFTING (CAD) covers the basic manual drafting of technical drawing to enhance engineering student ability to communicate ideas in modern technology industry. It provides a platform for student to interpret engineering drawings, use CAD and develop their skills in technical sketching. Student should be able to produce engineering drawing using manual graphics sketching and CAD software related to IR4.0.	Upon completion of this course, students should be able to: 1. display ability to produce basic engineering drawing using appropriate tool and equipment correctly. (P3, PLO5) 2. build 2D plan in engineering drawing appropriately. (P4, PLO5) 3. present an understanding of drawing process in mini project presentation verbally. (A3, PLO10)
	DCC10022 BRICKWORKS AND CONCRETE LABORATORY	2	BRICKWORKS AND CONCRETE LABORATORY covers a basic concept of practical works and principles regarding the brickworks and concrete works including the safety exposure in workshop. This course emphasizes the related brick laying using mortar mixing 1:3 and student needed to complete a selected mini project. As for concrete works the method of statement for concrete which referred is BS1881. The cement to be used throughout the work shall be Portland cement obtained from an approved manufacturers that comply with MS 522. Fine and coarse aggregates shall comply with MS 29. All testing specification were referred by MS EN 206. This course also need students to participate actively in teamwork during the practical activities.	Upon completion of this course students should be able to: 1. perform practical activities using appropriate tools and techniques for concrete works with safety awareness. (P3, PLO5) 2. complete a selected mini project on brickworks through group participation. (P5, PLO5) 3. participate actively in a teamwork during practical activities. (A3, PLO9)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DCC10032 CIVIL ENGINEERING MATERIALS	2	CIVIL ENGINEERING MATERIALS course is designed to equip students with a comprehensive knowledge and skills related to construction materials used in civil engineering. It will emphasize on types and function of cement, the function of aggregates in concrete, water, admixtures, properties of fresh and hardened concrete, concrete mix design, and manufacturing concrete on site. This course also focuses on the properties of timber, types and characteristics of brick and concrete block, steel and nonsteel, the types and function of building finishes materials and the introduction to building elements.	Upon completion of this course, student should be able to: 1. apply fundamental concept and behaviour of different types of material in civil engineering construction. (C3, PLO1) 2. present orally the use of construction materials in a particular project using visual aids appropriately. (A2, PLO10) 3. display the ability to search various resources about current construction materials to the assigned topics. (C2, PLO12)
2	DCC20042 PLUMBING AND CARPENTRY WORKSHOP	2	PLUMBING AND CARPENTRY WORKSHOP covers basic practical works of plumbing and carpentry works. This course emphasizes the related materials used and active participation of student to produce simple project.	Upon completion of this course, students should be able to: 1. assemble appropriate tools and techniques for plumbing works with safety awareness. (P3, PLO5) 2. complete a mini project for carpentry works within a given time frame. (P5, PLO5) 3. participate actively in a team work during practical activities. (A3, PLO9)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	DCC20053 MECHANICS OF CIVIL ENGINEERING STRUCTURES	3	MECHANICS OF CIVIL ENGINEERING STRUCTURES covers knowledge of facts and basic principles of types of forces, strength of materials and behavior of loaded structures. This course provides exposure to the impact of loaded structures on direct and shear stresses, slope and deflection. This exposure will be the pre requisite to understand other courses in Civil Engineering.	Upon completion of this course, students should be able to: 1. apply the fundamental knowledge and principles in mechanic structure clearly. (C3, PLO1) 2. analyze structure behavior in determinate structure precisely. (C4, PLO2) 3. construct the diagram related to bending stress and deflection of determinate beam. (P3, PLO10)
	DCC20063 ENGINEERING SURVEY	3	ENGINEERING SURVEY focus on the basic principles of levelling and total station traverse survey. This course emphasizes the basic distance measurement, bearing and angle in order to get the shape of terrain and the position on the field. It also gives knowledge and practical skills to students in operating and handling survey instruments, control survey, detail survey, data collection or acquisition, calculation and plotting of survey works. The course emphasis on the method used to carry out surveying works especially data collection or acquisition to produce plan based on the scope of work. It also gives exposure to the need for accurate data to be used for other surveying work.	Upon completion of this course, students should be able to: 1. apply correctly the fundamental principles and practices of surveying work. (C3, PLO1) 2. perform Civil Engineering Survey works using appropriate instrument based on standard procedure and current surveying instrument. (P3, PLO5) 3. initiate positive leadership and team work by contributing actively in groups during fieldwork that yield valid results. (A3, PLO9)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
2	DCC20073 CONTRACT ESTIMATING	3	CONTRACT AND ESTIMATING is a study of construction industry in general, tender procedure, contract procedure, preliminary estimating method, build-up rate and quantity measurement. The module emphasies on contract condition and provide exposure to the students regarding the procedures and standard practice in the construction field based on Standard Form of Contract (P.W.D. Form 203/ 203A).	Upon completion of this course, students should be able to: 1. explain the fundamental concepts of construction industry in general, tender procedure and contract procedure in Malaysia. (C3, PLO1) 2. estimate the cost of construction project by using preliminary estimating method, build-up rate method and quantity measurement. C4, PL02) 3. describe the understanding of the professional engineering ethics and practice based on Standard Form of Contract (P.W.D Form 203/203A) efficiently. (A3, PLO8) 4. perform efficient management of time and resources through quantity measurement and buildup rate in accordance with Public Work Department Practice. (A5, PLO11)
3	DCC30093 GEOTECHNICAL ENGINEERING	3	GEOTECHNICAL ENGINEERING covers basic knowledge of the process of soils and rock formation and the characteristics of soil. It also covers soil improvement works such as compaction, shear strength, seepage, slope stability, earth pressure and foundation.	Upon completion of this course students should be able to: 1. apply fundamental of engineering properties of soils in civil engineering works. (C3, PLO1) 2. analyze geotechnical engineering problems using appropriate method in determination of safety, stable earthworks and geotechnical structures. (C4, PLO2) 3. analyze data to reach conclusion in case study on assigned topic. (C4, PLO4) 4. explain verbally in formal presentation based on case study. (A3, PLO10)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DCC30082 INDUSTRIALISED BUILDING SYSTEM (IBS) IN SUSTAINABLE CONSTRUCTION	2	IBS IN SUSTAINABLE CONSTRUCTION is designed to equip student the concept of Industrialised Building System (IBS) in conjunction with sustainability of the construction industry. This course teaches on elements such as Modular Coordination and IBS Score, site management and supervision and installation of IBS components. This course will also include practical work in assembling green system, supervision and quality checking in IBS construction and also installation of IBS in a small scale project pertaining to sustainable construction.	Upon completion of this course students should be able to: 1. assemble suitable green materials and Industrialised Building System (IBS) components with supervision. (P3, PLO5) 2. Construct green system and IBS components with compliance to measurement of Modular Coordination and IBS Score. (P4, PLO5) 3. Demonstrate punctuality and responsibility in completing task of assembling green system and IBS. (A3, PLO8) 4. Organize time and resources efficiently in site management. (A5, PLO11)
	DCC30103 HIGHWAY AND TRAFFICENGINEERING	3	HIGHWAY AND TRAFFIC ENIGINEERING is a study on history of highway construction and the organization involved in Malaysia. This course also provides the students with the knowledge regarding the method and design involved in traffic engineering. This course emphasizes on introduction to highway and traffic, transportation planning, pavement materials, construction of flexible pavement, construction of rigid pavement, traffic control equipment and road furniture, flexible pavement design, junction design, traffic management and highway maintenance.	Upon completion of this course students will be able to: 1. apply appropriate model to solve problem in highway and traffic engineering. (C3, PLO1) 2. assesses design performance for highway and traffic engineering based on appropriate specification with consideration of public safety, society and environment. (C5, PLO3) 3. explain the findings of a case study in a formal presentation. (A3, PLO10)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
3	DCC30112 GEOTECHNICAL AND HIGHWAY ENGINEERING LABORATORY	2	GEOTECHNICAL AND HIGHWAY LABORATORY covers knowledge in the form of practical through the experiments which are carried out based on the concepts and the theories learned in the class. The emphasis of the course is on the method of conducting experiments, analysis and understanding its relationship with theories learned. The course also focused on the geotechnical and highway which are the core of the civil engineering field.	Upon completion of this course, students should be able to: 1. construct appropriate instrumentation/ measurement techniques/ models/ simulation in geotechnical and highway engineering using standard procedure and equipment. (P3, PLO5) 2. practices the importance of achieving safety in geotechnical and highway according to OSH standard. (A4, PLO6) 3. analyse laboratory result in achieving objective of geotechnical and highway using engineering report standard. (C4, PLO4)
	DCC30122 FLUID MECHANICS	2	FLUID MECHANICS covers the behaviour and characteristics of engineering fluids and their application in hydrostatic and hydrodynamic fluids. This course involves discussion on fluid properties, fluid flow concept and basic equations, moving fluid forces, dimensional analysis, flow in closed conduits and pipe network, and momentum equations.	Upon completion of this course, students should be able to: 1. explain the fundamental and principles in fluid mechanics engineering. (C2, PLO1) 2. determine the principles of fluid mechanics engineering in pipe flow appropriately. (C4, PLO2) 3. describe verbally the fundamental and principles in fluid mechanics engineering. (A3, PLO10)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCC40132 PROJECT MANAGEMENT AND PRACTICES	2	PROJECT MANAGEMENT AND PRACTICES focuses on the basic knowledge and understanding of project management. Students will be introduced to the definition and basic concept of project management and practices. . Every aspect in project management is explained starting from the overview of project management, the influences of organizational structures in project management, project lifecycle, resources in project management, planning and scheduling, project control and monitoring, safety control, environmental management plan and quality assurance in project management. The application of common software such as Microsoft Project for planning and scheduling also will be exposed to the student.	Upon completing this course students should be able to: 1. apply correctly the fundamental engineering concepts of project management. (C3, PLO1) 2. manipulate appropriate techniques and software tool for planning and scheduling related to civil engineering activities. (P3, PLO5) 3. perform efficient management of time and resources in civil engineering field. (A2, PLO11)
	DCC40142 STEEL STRUCTURE DESIGN	2	STEEL STRUCTURE DESIGN covers the fundamental concepts and basic principles required to design steel structures including beam, column, roof truss and connections. This course enables student to develop understanding basic knowledge related to the theoretical background for the design of steel structures and the practical expertise to translate this background knowledge into successfully performing actual design calculations according to Eurocode 3 (EC3) for a single storey steel building.	Upon completion of this course, students should be able to: 1. design single storey building for steel structure correctly according to Eurocode 3. (C6, PLO3) 2. create the design output drawing for single storey steel structure design according to Eurocode 3 using current software. (P5, PL05) 3. adhere to the engineering ethic through presentation. (A4, PLO8)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCC40152 WATER SUPPLY AND WASTEWATER ENGINEERING	2	WATER & WASTEWATER ENGINEERING is a study of water resources, water characteristics, usage and demand of water supply, raw water treatment process and water distribution system. This course also includes the information on the process in sewage treatment plant, sludge treatment and disposal. It also emphasize on the parameter of drinking water and effluent from sewage treatment plant.	Upon completion of this course students will be able to: 1. apply the concept of water supply and wastewater treatment according to related and current standard. (C3, PLO1) 2. explain verbally in formal presentation based on given task. (A5, PLO10) 3. determine the sustainability and impact of environmental issues regarding to water and wastewater treatment. (C5, PLO7)
	DCC40163 THEORY OF STRUCTURE	3	THEORY OF STRUCTURE covers basic knowledge of facts and principles in calculate the reactions, bending moments and shear forces for statically indeterminate beams and portal frame using the slope deflection method and moment distribution method. It also includes basic principles in calculation the forces in truss members using the equilibrium joint method and section method for the statically determinate and using unit load method for the statically indeterminate trusses.	Upon completion of this course, the students should be able to: 1. Calculate statically indeterminate beams and portal frame using appropriate method. (C3, PLO1) 2. Analyze joint displacement in statically determinate trusses and internal forces for statically indeterminate trusses correctly. (C4, PLO2) 3. Evaluate the influence lines for statically determinate beams correctly. (C5, PLO2)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCC40172 STRUCTURE, HYDRAULICS AND WATER QUALITY LABORATORY	2	STRUCTURE, HYDRAULICS AND WATER QUALITY LABORATORY covers knowledge in the form of practical through the experiments which are carried out based on the concepts and the theories learned in the class. The emphasis of the course is on the method of conducting experiments, analysis and understanding its relationship with theories learned. The course also focused on the structure, hydraulics and water quality which are the core of the civil engineering field.	Upon completion of this the course, students should be able to: 1. construct appropriate instrumentation/ measurement techniques/ models/ simulation in structure, hydraulics and water quality engineering using standard procedure and equipment. (P3, PLO5) 2. practice the importance of achieving safety in structure, hydraulics and water quality according to OSH standard. (A4, PLO6) 3. analyse laboratory result in achieving objective of structure, hydraulics and water quality using engineering report standard. (C4, PLO4)
	DCC40181 CIVIL ENGINEERING PROJECT 1	1	CIVIL ENGINEERING PROJECT 1 covers the knowledge and displays practice skills in civil engineering. The students are exposed to communication skills, group works, work planning, decision making and creativity using available facilities.	Upon completion of this course, the students should be able to: 1. develop the investigation process in civil engineering based in a clear and concise manner. (C3, PLO4) 2. complete a presentation for project proposal using an engineering appropriate standard. (A3, PLO10) 3. propose appropriate methodology in management and resources based on civil engineering project. (A3, PLO11) 4. display self-education skills in gathering technical information from various resources. (P3, PLO12)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DCC50194 CIVIL ENGINEERING PROJECT 2	4	CIVIL ENGINEERING PROJECT 2 covers knowledge and skills in civil engineering practices. The students will be exposed to communication skills, group works, work planning, decision making, recommendation and gain creativity by using related facilities to a design of a system. This course also covers conducting experiments in the laboratory/workshop, field works, and academic researches, designing product or method of civil engineering related fields. The students will be learn the method to analyze data, prepare presentation and report writing.	Upon completion of this course, students should be able to: 1. organize the project tasks based on research methodology by using appropriate tools. (P4, PLO5) 2. analyze the project results in achieving objective based on relevant standard and regulation. (C4, PLO4) 3. write the project report based on project finding using appropriate format. (C3, PLO10) 4. complete the project presentation confidently and effectively. (A5, PLO10)
	DCC50203 REINFORCED CONCRETE DESIGN	3	REINFORCED CONCRETE DESIGN covers concepts and methods of design for reinforced concrete structures comprising beam and slab. This course emphasizes on knowledge and practice of producing double storey reinforced concrete building design starting from the layout plan, action analysis, structural design and detailing according to Eurocode 2 (EC2).	Upon completion of this course, students should be able to: 1. Design double storey building for reinforced concrete structure correctly according to Eurocode 2. (C6, PLO3) 2. Display a safe design for double storey reinforced concrete structure according to Eurocode 2. (P5, PLO5) 3. Adhere to the engineering ethic to complete the design task. (A4, PLO8)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DCC50212 ENGINEERING HYDROLOGY	2	This course introduces students to the concepts of engineering hydrology including hydrologic cycle and rainfall-runoff processes. It covers the quantification of rainfall and runoff processes for engineering design, including computation of design rainfalls, peak discharges and hydrographs. The basic concept of Urban Drainage Design and compliance with local guideline of Urban Storm Water Management Manual for Malaysia (MSMA) are discuss and employ in considering sustainability environmental value.	Upon completing of this course, students should be able to: 1. apply basic concept of applied hydrology in civil engineering. (C3, PLO1) 2. solve quantification of rainfall-runoff processes for engineering design purposes. (C4, PLO2) 3. construct peak flow rate and runoff hydrograph in watershed system. (A3, PLO7)
	DCC50222 HYDRAULICS	2	HYDRAULICS covers the application in hydrostatic and hydrodynamic fluids. This course involves discussion on hydrostatics concept and basic equations of stability and buoyancy. This course also emphasize on the application of constituents of pumps and open channel flow concept appropriately in solving hydraulics problem.	Upon completion of this course, the students should be able to: 1. explain the fundamental and principles in hydraulic engineering. (C3, PLO1) 2. determine the principles of hydraulic engineering in pumps and fluid flow. (C3, PLO2) 3. demonstrate the ability to work in team to solve problems on uniform and non-uniform open channel flow. (A3, PLO9)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
5	DCC50232 ENGINEERING IN SOCIETY	2	ENGINEERING IN SOCIETY focuses on the introduction to the role of engineers in the context of their employment in industry and their interaction with the wider community. In this course, students will be exposed to safety and health of the public, technology and development in industry of civil engineering. This course also covers the meaning and impacts of engineering in society, ethical decision making, professional codes of ethics and sustainable development in the context of science and engineering application locally and globally. The students will be able to display excellent teamwork skills for working in group projects and organizing the activities of engineering practice in the society.	Upon completion of this course, the students should be able to: 1. discuss the roles of engineering in society and the duties of maintaining health and safety in the workplace. (A2, PLO6) 2. justify the importance of ethical-issues and rules of conduct for the profession in civil engineering associated with contemporary technology and environmental protection in civil engineering. (A3 PLO8) 3. display skills of self-education and communication techniques in organizing the activities of engineering practice. (P4, PLO8)
	DCC50242 BUILDING INFORMATION MODELLING (BIM)	2	BUILDING INFORMATION MODELLING (BIM) focuses on the designing and analysing building models using techniques, resources and BIM tools. Students will be introduced to building models using BIM process for architectural, structural and plumbing. It covers BIM coordination, clash detection and construction scheduling. This course is a project-based where students gain knowledge and skills on the implementation of BIM concepts from planning to design stage.	Upon completion of this course, the students should be able to: 1. construct building models using techniques, resources and BIM tools for basic modelling correctly. (P3, PLO5) 2. build building models using techniques, resources and BIM tools of 3D model in architecture, structure and plumbing appropriately. (P4, PLO5) 3. propose BIM coordination of 3D model consistent with engineering ethics appropriately. (A3, PLO8) 4. perform 5D (costing) in project management efficiently. (A5, PLO11)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
	DCC50252 BUILDING SERVICES	2	BUILDING SERVICES focuses on the basic concepts and the principles of the systems in a building. The course emphasizes on the electrical installation system, fire prevention system, building transportation system, air conditioning system, maintenance works and the demolition works.	Upon completion of this course, the students should be able to: 1. choose appropriate building services system with consideration of safety procedures, rules and regulations by the authority. (C5, PLO4) 2. identify building services system with consideration of the environmental impact. (A4, PLO7) 3. display teamwork in completing a case study of a building services system. (A5, PLO9)
	DCC50262 ENVIRONMENTAL POLLUTION AND CONTROL	2	ENVIRONMENTAL POLLUTION AND CONTROL is a study on types and effects of communicable and non-communicable diseases to public health. It also emphasizes on the control and monitoring of pollution from water, air and noise and the effects to general health and environment. It also covers the knowledge on management of municipal solid waste and hazardous waste. The students are exposed to the Environmental Quality Act 1974 as the guidelines and procedures in managing environmental pollution	Upon completion of this course, the students should be able to: 1. analyze technical concept of environmental pollution problems within environmental sustainability. (C4, PLO4) 2. determine the integration of sustainable environment element in solving solid waste and hazardous waste management. (C5, PLO7) 3. display teamwork in solving environmental problem effectively within community. (A5, PLO9)

HIGHER ACADEMIC PATHWAY

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 able to pursue other non-technical paths, should they desire.

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
UTM UNIVERSITI TEKNOLOGI MALAYSIA	• Bachelor of Civil Engineering • Bachelor of Civil Engineering (Environment) • Bachelor of Civil Engineering (Project Management)	**Universiti Teknologi Malaysia,** 81310 Skudai, Johor, Malaysia Tel : (6)07 - 5575960 Fax : (6)07 - 5579376 www.utm.my
UNIVERSITI TEKNOLOGI MARA	• Bachelor's of Civil Engineering (Hons) • Bachelor's of Project Management (Hons)	**Universiti Teknologi MARA,** 40450 Shah Alam, Selangor Darul Ehsan, Malaysia Tel : (6)03-55442000 Fax : (6)03-55442030 www.uitm.edu.my
UPM UNIVERSITI PUTRA MALAYSIA	• Bacelor Kejuruteraan (Awam) • Bachelor of Science and Environmental Technology • Bachelor of Environmental Management	**Universiti Putra Malaysia,** 43400 Serdang, Selangor Darul Ehsan, Malaysia Tel : (6)03-89466000 Fax : (6)03-89487273 www.upm.edu.my
Universiti Malaysia PAHANG	• Bachelor of Civil Engineering • Bachelor of Engineering Technology with Hons • Bachelor of Management with Hons	**Universiti Malaysia Pahang,** Beg Berkunci 12, Kuantan, 25500 Pahang, Malaysia Tel : (6)09-5492501 Fax : (6)09-5493199 www.ump.edu.my

HIGHER ACADEMIC PATHWAY

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
	• Bachelor of Engineering (Hons) (Civil and (Environment) • Bachelor of Engineering (Hons) (Civil and (Structural)	**Universiti Kebangsaan Malaysia,** 43600, Bangi, Selangor, Malaysia Tel : (6)03-89215555 Fax : (6)03-89214242 www.ukm.my
	• Bachelor of Science (Housing, Building & Planning) (Hons)	**Universiti Sains Malaysia,** 11800 Minden, Pulau Pinang, Malaysia Tel : (6)04-6533888 Fax : (6)04-6589666 www.usm.my
	• Bachelor of Civil Engineering (Hons) • Bachelor of Engineering Material (Hons) • Bachelor of Quantity Surveying (Hons)	**Universiti Malaya,** Lembah Pantai, 50603 Kuala Lumpur, Malaysia Tel : (6) 03-7967 7022 Fax : (6)03-79560027 www.um.edu.my
	• Bachelor of Quantity Surveyor (Hons)	**Universiti Islam Antarabangsa Malaysia,** Jalan Gombak, 53100 Gombak, Malaysia Tel : (6) 03-61964000 Fax: (6) 03-61964053 www.iiu.edu.my
	• Bachelor of Civil Engineering with Hons • Bachelor of Civil Engineering Technology (Building Services) with Hons • Bachelor of Civil Engineering Technology (Environment) with Hons • Bachelor of Civil Engineering Technology (Construction) with Hons	**Universiti Tun Hussein Onn Malaysia,** Beg Berkunci 101, 86400 Parit Raja, Batu Pahat, Johor, Malaysia Tel : (6) 07-4537000 Fax : (6)07-4536337 www.uthm.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 20 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, lecture room, Technology Enabled Collaborative Classroom (TECC), meeting room, discussion room, prayer room and R & R corner.

LIST OF STAFF

Name: Hajjah Intanku Salwa binti Shamsuddin
Position: Head of Department
Majoring: Mathematics Education
Ext: 7000
Email: intankusalwa@pmm.edu.my

Name: Nurul Jehan Binti Jemain
Position: Head of Course (Mathematic)
Majoring: Mathematics with Economy
Ext: 7002
Email: nuruljehan@pmm.edu.my

Name: Ngatinah binti Jaswadi
Position: Head of Course (Science)
Majoring: Civil Engineering
Ext: 7001
Email: ngatinah@pmm.edu.my

Name: Asmarizan binti Mat Esa
Position: Head of Course (Computer)
Majoring: Computer Science
Ext: 7003
Email: asmarizan@pmm.edu.my

Name: Amiruddin Bin Abdullah
Position: Lecturer
Majoring: Agri Cultural Engineering
Ext: 7009
Email: amiruddin @pmm.edu.my

Name: Norhayati Binti Ahmad
Position: Lecturer
Majoring: Mechanical Engineering
Ext: 7004
Email: Norhayati@pmm.edu.my

Name: Mohammad Rasyidi Bin Yusof
Position: Lecturer
Majoring: Mechanical
Ext: 7007
Email: mohammadrasyidi@pmm.edu.my

Name: Latifah Binti Abdullah
Position: Lecturer
Majoring: Mechanical Engineering
Ext: 7006
Email: latifah@pmm.edu.my

LIST OF STAFF

Name: Noor Faridah binti Abd Kadir
Position: Lecturer
Majoring: Mechanical Engineering
Ext: 7007
Email: noorfaridah@pmm.edu.my

Name: Zinatul 'Ashiqin binti Mohd Noor
Position: Lecturer
Majoring: Civil Engineering
Ext: 7006
Email: zinatulashiqin@pmm.edu.my

Name: Emey Dyana binti Abd Jalil
Position: Lecturer
Majoring: Civil Engineering
Ext: 7008
Email: emeydyana@pmm.edu.my

Name: Azira binti Mohd Puteh
Position: Lecturer
Majoring: Physics
Ext: 7006
Email: azira@pmm.edu.my

Name: Suziyana binti Ahmad Aman
Position: Lecturer
Majoring: Science Computer
Ext: 7008
Email: suziyana@pmm.edu.my

Name: Zid Abrar bin Akbar
Position: Lecturer
Majoring: Electronic (Information System)
Ext: 1131
Email: zid@pmm.edu.my

Name: Dzaidah Hanin binti Nor Azlim
Position: Lecturer
Majoring: Mathematics
Ext: 7008
Email: dzaidah@pmm.edu.my

Name: Noor Hidayah binti Awang
Position: Lecturer
Majoring: Mathematics
Ext: 7008
Email: noorhidayah@pmm.edu.my

Name: Siti Aisyah binti Azahar
Position: Lecturer
Majoring: Mathematics
Ext: 7004
Email: sitiaisyah@pmm.edu.my

Name: Nor Farhana binti Falil
Position: Lecturer
Majoring: Electrical Engineering
Ext: 7008
Email: norfarhana@pmm.edu.my

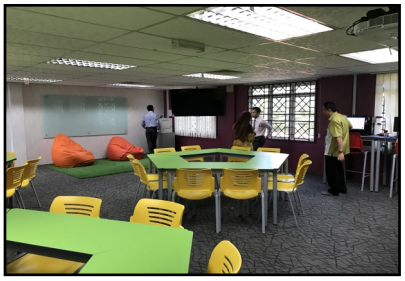
Name: Mohd Zairil bin Zainal
Position: Lecturer
Majoring: Electrical Engineering
Ext: 7007
Email: mohdzairil@pmm.edu.my

Name: Rizman Ezani bin Razali
Position: Lecturer
Majoring: Electrical Engineering
Ext: 7007
Email: rizmanezani@pmm.edu.my

Name: Othman bin Jantan
Position: Operational Assistant
Ext: 7006
Email: othman@pmm.edu.my

Name: Manisah binti Khamis
Position: Lab Assistant
Ext: 7009
Email: manisah@pmm.edu.my

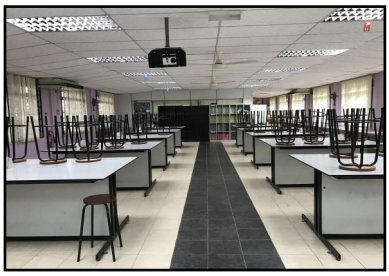
FACILITIES



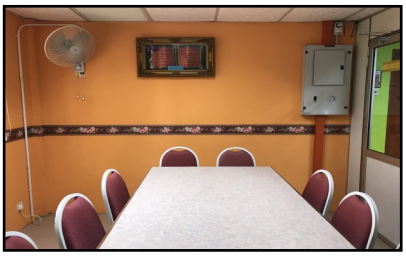
TECC

Computer Laboratory

Classroom



Science Laboratory



Discussion Room

Lecturer Meeting Room

Prayer Room

Gazebo

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	DBM 10013 ENGINEERING MATHEMATICS 1	3	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	DBM10102 ELEMENTARY MATHEMATICS	2	ELEMENTARY MATHEMATICS exposes students to basic algebra which focuses on expressions and fraction used in solving linear and quadratic equations. This course also covers the concept of measurement and geometry which focuses on calculating areas and properties of angles in a circle including angular problems. Students will be introduced to the basic concept of trigonometric and its functions in solving problems.	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: Demonstrate awareness to social needs and active learning through geometrical approaches. (A3 , CLS 3b)

SYNOPSIS & COURSE LEARNING

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
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)
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)

DEPARTMENT OF GEN-

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.

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 12 lecturers while the Islamic Education and Moral Studies unit has a total number of 12 lecturers. Furthermore, the department has two language laboratories and one technology enable classroom (TEC) 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.

LIST OF STAFF

Name: Suriati Binti Barning
Position: Head of Department
Majoring: Pend.Islam & Moral
Ext: 8000
Email: suriati@pmm.edu.my

Name: Faridatul Mastura binti Mohamed Khatib
Position: Head of Course (English)
Majoring: English
Ext: 8002
Email: faridatul@pmm.edu.my

Name: Hidayat bin Shafie
Position: Head of Course (Islamic Studies & Moral)
Majoring: Islamic Education
Ext: 8001
Email: hidayat@pmm.edu.my

Name: Rozaina binti Abdul Latif
Position: Senior Lecturer
Majoring: English
Ext: 8003
Email: rozaina@pmm.edu.my

Name: Md.Shukri Bin Abd.Rahim
Position: Senior Lecturer
Majoring: Pend.Islam & Moral
Ext: 8008
Email: mdshukri@pmm.edu.my

Name: Gan Ek Hern
Position: Lecturer
Majoring: English
Ext: 8004
Email: gan@pmm.edu.my

Name: Nor Fazila binti Shamsuddin
Position: Lecturer
Majoring: English
Ext: 8008
Email: norfazila@pmm.edu.my

Name: Bobby Chew Han Yong
Position: Lecturer
Majoring: English
Ext: 8009
Email: bobby_chew@pmm.edu.my

Name: Maisarah binti Abdul Latif
Position: Lecturer
Majoring: English
Ext: 8008
Email: maisarah_latif@pmm.edu.my

LIST OF STAFF

Name: Ida Sariani binti Mohd Isa
Position: Lecturer
Majoring: English
Ext: 8009
Email: idasariani@pmm.edu.my

Name: Noorhafizah binti Hj Rubaai
Position: Lecturer
Majoring: English
Ext: 8008
Email: noor.hafizah@pmm.edu.my

Name: Nurul Nadiha binti Kassim
Position: Lecturer
Majoring: English
Ext: 8003
Email: nurulnadiha@pmm.edu.my

Name: Siti Noor Binti Hussain
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8003
Email: sitinoor@pmm.edu.my

Name: Putra Shazly bin Rosman
Position: Lecturer
Majoring: English
Ext: 8004
Email: norsyazlyn@pmm.edu.my

Name: Adnan Bin Derahman
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8009
Email: adnan@pmm.edu.my

Name: Mohd Nazrie bin Hassim
Position: Lecturer
Majoring: English
Ext: 8004
Email: mohdnazrie@pmm.edu.my

Name: Ibrahim Bin Abdullah
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8009
Email: ibrahim@pmm.edu.my

Name: Norafidah binti Hj Abdullah
Position: Lecturer
Majoring: English
Ext: 8006
Email: norafidah@pmm.edu.my

Name: Mohd Faizal Bin Mat Pesa
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8004
Email: mfaizal@pmm.edu.my

Name: Farahaniza Binti Jaafar
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8003
Email: farahaniza@pmm.edu.my

Name: Naimah Binti Ghazali
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8009
Email: naimah@pmm.edu.my

Name: Munirah Binti Mustaffa
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8006
Email: munirah_m@pmm.edu.my

Name: Mohd Haikal Akashah Md Nor
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8004
Email: mohdhaikal@pmm.edu.my

LIST OF STAFF

Name: Abdul Rahman Bin Abdul Gapar
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8009
Email: abdrahman@pmm.edu.my

Name: Sharifah Nur Binti Abu
Position: Lecturer
Majoring: Pend.Islam & Moral
Ext: 8009
Email: sharifah_nur@pmm.edu.my

Name: Rosheela binti Muhammad Thangaveloo
Position: Lecturer
Majoring: English
Ext: 8003
Email: rosheela@pmm.edu.my

Name: Shahrizah Binti Husin
Position: Lecturer
Majoring: Eend.Islam & Moral
Ext: 8009
Email: shahrizah@pmm.edu.my

Name: Radhiyah Binti Sagap
Position: Office Assisstant
Majoring: -
Ext: 8004
Email: radhiyah@pmm.edu.my

SYNOPSIS & COURSE LEARNING OUT-

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
1	MPU21032 PENGHAYATAN ETIKA DAN PERADABAN	2	PENGHAYATAN ETIKA DAN PERADA-BAN ini menjelaskan tentang konsep etika daripada perspektif peradaban yang berbeza. Ia bertujuan bagi mengenal pasti sistem, tahap perkem-bangan, kemajuan dan kebudayaan merentas bangsa dalam mengukuhkan kesepaduan sosial. Selain itu, perb-incangan 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 berim-pak tinggi (HIEPs) yang bersesuaian digunakan dalam penyampaian kursus ini.	CLO1 : membentangkan konsep etika dan peradaban dalam kepelbagaian tamadun. (A2 , CLS 5) CLO2 : menerangkan sistem, tahap perkembangan, kesepaduan sosial dan kebudayaan merentas bangsa di Malay-sia. (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 KEJU-RUTERAAN DALAM ISLAM memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pen-capaiannya 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 bu-daya masyarakat di Malaysia. Selain itu, pelajar dapat mempela-jari tanggungjawab sebagai individu dan nilai perpaduan dalam kehidupan di samping cabaran-cabaran dalam membentuk masyarakat Malaysia	CLO1 : Membincangkan sejarah dan nilai dalam pembentukan masyara-kat 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 COMMUNICATIVE ENGLISH 3	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 interviews.	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)
1	MPU22042 BAHASA KEBANGSAAN 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 CURRICU-

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.

CONTACT PERSON	CONTACT NO
En Amir bin Awang @ Muda Head of Unit	Ext : 1220 Email: amir_awang@pmm.edu.my
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 CURRICU-

Name: Amir bin Awang @ Muda
Position: Head of Unit
Majoring: Bachelor in Electrical Eng
Ext: 1220
Email: amir_awang@pmm.edu.my

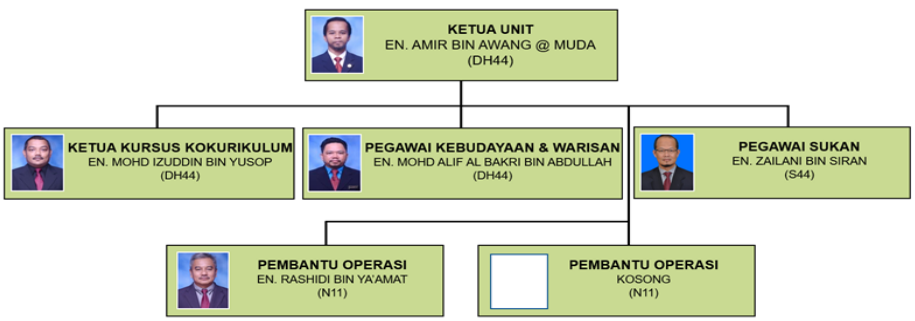
Name: Mohd Izuddin bin Yusop
Position: Head of Co-curicullum Course
Majoring: Bachelor in Physical Education
Ext: 1221
Email: mohdizuddin@pmm.edu.my

Name: Mohd Alif Al Bakri bin Abdullah
Position: Cultural & Heritage Officer
Majoring: Bachelor in Technology & Education (Mechanical Eng)
Ext: 1224
Email: alfred@pmm.edu.my

Name: Zailani bin Siran
Position: Sports Officer
Majoring: Bachelor of Sports Science
Ext:1222
Email: zailani@pmm.edu.my

Name: Rashidi bin Ya'amat
Position: Operation Assistant
Ext : 1223
Email: rashidi@pmm.edu.my

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



FACILITIES

Music Studio

Music set

Squash Court

Table Tennis

Multi Purpose Court (Indoor)

Golf Green

Sport Centre

Multipurpose Court

FACILITIES

Basketball Court

Takraw Court

Tennis Court

Futsal Court

Rugby Field

Football Field

Petanque Field

Volleyball Court

DEPT. OF STUDENT AFFAIR AND DE-

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

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 MAN-

Introduction

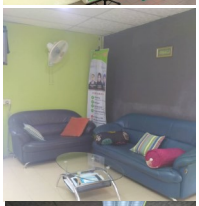
Psychology Management Unit Politeknik Merlimau, Melaka is an academic support unit which works in the development and soft skills for both students and staff.

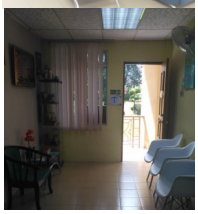
Currently, Management Psychology comprises 3 Psychology Officer and is one unit under the supervision of Head of the Student Affairs Department and the Deputy Director (Academic Support).

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.





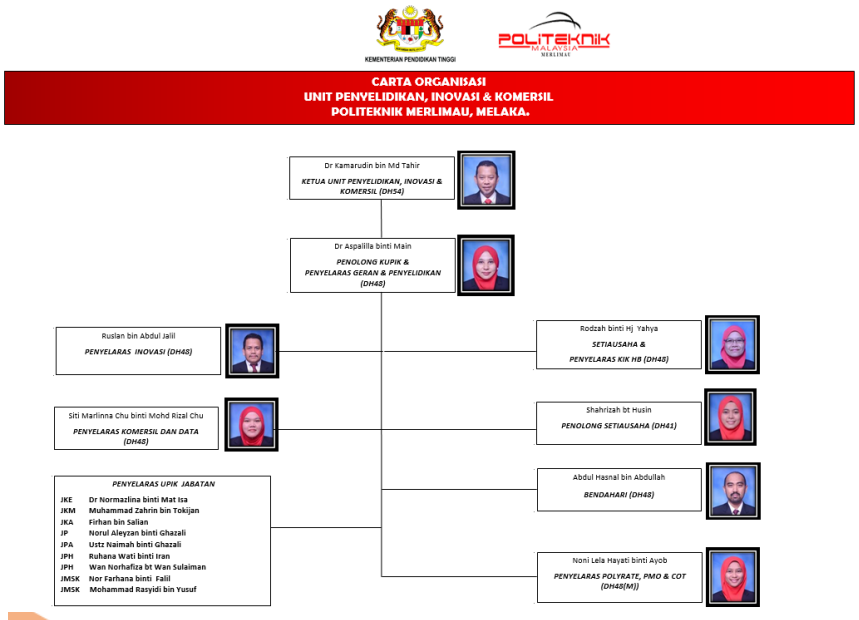
UNIT OF RESEARCH AND INNO-

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.



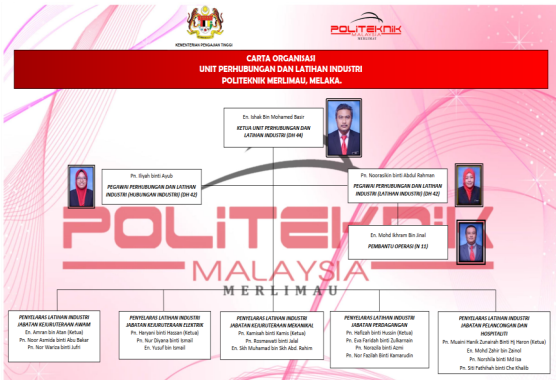
UNIT OF INDUSTRIAL LIAISON &

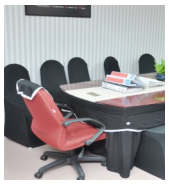
Introduction

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.





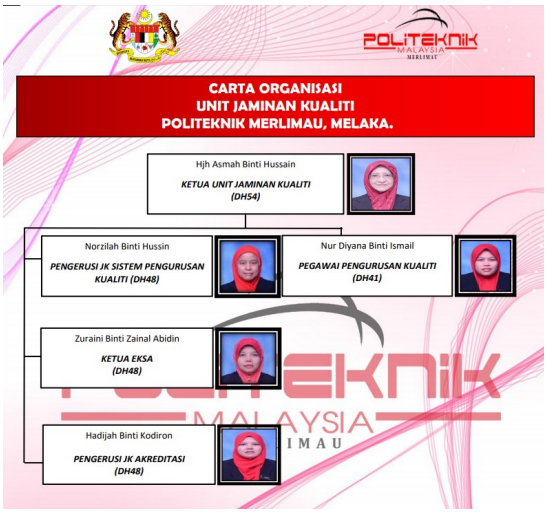
UNIT OF QUALITY ASSURANCE

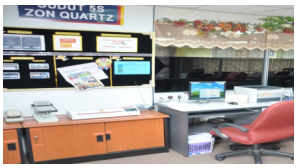
Introduction

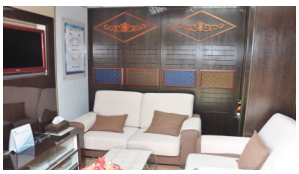
Quality Assurance Unit is responsible for planning, implementing and monitoring the effectiveness of the programs related to the quality management system, in addition to being a coordinator (the coordinator) to officials in the department and the quality of the unit. This unit is under the responsibility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

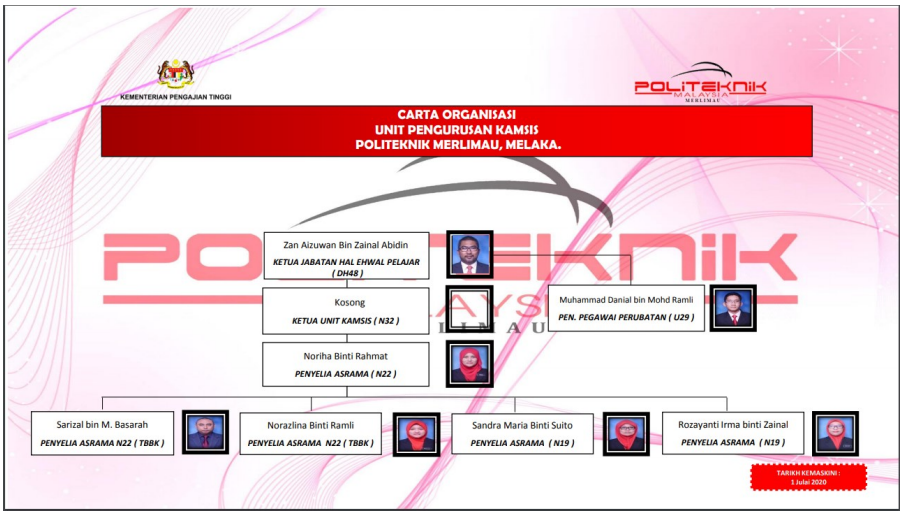
1) Applications can be made online via the Student Information Management System (SPMP) in PMM portal.
2) Completed forms that have been submitted online must also be printed and sent to the Office of Management Kamsis before the closing date, together with other supporting documents such as:

    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.

CONTACT PERSON	CONTACT NO
Rabi'ah Seman Head of Entrepreneurship Unit	Ext : 1250 Email: rabiah@pmm.edu.my

EDITORIAL BOARD

EDITORIAL BOARD

Advisor

Sr. Mohamad Kelana bin Juwit

Intanku Salwa binti Shamsuddin

Suriati binti Barning

Writers

Mohd Khairolnizam bin Yunos

Hazilah binti Mohamad

Siti Noor Asyikin binti Hj. Alias

Editor

Saripah binti Hj. Abdullah

Suriawati binti Jusoh