KEMENTERIAN PENDIDIKAN TINGGI

POLITEKNIK MALAYSIA
MUADZAM SHAH

STUDENT GUIDE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA IN MECHANICAL ENGINEERING
(AUTOMOTIVE MANUFACTURING DESIGN)
2023 EDITION

Table of Contents

PREFACE

Politeknik Muadzam Shah

Bismillahirrahmanirrahim
Assalamualaikum and Salam 1 Malaysia.

Dear Students,

Welcome to our beautiful and cosy campus of Politeknik Muadzam Shah (PMS). Our students come from all walks of life and various backgrounds. It is our commitment at PMS to help you, as an adult learner, succeed in upgrading yourself and achieve the right balance holistically.

The world faces dynamic changes in technology and business at amazing speed. To sustain our economy, the Malaysian workforce needs to continuously upgrade itself to acquire new skills and knowledge so as to stay relevant. Striking a good balance between your studies and co-curricular activities, I do believe that PMS will broaden your views about tertiary education and guide you to enhance your future career.

The rapid changes around the globe demands educational institutions to be dynamic and responsive towards the technological changes around the world. To accommodate such requirement, the courses offered by the Mechanical Engineering, Commerce, Information Technology & Communication, Design & Visual Communication as well as Tourism & Hospitality Departments. PMS are designed to produce graduates who are creative, innovative and possess towering personality. In order for PMS to achieve its intended target, we have well-trained lecturer whom are able to assist and facilitate the students in their learning as well as their holistic education.

We are so pleased that you are here. Best wishes and welcome to PMS !

TUAN HAJI CHE ALIAS BIN MOHD YUSOF
Director
Politeknik Muadzam Shah

PREFACE

Politeknik Muadzam Shah

Assalamualaikum and Salam 1 Malaysia.

Dear Students,

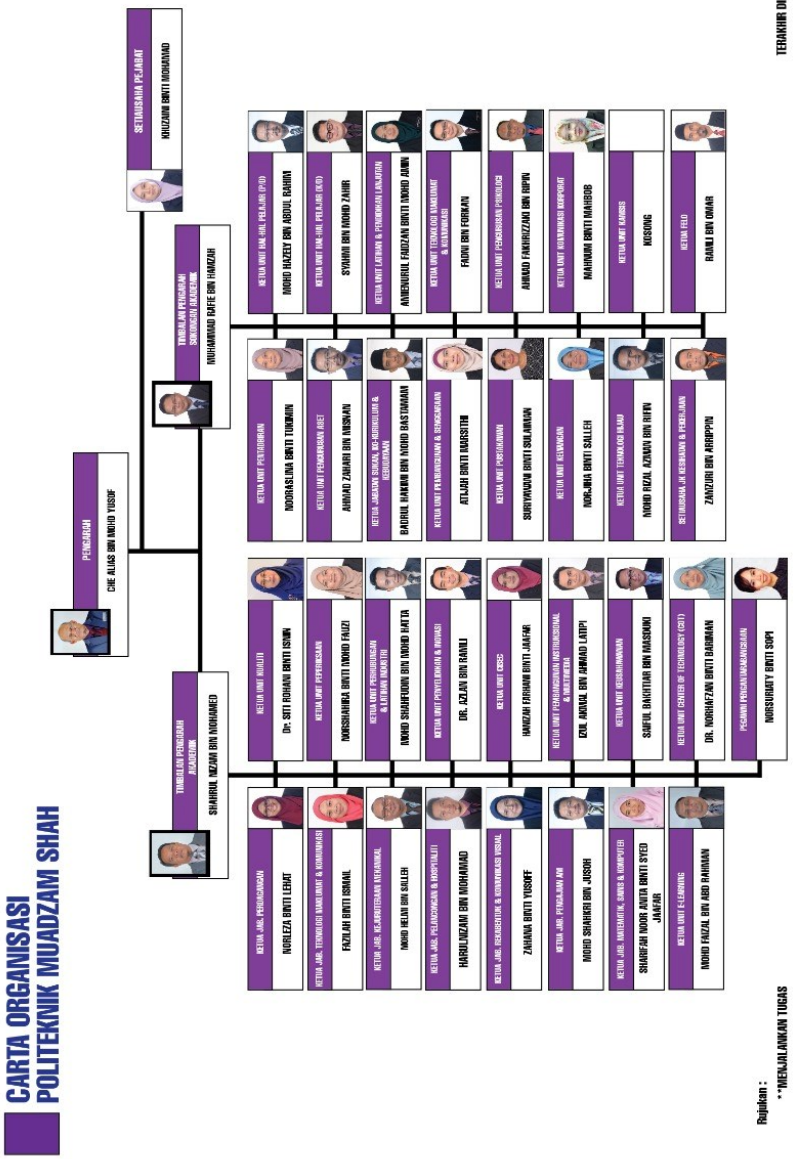
Welcome to the new academic year in Mechanical Department of Politeknik Muadzam Shah (PMS). I wish you a successful and enjoyable in this semester.

This handbook had been prepared for the current and prospective for mechanical department students. It outlines the knowledge, skills and outcomes of all the programmes curriculum evelops for its graduates. Currently, we offer Diploma of Mechanical Engineering (Product esign) -DRP, Diploma Mechanical Engineering (Automation)-DMA, Diploma of Mechanical Engineering (Automotive Manufacturing Design)-DRA and Diploma of Mechanical Engineering (Manufacturing)-DTP. In order for the students to graduate, the four categories of courses are to be completed – compulsory, common core, discipline and elective. We also provide the necessary facilities such as Advance Manufacturing Lab, Welding Workshop, fitting and Machining workshop and others. Beside we also have support Centre and Wi-Fi connections to realize the learning potential of students.

All the lecturers look forward in seeing all you and we hope that your presence here will make Mechanical Engineering Department more interesting and lively. We believe that you are able to contribute to the better image and excellence of the department. Studying in PMS will be one of the most exciting and memorable time in your life. Good Luck !

Wassalam.

MOHD HELMI BIN SALLEH
Head of Mechanical Engineering Department
Politeknik Muadzam Shah


CARTA ORGANISASI
POLITEKNIK MUADZAM SHAH
PENGARAH
CHE ALIAS BIN HAJI YUSOF
SETIAUSAHA PEJABAT
KHUZAIMI BINTI MOHAMAD
TIMBALAN PENGARAH AKADEMIK
SHAHRUL NIZAM BIN MOHAMED
TIMBALAN PENGARAH SOKONGAN AKADEMIK
MUHAMMAD RAFIE BIN HAMZAH
KETUA JABATAN PENGURUSAN
NORLEZA BINTI LEGAT
KETUA JABATAN TEKNOLOGI MAKLUMAT & KOMUNIKASI
FAZILAH BINTI ISMAIL
KETUA JABATAN KEJURUTERAAN MEKANIKAL
MOHD HELMI BIN SALLEH
KETUA JABATAN PELANCONGAN & HOSPITALITI
HARUN NIZAM BIN MOHAMAD
KETUA JABATAN RESEARCH & INNOVATION & COMMERCIAL
ZAHANA BINTI YUSOFF
KETUA JABATAN PENGAJIAN AM
MOHD SHAHRIN BIN JUSOH
KETUA JABATAN MATEMATIK, SAINS & KOMPUTER
SHARIFAH NOOR ANITA BINTI SYED JAAFAR
KETUA UNIT E-LEARNING
MOHD FAIZAL BIN ABD RAHMAN
KETUA UNIT AKULTI
Dr. SITI ROHANA BINTI ISMAIL
KETUA UNIT PERPUSTAKAAN
NORSHAHIRA BINTI MOHD FAUZI
KETUA UNIT PEMBANGUNAN & LATIHAN INDUSTRI
MOHD SHAFIEDDIN BIN MOHD RATTA
KETUA UNIT PENYELIDIKAN & INOVASI
DR. AZLAN BIN RAMLI
KETUA UNIT CEGS
HANIZAH FARHANA BINTI JAAFAR
KETUA UNIT PEMBANGUNAN INSTITUSIONAL & ANTARABANGSA
EZOL ABDUL BIN AHMAD LATIPI
KETUA UNIT KESIHATAN
SAIFUL DAHSTIAR BIN HASSNOH
KETUA UNIT CENTER OF TECHNOLOGY (COT)
DR. NORHAFZAN BINTI BADARUAN
PEGAWAI PENGURUSAN KEWANGAN
NORSHUHAIFY BINTI SOPI
KETUA UNIT HAL EHWAL PELAJAR (PTD)
MOHD HAZEEY BIN ABDUL RAHIM
KETUA UNIT HAL-EHL PELAJAR (KED)
SYAHRIN BIN MOHD ZAHIR
KETUA UNIT LATIHAN & PENGURUSAN LAPANGAN
AMMENDRIL FAUZAN BINTI MOHD AMIN
KETUA UNIT TEKNOLOGI KAMUNIKASI & KOMPUTER
FARIN BIN FORKANI
KETUA UNIT PENGURUSAN PERKULOSI
AHMAD FAKHRUZZANI BIN RIPIN
KETUA UNIT KOKURIKULUM KOMPOSIT
MAHNURA BINTI MAHBOB
KETUA UNIT KANTIN
KOSONG
KETUA FEUD
RAMLI BIN OMAR
KETUA UNIT PENGURUSAN
NORASLINA BINTI TUKIMIN
KETUA UNIT PENGAMBILAN JUBET
AHMAD ZAHABI BIN HASSAN
KETUA JABATAN SUKAN, BIO-BIOMEDIK & KESIHATAN
BADRUL HAKIM BIN MOHD BASTAMAM
KETUA UNIT PENGURUSAN & SOKONGAN
ATLIAH BINTI MAHSSTOR
KETUA UNIT PEMBANGUNAN
SURIYAYANA BINTI SULAIMAN
KETUA UNIT KEWANGAN
NORLIMA BINTI SALLEH
KETUA UNIT TEKNOLOGI HIJAU
MOHD RIZAL AZMAN BIN RIPIN
SETIAUSAHA JK KEBAJIKAN & PEMELIHARAAN
ZANZURI BIN ARIFFIN
TERAKHIR DIKEMASKINI : 4/10/2023
Rujukan :
** MENJALANKAN TUGAS

VISION & MISSION

DEPARTMENT OF POLYTECHNIC AND COLLEGE COMMUNITY EDUCATION

VISION

Menjadi institusi TVET premier yang diterajui industri.

MISSION

1. *Menyediakan akses kepada program TVET yang berkualiti dan diiktiraf.*
2. *Membangunkan kurikulum yang dipimpin industri dan meningkatkan kesediaan graduan melalui penglibatan industri yang diselaraskan.*
3. *Menghasilkan graduan yang seimbang dan berdaya keusahawanan melalui program pengajian yang dinamik dan mampan.*
4. *Mendapat pengiktirafan antarabangsa melalui kerjasama dan penyertaan aktif dalam komuniti TVET.*

VISION

Menjadi Peneraju institusi TVET yang unggul.

VISION & MISSION

POLITEKNIK MUADZAM SHAH

MISSION

1. *Menyediakan akses yang meluas kepada program TVET berkualiti dan diiktiraf.*
2. *Memperkasa komuniti melalui pembelajaran sepanjang hayat.*
3. *Melahirkan graduan holistik, berciri keusahawanan dan seimbang.*
4. *Memanfaatkan sepenuhnya perkongsian pintar dengan pihak berkepentingan.*

VISION

Menjadi Peneraju institusi TVET yang unggul.

INTRODUCTION

Outcome Based Education (OBE)

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 Education 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 1 below.

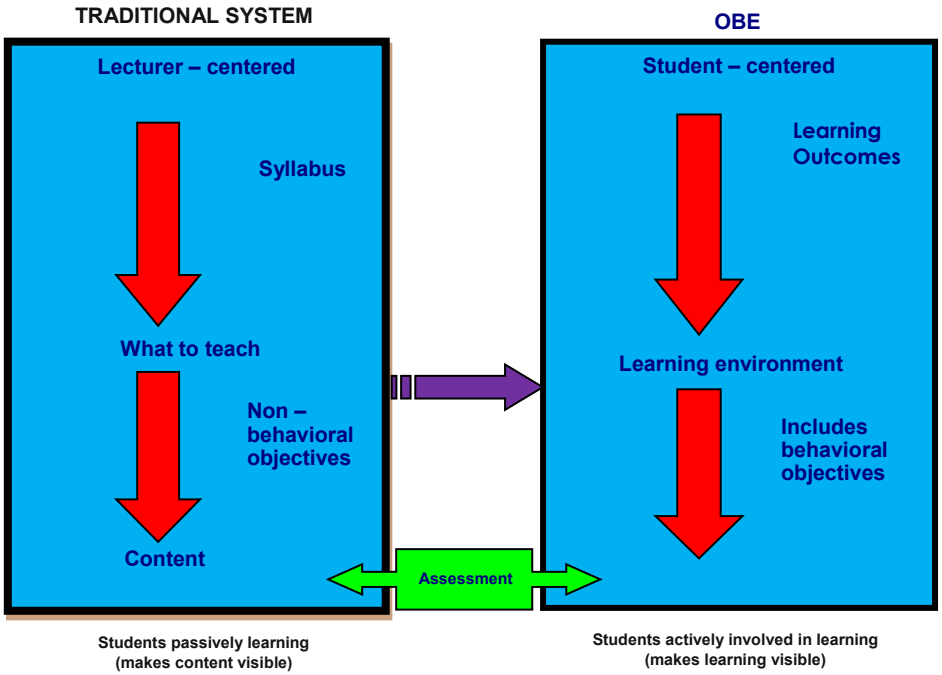


Figure 1 : A Paradigm Shift for Educational System

Beside , the Figure 2 below shown the differentiate between Outcome Based Education (OBE) and Traditional Education(TE).

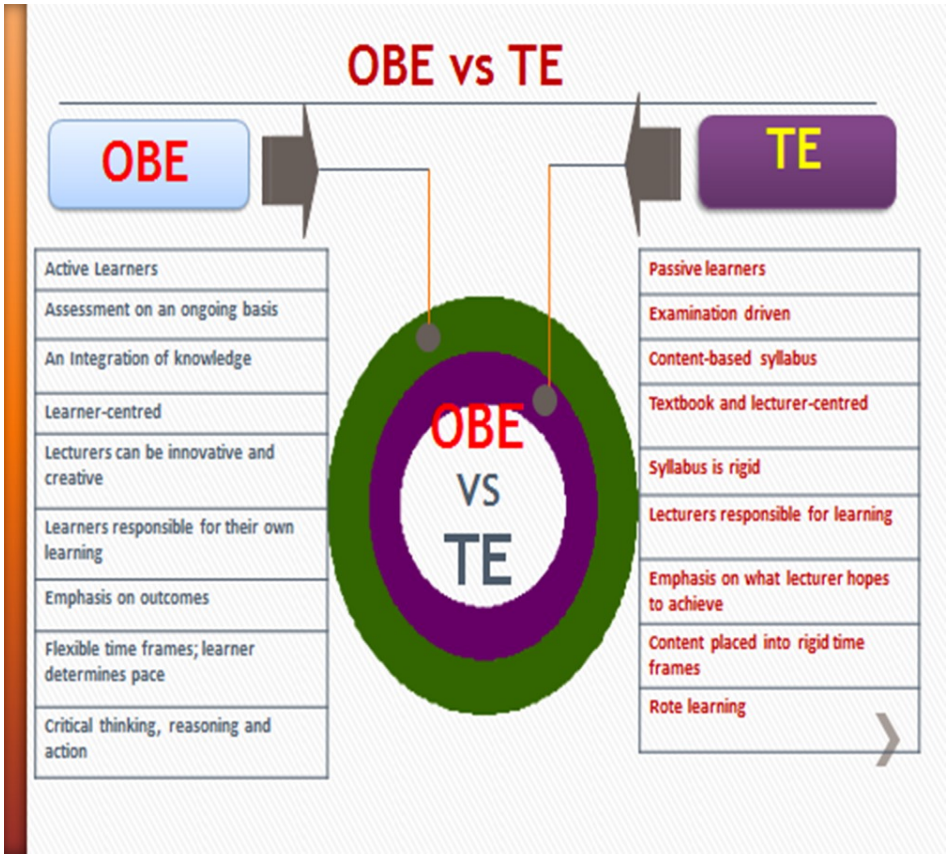


Figure 2 : Comparison of OBE and TE

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 .

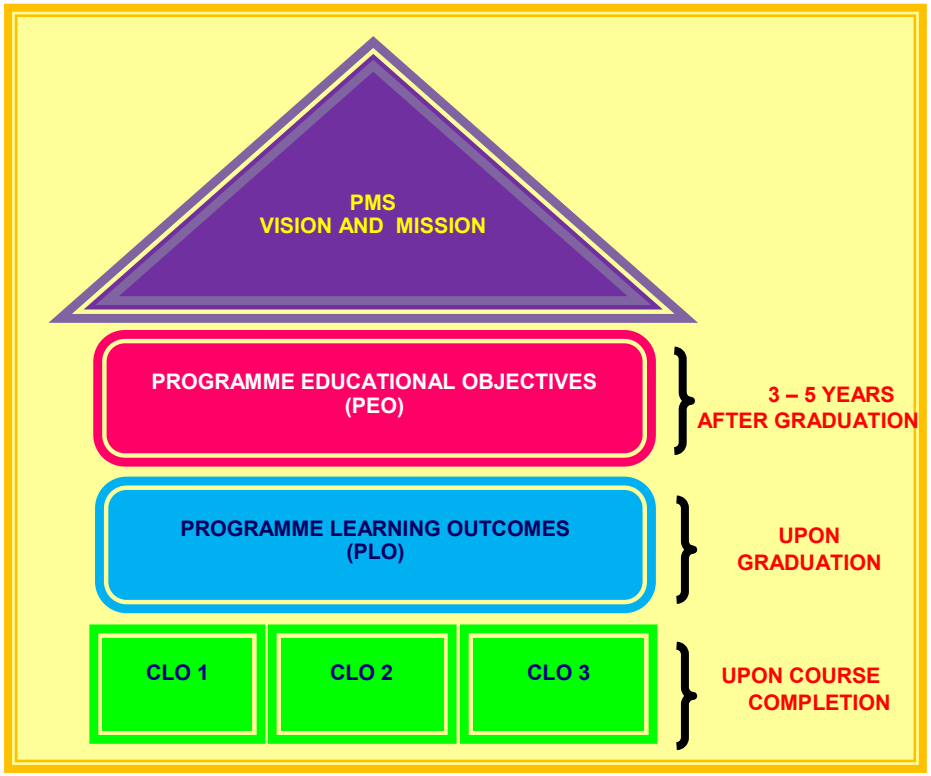
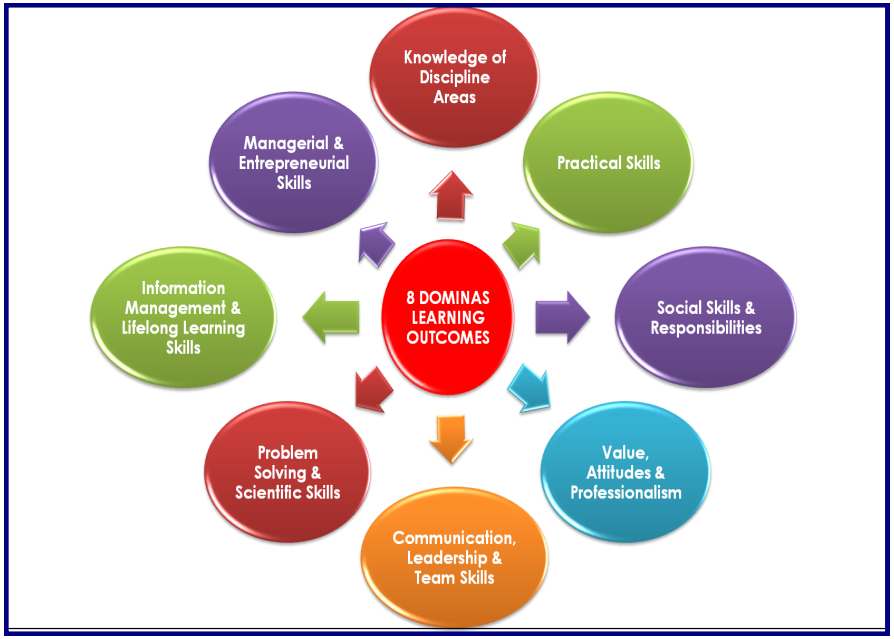


Figure 3: OBE Educational Framework

Outcome Based Education (OBE)

FORMATION OF LEARNING OUTCOMES

The achievement of our students is measured by learning outcomes. These learning outcomes should specify the competencies acquired by students upon completion of their studies. Donnelly, K (2007) mooted that outcomes cater to the understandings, dispositions and capabilities which are the personal and intellectual qualities to be possessed by each student. The outcomes are developed throughout the students' learning span. These features are contained in the 8 domains of learning outcomes:



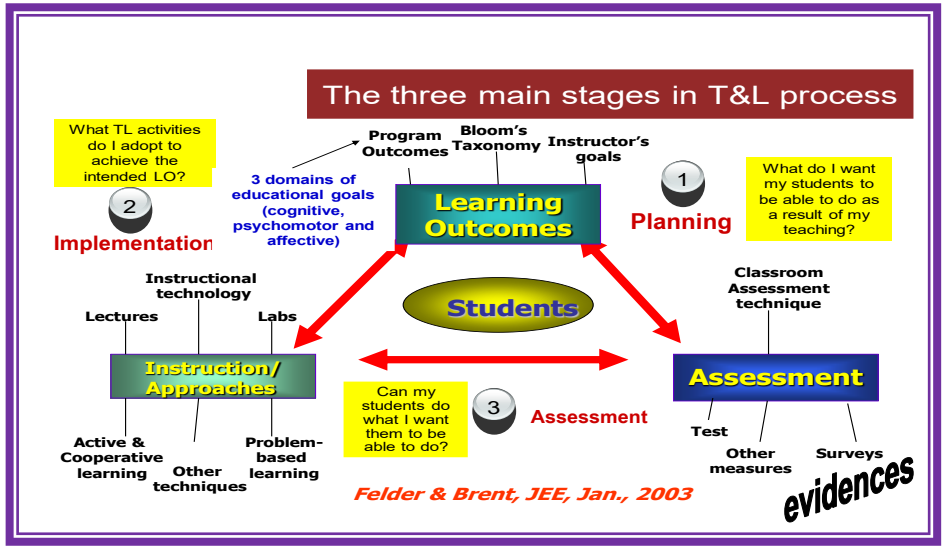
THREE MAIN STAGES IN TEACHING AND LEARNING PROCESS

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.



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 Muadzam Shah. 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.

INTRODUCTION
Engineering Technology Accreditation Council (ETAC)

INTRODUCTION

The Engineering Technology Accreditation Council (ETAC) is a delegated body by the Board of Engineers Malaysia. ETAC started as a Protem Council in 2011 in order to provide a smooth transition in the accreditation of Engineering Technology and Engineering Technician education programmes. The Protem ETAC initially focused on the Sydney Accord based education programmes, and obtained the approval of its inaugural Engineering Technology Accreditation Manual by the BEM in 2015. With the 2015 amendment to the Registration of Engineers Act 1967, the BEM established a 21-person ETAC, comprising the seven groupings (BEM, learned bodies, industry/employer, Public Services Department (PSD), Malaysian Qualification Agency (MQA), Ministry, and public representatives) in 2015 as the only recognized accrediting body for engineering technology bachelor degree, engineering diploma and engineering technology diploma programmes offered in Malaysia.

The ETAC was instrumental in ensuring Malaysia's accredited engineering technology bachelors' degree, engineering diploma and engineering technology diploma programmes are substantially equivalent to the engineering degrees of the signatories of the Sydney Accord (SA) and Dublin Accord (DA). This will ensure that through its accreditation process, the qualities of graduates of accredited programmes meet global standards. Accredited programmes are placed in the ETAC and MQA registers. BEM-ETAC is in the process of joining the Sydney and Dublin Accords. It is hoped that by July 2017 BEM-ETAC will be accepted as a Provisional Signatory for both Accords. In becoming signatory to these Accords BEM-ETAC will be able to ensure Malaysian engineering technology and technician graduates meet an international standard. It will accord for mutual recognition of engineering technology degrees and diplomas and their graduates across the member countries. The same education standards for engineering technology and technician for all member countries is maintained through the guidelines provided by the International Engineering Alliance (IEA – www.ieagreements.org) custodian of the SA and DA. ETAC is determined to uphold the high standard of accreditation process, on behalf of BEM, to become the main catalyst for change in Malaysia and the region.

ACCREDITATION OBJECTIVES

The objectives of ETAC are to ensure:

1. The graduates of the accredited engineering programs meet the minimum academic requirements to be registered as graduate engineer with BEM.
2. The Continual Quality Improvement (CQI) is being practiced by Institutions of Higher Learning (IHLs). Accreditation may also serves as a tool to benchmark engineering programs offered by IHLs in Malaysia.

ADVANTAGES FOR STUDENT AND ORGANIZATION

1. Assurance that the diploma programs offered meet the high standards set by ETAC.
2. Enable students to further studies at local or overseas institutions.
3. Institution will be given opportunities to offer technology and TVET programs.
4. Graduates with diploma in engineering will be accepted to be Engineering Technician/ Inspector of Work (IOW) - registered with BEM.

DEPARTMENT OF MECHANICAL ENGINEERING

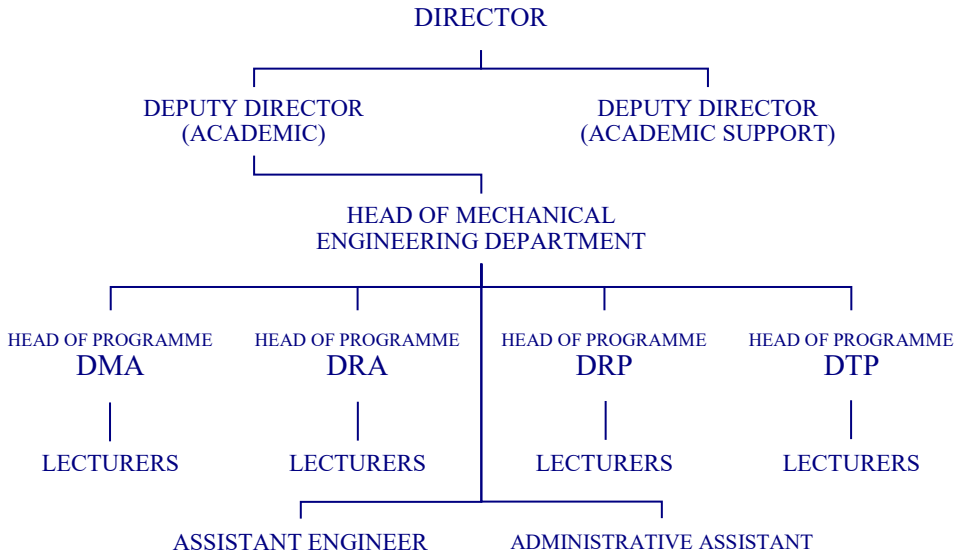
BACKGROUND

Mechanical Engineering Department **(JKM)** was established at the Polytechnic Muadzam Shah at the end of November 2010. It's establishment is in line with the movements of the Campus PMS operations while the permanent campus. There are four diploma programs offered in this polytechnic:

- Diploma of Mechanical Engineering (Automation)
- Diploma of Mechanical Engineering (Product Design)
- Diploma of Mechanical Engineering (Automotive Manufacturing Design)
- Diploma of Mechanical Engineering (Manufacturing)

The entire programs will take six semesters to complete, relatively five academic semesters at the polytechnics and one semester of industrial training at relevant industries during the final semester. The department consists a Head of Department, Heads of Program and academic lecturers. Lecturers allocated for each program based on their background, expertise and experiences.

Mechanical Engineering Department Organization
Organization Chart



Head of Department Mechanical Engineering

EN. MOHD HELMI BIN SALLEH

Position : Head of Department Mechanical Engineering
Grade : DH48
Qualification : Sarjana Pendidikan Teknik & Vokasional, (UTHM) Sarjana Muda Kejuruteraan Mekanikal , (KuiTTHO)
Email : helmi@pms.edu.my

Administrative Assistant & Technicians

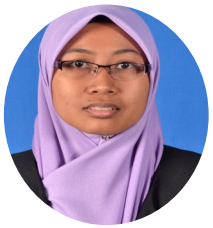
EN. ZAMRI BIN SA'AT

Position : Administrative Assistant
Grade : N19
Email : zamri_saat@pms.edu.my

EN. AFRIWIZAL BIN ABDUL RAHMAN

Position : Assistant Engineer
Grade : JA29
Email : afriwizal@pms.edu.my

ACADEMIC & TECHNICAL STAFF
Dip. in Mech. Eng. (Automotive Manufacturing Design)-DRA



PN. NURHAYAATI BINTI ABDULLAH
Position : Head of Program (DRA)
Grade : DH44
Qualification : Sarjana Muda Kejuruteraan Mekanikal UTM
Email : nurhayaati@pms.edu.my

DR. SITI ROHANI BINTI ISNIN
Position : Lecturer
Grade : DH52
Qualification : Doctor of Philosophy (Educational Technology) UTM , Sarjana Pendidikan UTM .
Email : siti.rohani@pms.edu.my

DR. MOHD NORULHISHAM BIN ABD.RASHID
Position : Lecturer
Grade : DH52
Qualification : Doktor Falsafah Pendidikan Kejuruteraan,UKM (2020), Sarjana Pendidikan Teknik & Vokasional, UTHM(2006), Sarjana Muda Kejuruteraan Mekanikal dengan Kepujian (KUiTTHO , 2005)
Email : hisham@pms.edu.my

Ts. RAFIS SUIZWAN BIN ISMAIL @ HUSSEIN
Position : Lecturer
Grade : DH48
Qualification : Ijazah Sarjana Muda Kejuruteraan Mekanikal (Automotif), UTeM
Email : rafis@pms.edu.my

DR. NURUL AFIZAH BINTI ADNAN
Position : Lecturer
Grade : DH44
Qualification : Doktor Falsafah Pendidikan Teknik & Vokasional , ,Sarjana Pendidikan Teknik & Vokasional, (UTHM) Sarjana Muda Kejuruteraan Mekanikal (KuiTTHO)
Email : nurul.Afizah@pms.edu.my

ACADEMIC & TECHNICAL STAFF
Dip. in Mech. Eng. (Automotive Manufacturing Design)-DRA

PN. SITI HANIS-SYAZANA BINTI MOHAMAD

Position : Lecturer
Grade : DH44
Qualification : Sarjana Kejuruteraan Pembuatan (Sistem Pembuatan) UTeM, Ijazah Sarjana Muda Kejuruteraan Mekanikal Kepujian (Mekanikal-Automotif) UIAM
Email : hanisyazana@pms.edu.my

EN. MUHAMMAD FAIZ B. JANSAR

Position : Lecturer
Grade : DH44
Qualification : Sarjana Kejuruteraan Pembuatan (Sistem Pembuatan) UTeM, Ijazah Sarjana Muda Kejuruteraan Mekanikal (Automotif) UTeM
Email : faiz.jansar@pms.edu.my

EN. MOHD SHAZWAN BIN DAHLAN

Position : Lecturer
Grade : DH44
Qualification : Sarjana Kejuruteraan Pembuatan (Sistem Pembuatan) UTeM, ,Ijazah Sarjana Muda Kejuruteraan Mekanikal (Automotif) UTeM
Email : shazwan@pms.edu.my

EN. MOHD NAZRUDDIN BIN MOHD NIZAM

Position : Lecturer
Grade : DH44
Qualification : Ijazah Sarjana Muda Kejuruteraan Mekanikal (Automotif) UTeM
Email : nazruddin@pms.edu.my

EN. MOHD HAFIZUDDIN BIN ABU BAKAR

Position : Lecturer
Grade : DH44
Qualification : Sarjana Kejuruteraan Mekanikal ,(UMP) Sarjana Muda Kejuruteraan Teknologi Penyelenggaraan Automotif (UnIKL MFI)
Email : mohd.hafizuddin@pms.edu.my

ACADEMIC & TECHNICAL STAFF
Dip. in Mech. Eng. (Automotive Manufacturing Design)-DRA

PN. NURUL ASMIDAR BINTI MUSTAFFA

Position : Lecturer
Grade : DH41
Qualification : Master of Occupational Safety and Health Risk Management (OUM, 2023) ;Sarjana Muda Kejuruteraan Mekanikal Kepujian (Mekanikal-Automotif) UIAM
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EN. MOHD IMRAN BIN MAT AMIN

Position : Lecturer
Grade : DH42
Qualification : Sarjana Kejuruteraan Pembuatan (Kejuruteraan Industri), (UTeM) Diploma Kej. Mekanikal (Automotif) ,
Email : imran@pms.edu.my

EN. KHAIRUL AMIN BIN BARKAWI

Position : Lecturer
Grade : DH34
Qualification : Diploma Kejuruteraan Mekanikal serta Pendidikan KUiTTHO
Email : amin@pms.edu.my

LABORATORY FACILITIES

Department of Mechanical Engineering

NO	ROOM
1	Design Studio 2
2	Design Studio 3
3	Design Studio 4
4	Quality Assurance Lab
5	Automation Lab
6	CAD/CAM Lab
7	Control Engineering Lab
8	Engineering Science Lab
9	Advance Manufacturing Lab
10	Prototyping Lab 1
11	Prototyping Lab 2
12	Project Room and Foundry
13	Fitting & Machining Workshop
14	Automotive Workshop
15	Model Making & Welding Workshop
18	CAD/CAE Lab
19	Instruction Room

LABORATORY FACILITIES
Department of Mechanical Engineering

Bilik Kuliah

Dewan Kuliah Mini

Design Studio

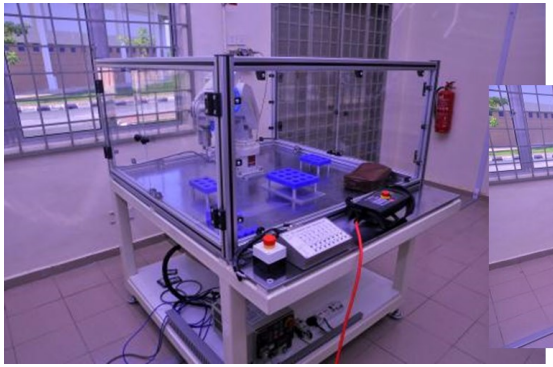
Bilik Lukisan Kejuruteraan

Welding Workshop

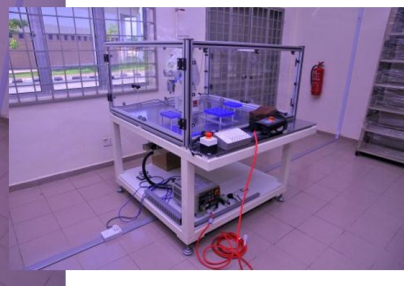
LABORATORY FACILITIES

Department of Mechanical Engineering

Robot Facility



Control Lab



DIPLOMA IN
MECHANICAL ENGINEERING
(AUTOMOTIVE MANUFACTURING DESIGN)

SYNOPSIS

Diploma in Mechanical Engineering (Automotive Manufacturing Design) programme is designed to produced holistic graduates that have knowledge and competent skills in the field of mechanical engineering to fulfil the demand of workers in engineering sector. The programme structure focusses on the area of Solid Mechanics, Statics & Dynamics, Thermodynamics & Heat Transfer, Fluid Mechanics, Materials, Mechanical Design, Workshop Practices, Manufacturing, Instrumentation & Control, Mechanical Maintenance, Electrical & Electronic Technology, Automotive Technologies, Management .

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

Diploma in Mechanical Engineering (Automotive Manufacturing Design) programme should produce balanced and competent technical workers who are:

PEO1 : equipped with industry-relevant knowledge and skills in mechanical engineering field

PEO2 : engaging on lifelong and continuous learning to enhance knowledge and skills

PEO3 : instilled with entrepreneurial skills and mind set in the real working environment

PEO4 : established strong linkage with society and players in the industry

DIPLOMA IN MECHANICAL ENGINEERING (AUTOMOTIVE MANUFACTURING DESIGN)

PROGRAMME LEARNING OUTCOMES (PLO)

Upon completion of the programme, graduates should be able to:

1. 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
2. Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)
3. 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)
4. Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements
5. Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)
6. 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)
7. 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)
8. Understand and commit to professional ethics and responsibilities and norms of technician practice
9. function effectively as an individual, and as a member in diverse technical teams
10. 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
11. 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
12. Recognize the need for, and have the ability to engage in independent updating in the context of specialized technical knowledge

JOB PROSPECT

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

- Technical Assistant
- Assistant Service Engineer
- Service Advisor
- Supervisor
- Assistant Engineer
- Technician
- Technical Instructor or lecturer
- Technical Sales Executive/ Engineer
- Draughter/ Designer
- Entrepreneur

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
Automotive Manufacturing Design (DRA)

SEMESTER 1

No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
1	DUE10012	Communicative English 1	1	0	2	2	-
2	MPU24XX1	Asas Unit Beruniform/Sukan	0	2	0	1	-
3	DUW10022	Occupational, Safety and Health for Engineering	2	0	0	2	-
4	DBM10013	Engineering Mathematics 1	2	0	2	3	-
5	DBS10012	Engineering Science	2	1	0	2	-
6	DJJ10013	Engineering Drawing	1	3	0	3	-
7	DJJ10033	Workshop Technology	3	0	0	3	-
8	DJI11012	Automotive Manufacturing Work-shop Practice	0	4	0	2	-
		TOTAL CREDIT				**18**	

SEMESTER 2

No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
1	MPU23052	Sains, Teknologi dan Kejuruteraan Dalam Islam *	1	0	2	2	-
2	MPU23042	Nilai Masyarakat Malaysia **	1	0	2	2	-
3	MPU24XX1	Kelab / Persatuan / Uni Beruniform 2	0	2	0	1	MPU24XX1
4	DBM20023	Engineering Mathematics 2	2	0	2	3	DBM10013
6	DJJ20053	Electrical Technology	2	2	0	3	-
7	DJJ30093	Engineering Mechanics	2	2	0	3	-
8	DJI22022	Automotive Technology Practice	1	3	0	2	-
9	DJI22012	Automotive Technology	1	3	0	2	-
		TOTAL				**16**	

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
Automotive Manufacturing Design (DRA)

SEMESTER 3

No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
1	DUE30022	Communicative English 2	1	0	2	2	DUE10012
2	MPU21032	Penghayatan Etika dan Peradaban	1	0	2	2	-
3	DBM30033	Engineering Mathematics 3	2	0	2	3	DBM20023
4	DJJ20073	Fluid Mechanics	2	2	0	3	-
5	DJJ30103	Strength Of Materials	2	2	0	3	-
6	DJI31022	Engineering and Tooling Design	2	1	0	2	-
7	DJI33012	Automotive Product Design 1	0	4	0	2	-
		TOTAL				**17**	

SEMESTER 4

No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
1	DJJ40132	Engineering and Society	2	0	0	2	-
2	DJJ20063	Thermodynamics	2	2	0	3	-
3	DJJ30113	Material Science and Engineering	2	2	0	3	-
4	DJI43012	Automotive Product Design 2	0	4	0	2	DJJ10013
5	DJJ40182	Project 1	2	0	0	2	-
6	DJI44012	Project Management	2	0	0	2	-
7		Elective***	0	0	0	0	-
		TOTAL				**14**	

SEMESTER 5

No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
1	DUE50032	Communicative English 3	1	0	2	2	DUE30022
2	DJJ40153	Pneumatic and Hydraulic	2	2	0	3	-
3	MPU22012	Basic Entrepreneurship (U2)	1	0	2	2	
4	DJI50133	Automotive Manufacturing Process	2	2	0	3	-
5	DJJ50193	Project 2	0	4	0	3	DJJ40182
		TOTAL				**13**	

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
Automotive Manufacturing Design (DRA)

SEM 6	No.	Course Code	Course Title	L	P	T	Credit Hours	Pre-Requisites
	1	DUT600610	Engineering Industrial Training	0	0	0	10	
			TOTAL				**10**	

ELECTIVES COURSES ***

1	DJV20012	Automation Programming	1	2	0	0	2
2	DJD41032	Ergonomics	2	0	0	0	
3	DJF51082	Quality Control	2	0	0	0	
4	DJF51062	Manufacturing Control	2	0	0	0	
5	DJJ50212	Engineering Maintenance and Management	2	0	0	0	
6	DJM30062	Industrial Electronics	1	2	0	0	
7	DUD10012	Design Thinking (Free Elective)	1	0	0	1	2

Total credit hours for GRADUATE: 90 credit hours

Guide :

* For Muslim Students

** For Non-Muslim Students

***Only one (1) elective course can be chosen either in semester 4 or 5

Notes:

1. The minimum and maximum credit value of Electives must be referred to the programme standard or professional bodies.
2. Free Electives are courses which are not included in any programme structure but if taken, will contribute towards students' CGPA,
3. MPU22042 Bahasa Kebangsaan A is COMPULSORY for students who did not attain credit in Bahasa Melayu at Sijil Pelajaran Malaysia (SPM) level and will contribute to students' CGPA.
4. Co-curriculum pathways:
   a. Path 1 : Sport and Club
   b. Path 2 : Uniform Unit (Students are required to PASS Uniform Unit 1 as a prerequisite to Uni form Unit 2)

COMPULSORY

COMMON CORE

DISCIPLINE CORE

SPECIALIZATION

ELECTIVE

INDUSTRIAL TRAINING

SUPPORTING DEPARTMENTS

SUPPORTING DEPARTMENT

Mathematics, Science and Computer Department
General Studies Department

The Mathematics, Science and Computer Department which is also known as JMSK is an academic supporting department. It is responsible in manage courses in three different fields that are Mathematics, Science and Computer. Besides, JMSK coordinate all core courses related to the Mathematics, Science and Computer to the students in Politeknik Muadzam Shah.

This department was set up in December 2010 and its currently running with one head department, 3 head of courses, 14 lecturers, one laboratory assistant and one office assistance.

This department is equipped with computer laboratories, science laboratory, mathematical laboratory and classrooms.

The General Studies Department strives to produce excellent students in both cognitive and spiritual. 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 from the English Language Unit, the Islamic Education and Moral Studies Unit .The English Language Unit consists of 9 lecturers while the Islamic Education and Moral Studies unit has a total number of 7 lecturers. Furthermore, the department has three language laboratories that are equipped with the necessary peripherals to enhance the languages' learning and teaching sessions.

The Sport , Cultural & Co-curriculum Department responsible to train the excellent students in sport , cultural and leadership.

The Co-curriculum courses prepare the students with the essential skills in communication and team work to meet the challenges in their future workplace. This department comprises the Head of Department, together with one Heads of Course , One youth and sports officers and one office assistance.

Furthermore, the department manage the sports, cultural and co-curriculum facilities such as Sports Complex , race track and others.

SYNOPSIS & COURSE LEARNING OUTCOME (CLO) FOR ALL COURSES

SYNOPSIS AND COURSE LEARNING OUTCOME

Compulsory

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
MPU 23052 Sains, Teknologi Dan Kejuruteraan Dalam Islam*	2	**SAINS, TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM** memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pencapaiannya dalam tamadun Islam, prinsip serta peranan syariah dan etika Islam, peranan kaedah fiqh serta aplikasinya .	1. Melaksanakan dengan yakin amalan Islam dalam kehidupan seharian (A2 , CLS 4) 2. Menerangkan etika dan profesionalisme berkaitan sains teknologi dan kejuruteraan dalam Islam (A3 , CLS 5) 3. 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 Malaysia, nilai-nilai agama, adat resam dan budaya masyarakat di Malaysia. Selain itu, pelajar dapat mempelajari tanggungjawab sebagai individu dan nilai perpaduan dalam kehidupan disamping cabaran-cabaran dalam membentuk masyarakat Malaysia	1. Membincangkan sejarah dan nilai dalam pembentukan masyarakat di Malaysia (CLS 4,A2) 2. Menerangkan etika dan profesionalisme terhadap konsep perpaduan bagi meningkatkan semangat patriotism masyarakat di Malaysia.(CLS 5,A3) 3. Menghubungkait minda ingin tahu dengan cabaran-cabaraan dalam membentuk masyarakat Malaysia. (CLS 4,A4)
MPU21032 Penghayatan Etika dan Peradaban	2	**PENGHAYATAN ETIKA DAN PERADABAN** menjelaskan tentang konsep etika daripada perspektif peradaban yang berbeza. Ia bertujuan bagi mengenal pasti system, tahap perkembangan, kemajuan dan kebudayaan merntas bangsa dalam mengukuhkan kesepaduan social. Selain itu, perbincangan dan perbahasan berkaitan isu-isu kontemporari dalam aspek ekonomi, politik, social, budaya dan alam sekitar daripada perspektif etika dan peradaban dapat melahirkan pelajar yang bermoral dan professional. Penerapan amalan pendidikan berimpak tinggi (HIEPs) yang bersesuaian digunakan dalam penyampaian kursus ini	1. Membentangkan konsep etika dan peradaban dalam kepelbagaian tamadun (CLS 5,A2) 2. Menerangkan sistem , tahap perkembangan , kesepaduan social dan kebudayaan merentas bangsa (CLS 5,A2) 3. Mencadangkan sikap yang positif terhadap isu dan cabaran kotemporari dari perspektif etika dan peradaban. (CLS 4,A3)

SYNOPSIS AND COURSE LEARNING OUTCOME

Compulsory

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
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 .	1. Participate in a discussion using effective communication and social skills to reach an amicable conclusion by accommodating differing views and opinions (A3),(CLS3b) 2. Demonstrate awareness of values and opinions embedded in texts on current issues (A3), (CLS3b) 3. Present a topic of interest that carries identifiable values coherently using effective verbal and non- verbal communication skills (A2),(CLS 4)
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.	1. Describe a product or service effectively by highlighting its features and characteristics that appeal to a specific audience (A3, CLS 3b) 2. Describe processes, procedures and instructions clearly by highlighting information of concern (A3, CLS 4) 3. Demonstrate effective communication and social skills in handling enquiries and complaints amicably and professionally (A3, CLS 3b)
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 jobhunting 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 jobhunting 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.	1. Present gathered data in graphs and charts effectively using appropriate language forms and functions (A2, CLS 3b) 2. Prepare a high impact resume and a cover letter, highlighting competencies and strengths that meet employer's expectations (A4, CLS 4) 3. Demonstrate effective communication and social skills in handling job interviews confidently (A3, CLS 3b)

SYNOPSIS AND COURSE LEARNING OUTCOME

Compulsory

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
MPU 24XX1 Sukan	1	**SUKAN** adalah aktiviti yang mengandungi Latihan kemahiran berguna secara rekreasi dan peraturanperaturan tertentu dalam mengejar kecemerlangan bagi penguasaan pengetahuan dan kemahiran khusus secara holistic bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif	1. Mempamerkan kemahiran khusus bagi kursus berkaitan (P2, CLS4) 2. Menunjukkan kepimpinan dan kerja berpasukan berdasarkan penguasaan kemahiran dan amalan positif (A3, CLS 3d)
MPU24XX1 Unit Beruniform 1	1	**UNIT BERUNIFORM 1** memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif .	1. Mempamerkan kemahiran khusus bagi kursus berkaitan (P2 , CLS 4) 2. Menunjukkan kepimpinan dan kerja berpasukan berdasarkan penguasaan kemahiran dan amalan positif (A3 , CLS 3d)
MPU24XX1 Unit Beruniform 2	1	**UNIT BERUNIFORM 2** memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif .	1. Mempamerkan kemahiran khusus bagi kursus berkaitan (P2 , CLS 4) 2. Menunjukkan kepimpinan dan kerja berpasukan berdasarkan penguasaan kemahiran dan amalan positif (A3 , CLS 3d)

SYNOPSIS AND COURSE LEARNING OUTCOME

Compulsory

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
MPU24XX1 Kelab/Persatuan	1	**KELAB/PERSATUAN** memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif	1. Mempamerkan kemahiran khusus bagi kursus yang dipelajari. (P2: CLS4) 2. Menunjukkan kepimpinan dan kerja berpasukan berdasarkan penguasaan kemahiran dan amalan positif. (A3: CLS3d)
MPU22012 Entrepreneurship	2	**ENTREPRENUERSHIP** focuses on the fundamentals and concept of entrepreneurship in order to inculcate the value and interest in students to choose entrepreneurship as a career. This course can help students to initiate creative and innovative entrepreneurial ideas. It also emphasizes a preparation of a business plan framework through business model canvas	1. Propose the value proposition of entrepreneurial idea using Business model Canvas (A3 , CLS 3b) 2. Develop a viable business plan by organizing business objectives according to priorities (A4 , CLS 4) 3. organize the online presence business in social media marketing platform (A3 ,CLS 4)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DBM10013 Engineering Mathematics 1	3	**ENGINEERING MATHEMATICS 1** expose students to the basic algebra including perform partial fractions. This course also exposes the concept of trigonometry and the method to solve trigonometry problems by using basic identities, compound angle and double angle formulas. Students also will be introduced to the theory of complex number and matrices method to solve simultaneous equation. This course also introduces students to concepts of vector and scalar.	Use mathematical statement to describe relationship between various physical phenomena.(C3, CLS 1) 1. Show mathematical solutions using the appropriate techniques in mathematics. (C3, CLS 3c) 2. Use mathematical expression in describing real engineering problems precisely, concisely and logically. (A3, CLS 3b)
DBM20023 Engineering Mathematics 2	3	**ENGINEEERING MATHEMATICS 2** Exposes students to the basic laws of exponents and logarithms. This course also introduces the basic rules of differentiation concept to solve problems that relate maximum, minimum and calculate the rates of changes. This course also discuss integration concept in order to strengthen student knowledge for solving area and volume bounded region problems. In addition, students also will learn application of both techniques of differentiation and integration.	1. Use algebra and calculus knowledge to describe relationship between various physical Phenomena (C3,CLS1) 2. Solve mathematics al problems by using appropriate and relevant fundamental calculus techniques (C3,CLS 3c) 3. Use mathematical language to express mathematical ideas and arguments precisely concisely and logically in calculus (A3,CLS 3b)
DBM30033 Engineering Mathematics 3	3	**ENGINEERING MATHEMATICS 3** exposes students to the statistical and probability concepts and their applications in interpreting data. The course also introduces numerical methods concept to solve simultaneous equations by using Gaussian Elimination method, LU Decomposition using Doolittle and Crout methods, polynomial problems using Simple Fixed Point Iteration and Newton-Raphson methods. In order to strengthen the students in solving engineering problems, Ordinary Differential Equation (ODE) is also included. In additional, the course also discusses optimization problems by using Linear Programming. It is designed to build students' teamwork and problems solving skill	1. Demonstrate an understanding of the common body of knowledge in mathematics (C3,CLS1) 2. Demonstrate problems solving in engineering problems. (C3,CLS3c) 3. Use mathematically expression in describing real engineering problems precisely, concisely and logically (A3, CLS 3b)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
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	1. Use basic physics concept to solve engineering physics problems (C3, CLS 1) 2. Apply knowledge of fundamental physics in activities to mastery physics concept (C3, CLS 1) 3.Perform appropriate activities related to physics concept(P3, CLS 3a)
DUW10022 Occupational, Safety and Health for engineering	2	**OCCUPATIONAL SAFETY AND HEALTH FOR ENGINEERING** course is designed to impart understanding of the self-regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA). This course presents the responsibilities of workers in implementing and complying with the safety procedures at work. Understanding of notifications of accidents, dangerous occurrence, poisoning and diseases and liability for offences will be imparted upon students. This course will also provide an understanding of the key issues in OSH Management, Incident Prevention, Fire Safety, Hazard Identification Risk Control and Risk Assessment (HIRARC), Workplace Environment and Ergonomics and guide the students gradually into this multi-disciplinary science.	1. Explain briefly Occupational Safety and Health (OSH) procedures, regulation and its compliance in Malaysia.(C2, PLO 1) 2. Initiates incident hazards, risks and safe work practices in order to maintain health and safe work environment.(A3, PLO 8) 3. Demonstrate communication skill in group to explain the factor that can lead to accident in workplace.(A3, PLO 10)
DJJ40132 Engineering and Society	2	**ENGINEERING AND SOCIETY** focuses on the introduction to professional ethics, theory and philosophy of ethics, values in professional ethics, engineering bylaws and standards, issues in professional ethics and sustainability. It also relates towards IR 4.0 introduction and green engineering.	1. Implement the roles of engineering profession towards the developing of society and its challenges in globalization (C3,PLO6) 2. Determine the important of work ethics, bylaws and professionalism in engineering profession. (C4,PLO8) 3. Determine the needs for sustainable and green engineering towards providing the solutions in engineering field. (C4,PLO7)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJJ10013 Engineering Drawing	3	**ENGINEERING DRAWING** Provides the students with the fundamentals of technical drawings and the application Computer Aided Design (CAD) software. For technical drawing, it emphasizes on the practical knowledge of drawing instruments and drawing techniques while for CAD the student will learn to navigate and use the software to create 2D drawing design in engineering. Students shall be able to demonstrate competency in using some standard available features of technical drawing and CAD application to create and manipulate objects or elements in engineering drawing.	1. Apply the fundamentals of technical drawing and features of CAD software in producing engineering drawing. (C3, PLO1) 2. Construct the technical drawing and 2D CAD drawing according to the engineering drawing standards. (P3, PLO5) 3. Propose a project report with following engineering norms and practices in engineering drawing. (A3, PLO8)
DJJ10033 Workshop Technology	3	**WORKSHOP TECHNOLOGY** provides exposure and knowledge in using hand tools, machine operation such as drilling, lathe, milling and computer numerical control. It also covers on gear measurement and inspection welding process in oxy acetylene, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW).	1. Apply the knowledge of basic mechanical components and equipment, hand tools and measuring equipment in workshop technology (C3, PLO1) 2. Apply standard practice in operating mechanical tools and component (C3, PLO8) 3. Demonstrate continuous learning and information management skills to complete assigned task (A3, PLO12)
DJJ20053 Electrical Technology	3	**ELECTRICAL TECHNOLOGY** exposes students to the basic electrical circuit concepts, the application of electromagnetism in electrical machines and transformers. The course focuses on the different types of electrical circuits, the relationship between current and voltage including the resistance. It also provides the skills on the methods of constructing basic circuits and operation of electrical machines and transformers. This course also exposes the students to the demonstration of experiments in Electrical Engineering.	1. Explain the principles and fundamental of electrical circuits, electromagnetism, transformers and electrical machine (C2, PLO1) 2. Solve the problem related to electrical circuits, electromagnetism, transformers and electrical machine (C3, PLO1) 3. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4, PLO5)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJJ30093 Engineering Mechanics	3	**ENGINEERING MECHANICS** focuses on theoretical knowledge in statics and dynamics. This course provides students with fundamental understanding of forces and equilibrium, resultants, equilibrium of a particles and structural analysis. This course also covers kinematics and kinetics of particles. This course also exposes the students to the demonstration of experiments in Engineering Mechanics.	1. solve problems related to static and dynamics based on the concepts and principle of engineering mechanics (C3, PLO 1) 2. analyze engineering related problems based on fundamentals of static and dynamics (C4, PLO 2) 3. organize appropriately experiment in groups according to Standard Operation Procedures (P4, PLO 5)
DJJ20073 Fluid Mechanics	3	**FLUID MECHANICS** provides students with a strong understanding of the fundamentals of fluid mechanics principles related to the fluid properties and behavior in static and dynamic situations. This course also exposes the students to the demonstration at the real equipment of fluid mechanics.	1.Explain the fundamentals of fluid (C2, PLO1) 2.Solve problems related to fluid properties, fluid statics and fluid dynamics (C3, PLO1) 3.Organize appropriate experiments in groups according to the standard operating procedures (P4, PLO5)
DJJ30103 Strength of Materials	3	**STRENGTH OF MATERIALS** provides knowledge on concepts and calculation of forces on materials, thermal stress, shear force and bending moment, bending stress, shear stress and torsion in shafts. It also deals with the experiments conducted on tensile test, bending moment, shearing force and torsion and deflection	1. apply the concepts of strength of materials to solve related problems. (C3, PLO1) 2. analyze problems correctly related to strength of materials (C4, PLO2) 3. organize appropriately experiment in groups according to Standard Operation Procedures (SOP). (P4, PLO5)
DJJ20063 Thermodynamics	3	**THERMODYNAMICS** provides knowledge of theory, concept and application of principles to solve problems related to thermodynamics. It emphasizes on concept of non-flow process and flow process, properties of steam, Carnot cycle and Rankine cycle. This course also exposes the students to the demonstration of experiments in Thermodynamics by using the real equipment.	1. Explain fundamentals concept and properties of pure substances in thermodynamics (C2, PLO1) 2. Apply Laws of thermodynamics and it processes (C3, PLO1) 3. Organize appropriately experiments according to the Standard Operating Procedures (P4, PLO5)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJJ30113 Material Science and Engineering	2	**MATERIAL SCIENCE AND ENGINEERING** course introduces students a comprehensive coverage of basic fundamentals of materials science and engineering. The course focuses on material structures, properties, fabrication methods, corrosion, thermal processing and material testing mostly of metals and alloys. New fabrication method of powder metallurgy are introduces to student to cater the fabrications of devices, sensors for Industry 4.0 technology.	1. Apply the fundamental of material science to identify the materials, properties, behavior, processes and treatment.(C3 ,PLO1) 2. Performed appropriate material testing according to the Standard Operating Procedures (P4 , PLO5) 3. Demonstrate the ability to work individually and in groups to complete assigned tasks during the practical work session (A3 ,PLO9)
DJJ40153 Pneumatics and Hydraulic	3	**PNEUMATIC & HYDRAULICS** provides knowledge and understanding to the importance of pneumatics and hydraulics circuits, equipment and design along with its usage in the industry.	1. Apply the basic concept and function of pneumatics and hydraulics system. (C3 , PLO1) 2. Design pneumatic, electro-pneumatic and hydraulic circuit according to assigned tasks.(C5 , PLO3) 3. Perform experiment on pneumatic, electro-pneumatic and hydraulic circuit during practical session.(P4 , PLO5)
DJJ40182 Project 1	2	PROJECT 1 provides students with solid foundation on knowledge and skills in formulating project proposal preparation, writing and presentation	1. Identify the engineering problems to be solved (C4, PLO2) 2. CAnalyze methods to solve problems (C4, PLO7) 3. Propose a solution to problems (A3, PLO11)
DJJ50193 Project 2	3	**PROJECT 2** is a continuation of Project 1 focusing on project planning, development, project report and presentation. This course introduces students with ability and skills in conducting project planning, development and management based on their project design. It also provides the student with technical writing and presentation skills. The project will be implemented in a group and each group will work on a project under lecturer(s) supervision. Project titles will be based on specialization and students will be assessed individually.	1. Demonstrate appropriate and creative solution in solving project problems (P5, PLO3) 2. Perform project plan to achieve objectives with valid and reliable results (P4, PLO4) 3. Explain the project work and defend project outcomes effectively with good communication skills (A4, PLO10) 4. Organize project activities and outcomes in report accordance to the specified standard format that applies engineering management principles (P4, PLO11)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJI11012 Automotive Manufacturing Workshop Practice	2	**AUTOMOTIVE MANUFACTURING WORKSHOP PRACTICE 1** exposes the students to machining in term of lathe, milling, and fitting which involves the use of arc, gas, TIG and MIG welding machine, marking out tools, measuring and testing tools. Students are also taught to emphasize on safety procedures and cleanliness in the workshop	1.Follow the Standard Operating Procedure (SOP) for fitting, machining and welding work. (P3, PLO5) 2.Perform the fitting, machining and welding work according to quality standard. (P4, PLO5) 3.Act according to professional ethics, responsibilities and norms of engineering practices according to the workshop safety regulation. (A3, PLO6)
DJI22012 Automotive Technology	2	**AUTOMOTIVE TECHNOLOGY** provides a knowledge to students regarding to the engine construction and classification. Students are also exposed to understand the powertrain units, cooling and lubrication system, vehicle classifications, suspension system and vehicle handling.	1. Acquire the knowledge in construction and characteristics of automotive components and systems.(C3,PLO1) 2.Show the classification and operating principles of any system in automotive. (C3,PLO1) 3.Describe the theory that related to automotive system. (A3,PLO10)
DJI22022 Automotive Technology Practice	3	**AUTOMOTIVE TECHNOLOGY PRACTICE** provides basic automotive related skills of vehicle engine, transmission and electrical system with safety practice on health and environment. .	1. Dismantle and assemble engine and chassis safely (P3,PLO5) 2. Perform electrical system with safety (P4,PLO5) 3. Organize effectively as an individual, and as a member in diverse technical teams (A3,PLO9)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJI 31022 Engineering and Tooling Design	2	**ENGINEERING AND TOOLING DESIGN** provides knowledge of engineering design in emphasizes on mathematical analysis for simple component designs in engineering such as mechanical joint and bearing. It also introduces to principle and methods of designing production tools such as jigs and fixtures for removal processes.	1. Apply the basic principle of engineering and production tool design in manufacturing based on product or component (C3, PLO1) 2. Make a simple design of engineering component or production tools by using design process analysis (P4, PLO5) 3. Demonstrate good communication presentation skills in group on assigned topic (A3, PLO10)
DJI 33012 Automotive Product Design 1	2	**AUTOMOTIVE PRODUCT DESIGN 1** covers the skilled in basic principles of design. Students will learn the fundamental concepts for designing and appreciate the art of designing. Students also acquire analytical thinking through critic sessions. This course also provides the basic knowledge of designing ethic.	1. Follow the philosophy of design development (P3,PLO5) 2. Display the elements knowledge and principles of design in the artwork (P4,PLO5) 3. Share the values, attitudes and professionalism in ethical way during design development (A3,PLO8)
DJI 43012 Automotive Product Design 2	2	**AUTOMOTIVE PRODUCT DESIGN 2** is a robustic course that enables the creation of rich and complex designs highly demanded in contemporary design industry in particular the automotive industry. The main aim of introducing AUTOMOTIVE PRODUCT DESIGN 2 course is to impart knowledge as well as practical skill on creating simple parts and assembly drawings using software. This basic course focuses on the fundamental skills and concepts as a basis for building solid foundation in design. .	1. Construct product design concept for a product development (P3, PLO5) 2. Performs the ideation and concept into Computer Aided Design (CAD) (P4, PLO5) 3. Describe sample automotive component by using designing principles and CAD (A3, PLO10)

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJI44012 Project Management	2	**PROJECT MANAGEMENT** provides knowledge on defining the job, plan the work, and control it according to plan, enabling the students to understand the scope of the project, the timeline, include deciding the beginning of work, the progress of work, managing costs, managing human resources and implementing a plan for communication. This course examines project management roles and environment, the project life cycle and various techniques of work planning, and control and evaluation to achieve project objectives.	1. Apply concept and process involves in project management (C3, PLO1) 2.Conduct investigations and analyze the problem in project management. (C4, PLO4) 3.Explain information, views and suggestions from exploration of issues related to project management. (A3, PLO11)
DJI50133 Automotive Manufacturing Process	3	**AUTOMOTIVE MANUFACTURING PROCESS** provides students with an understanding on basic design and manufacturing process including a study of forming and shaping process, joining processes. Students also learn the process of rapid prototyping and surface textile on the quality of an engineering component .	1.Apply the concept of manufacturing including joining and shaping process, advanced manufacturing and surface texture in Automotive industry. (C3, PLO1) 2.Perform the significant of manufacturing process practically that related in Automotive Industry. (P4, PLO5) 3.Demonstrate the basic manufacturing process in group on assigned task (A3, PLO9)

Elective***

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJV20012 Automation programming	2	**AUTOMATION PROGRAMMING** course provides knowledge relating to the concept and basic principles of programming using a C/C++ language. The emphasis of this course is to understand use of objects, language structures and program structures. This course also provides knowledge and practical skills to develop complete programming tasks through various visual programming techniques.	1. Classify the basic commands, types of data, operators, expressions and logical structure in C/C++ programming (C3,PLO1 2. Construct appropriate C/C++ programmes according to the instruction given. (P3,PLO5) 3. Develop a program structure using C/C++ software in group. (A4,PL09)
DJD41032 Ergonomics	2	**ERGONOMICS** covers the introduction to ergonomics, human biomechanics, anthropometry, the design of controls and displays, ergonomics approach in product design and design applications. Students are made aware of human factors considerations in product design .	1. analyze the ergonomics factors towards human biomechanics and anthropometry needed in work systems involving people and machine (C4, PLO2). 2. illustrate the ergonomics approaches on workstation, device or product design (C4, PLO3) 3. justify the ergonomics approaches used on the proposed design (A3,PLO12)
DJI 43012 Quality Control	2	**QUALITY CONTROL** provides knowledge on basic principle and concept of quality including statistical method in controlling products quality or services. This course also emphasizes on the application of Control Chart and Quality Control tools and also explains the quality improvement technique .	1. Apply the relation of statistics and quality management system in understanding of quality control and their application tools. (C3, PLO1) 2. Determine the related quality tools and techniques to control the quality of products or services based on case study (C4, PLO2) 3. Demonstrate ability to work in team to complete the assigned tasks. (A3, PLO9)

SYNOPSIS AND COURSE LEARNING OUTCOME

Elective***

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DJF51062 Manufacturing Control	2	**MANUFACTURING CONTROL** provides knowledge about basic principles and concept on managing an organization and major levels in manufacturing planning and control system (MPC) which will help students in making forecast, production plan, control production and manage inventory. This course also gives knowledge about production scheduling. It also includes knowledge in managing MRP system (material management), production scheduling and inventory management.	1. Attain the concept and application of Manufacturing Forecasting, Production Scheduling, Inventory Control, Productivity and Capacity Planning (C3, PLO2) 2. Integrate Material Requirement Planning (MRP) and inventory control for manufacturing process controlling activities (C4, PLO4) 3. Adopt project management framework to develop a Material Requirement Planning (MRP) according to inventory management . (A3, PLO11)
DJJ50212 Engineering Maintenance and Management	2	**ENGINEERING MAINTENANCE AND MANAGEMENT** covers topic such as maintenance organization, maintenance strategies system, system approach to maintenance, maintenance planning and scheduling and computerized maintenance management system (CMMS).	1. apply the concepts of maintenance organization and strategies to solve related problems. (C3, PLO1) 2. analyze the principles of maintenance strategies and elaborate on the significance of a system approach to maintenance. (C4, PLO7) 3. organize project management and finance by group in actual workplace related to maintenance management. (A3, PLO11)
DJJM30062 Industrial Electronics	2	**INDUSTRIAL ELECTRONICS** provides exposure to mechanical, electrical and electronic devices. This course discusses structures of circuits, switches, relays, solenoids, sensors and telemetry systems	1. Explain the function of operational principal of switch, relay, solenoid, sensor and telemetry system (C2, PLO1). 2. Display types of switches, relay, solenoid and sensors according to operational principle (P4, PLO 5). 3. Comply the switches, relay, solenoid, electronic control devices, converter and sensors in various circuit (A2, PLO10).

SYNOPSIS AND COURSE LEARNING OUTCOME

Engineering Industrial Training

COURSE CODE	CREDIT HOUR	SYNOPSIS	CLO
DUT 60610 Engineering Industrial Training	10	**ENGINEERING INDUSTRIAL TRAINING** provides knowledge and understanding to students on economy aspect which includes concepts, basic element of cost component principle and decision making which involve in manufacturing process. This course also focus on fixed cost, variable cost, direct and indirect cost, labour cost, break-even point analysis, materials and costing and actual cost which leads towards eliminate the wastage in manufacturing.	1. perform the assigned task accordingly based on job scope requirement (P4 , PLO 5) 2. demonstrate responsibilities as an engineering technician while dealing with people of various background (A5 , PLO 6) 3. practice good working ethics while undergoing industrial training (A5 , PLO 8) 4. display ability to work in a team or independently base on the given task (P4 , PLO 9) 5. demonstrate oral communication skill in performing job requirement (A3 , PLO 10) 6. write a report based on given task accordingly to technical practice (C3 , PLO 10) 7. display life long learning skill in completing the given task (P4 , PLO 12)

STUDENT SUPPORT SERVICES

ACCOMMODATION

Hostel – Conducive, safe, comfortable and peaceful accommodation for learning

Accommodation in the hostel:
New students – will be given priority
Existing students – accommodation will be offered if vacant room is available through the selection process based on the criteria determined by Polytechnic. The criteria includes social economic, home distance, academic and co-curriculum achievement, contribution and disciplinary performance.

Capacity:

Total Block	5 (Male)	5 (Female)
Total Room	670	670
Total Beds	1800	1800

Supporting Facilities:

Facilities	Capacity
Hostel Office	Hostel Supervisor Office and Warden Office
Cafeteria	2 Food Stalls
Wash room	At each Level of hostel (5 levels)
Recreation Room	2 at 1 block of Man Hostel 2 at 1 block of female Hostel
Surau	At each Block (1 room)
Sick Bay	2 room (1 male hostel & 1 female hostel)
WIFI	Cafeteria Area and Co-op Shop

HEALTH SERVICES

- Equipped with first aid facility.
- Hostel Supervisors are responsible to provide transportation service for sick students when medical treatment is needed in the office hour. While this duty will be taken by wardens after office hour.
- Periodic food quality monitoring in the cafeteria/canteen will be carried out periodically.

INSURANCE

GROUP TERM FAMILY TAKAFUL OF POLITEKNIK MUADZAM SHAH

Company	Scope	Sum Covered
Takaful Malaysia Berhad Premium: RM15.00 yearly Students are insured 24 hours during their studies in Politeknik Muadzam Shah, Pahang	Death (Natural Cause) Death (Accidental Cause) Total Permanent Disablement (Natural Cause) Total Permanent Disablement (Accidental Cause) Partial Permanent Disablement (Natural Cause) Partial Permanent Disablement (Accidental Cause) Critical Illness (Accelerated) Accidental Medical Reimburse-ment Hospital Benefit Funeral Expenses / Repatriation	RM4,750.00 RM9,500.00 RM4,750.00 RM9,500.00 RM9,500.00 RM1,000.00 RM1,000.00

INSURANCE OVERVIEW

All the students are insured using Takaful protection known as ‘Group Term Family Takaful’. Agency and Insurance Company The policy chosen is based on Takaful accordance. Generally, the premium, the scope and the sum assured are issued by the insurance company chosen. Currently, the students in Politeknik Muadzam Shah are subjected to Takaful protection by Syarikat Takaful Malaysia Berhad. The following table lists the scope and sum assured by the company.

Steps to be taken if accidents occur:

- Students could get medical treatment from Public or Private Hospital
- Academic Advisor/Student/Next of Kin should inform the details of the accident to the Student Affairs Department within 5 days from the date of occurrence.
- The Student Affairs Department will inform the insurance company within 24 hours from the date of report received.
- Insurance Claim Form will be given to the student for claim purpose.
- A completed form with supporting documents should be submitted to the Student Affairs Department for futher process by the insurer.

The supporting documents for the claim:

- A copy of MyKad / IC
- A copy of Birth Certificate
- A copy of Police Report/ Factory etc.
- The Doctor's / Medical Report/Post Mortem
- Burial permit (applicable for death claim)
- A copy of death certificate (applicable for death claim)

FINANCIAL AID

Scholarships

- Yayasan-yayasan Negeri
- Jabatan Hal Ehwal Orang Asli (JHEOA)

Loans

- Perbadanan Tabung Pendidikan Tinggi Malaysia (PTPTN)
- Tabung Pinjaman Pendidikan Kementerian Pengajian Tinggi Malaysia (KPT)

SPORTS & CULTURAL

PMS provides its community with a wide range of facilities for fitness and leisure activities. The facility provides a comfortable environment for both students and staff to relax and stay fit.

List of Recreational Facilities & Other Amenities are as in table below:

NO.	RECREATIONAL AND FACILITIES AND OTH-ERS	QUANTITY
1.	Football Field	1
2.	Rugby Field	1
3.	Netball Court	4
4.	Basketball Court	2
5.	Volleyball Court	4
6.	Tennis Court	4
7.	Futsal Court	3
8.	Badminton Court	8
9.	Gymnasium	1
10.	Archery equipment	4
11.	Tennis Table	10
12.	Sport Complex	1
13.	Squash Court	2
14.	Swimming Pool	1
15.	Wood Ball equipment	10
16.	Golf Equipment	2
17.	Synthetic Track	1
18.	Music equipment	6 Guitar / 1 Drum set / Nasyid Instrument Set
19.	Kayaking equipment	14
20	Hockey Court	1
21	Mountain Bike	6

Table: Recreational Facilities & Other Amenities

UNIT OF PSYCHOLOGY & CAREER (UPK)

Unit of Psychology & Career Polytechnic Muadzam Shah (UPK PMS) is the unit responsible for providing effective services to students in particular to the process of enrichment and development expand along with the students' academic development. This unit consists of a Career in Psychology Officer assisted by Guidance & Counseling Department Coordinator appointed by the respective department heads. This unit is responsible for implementing the terms of reference as follows:

1. Managing Individual Counseling Services
2. Managing Group Counseling Services
3. Managing Career Counseling Services
4. Managing Lecture
5. Managing Study Visit
6. Managing Control Workshop / Course
7. Managing Exhibition
8. Managing PRS Polytechnic Training
9. Managing the dissemination of Units of Psychology and Career

NO	FACILITIES
1	Individual Counseling Room- 2
2	Discussion / Group Counseling Room – 1

Table: Facilities

ROLE OF AN ACADEMIC ADVISOR

Academic advising is an essential element of the educational process. The academic advisor is a member of the teaching staff who will be guiding students on academic matters throughout their tenure in the polytechnic.

The role an academic advisor:

- Assists the student in obtaining a well balanced education and in interpreting polytechnic policies and procedures. The academic advisor approves the students' academic schedules each semester
- Advise the students on the courses s h e / he should take during a particular semester.
- Will inform the students about the pre requisites and the minimum or maximum number of credit hours a student is eligible to take.
- Will provide the information about the students GPA , CGPA etc.

ASSESSMENTS

GRADING POINT SYSTEM

- Under Polytechnics' assessment system, student's performance is being measured on the basis of quantitative method and being known as Grading Point System (GPS).

- In the Grading Point System, there are measures to evaluate student's performance:

GRADE POINT AVERAGE (GPA) -PNM

- The average grade of a student for a given semester is being computed by taking the sum of the courses' credit hours and grade point divided by the total credit hours taken in that semester.

- Formula: **GPA =** $\frac{\text{Total credit hours x Grade point}}{\text{Total credit hours taken in that semester}}$

CUMULATIVE GRADE POINT AVERAGE (CGPA) -HPNM

- The sum of the courses' credit hours and the grade point for all courses taken in all semesters, divided by the total credit hours taken in all semesters.

- Formula: **CGPA =** $\frac{\text{Total credit hours x Grade point in all semester}}{\text{Total credit hours taken in all semester}}$

SAMPLE GPA CALCULATION

The table below gives the grades obtained by a student during first semester at diploma level.

CODE	COURSE	CREDIT HOURS	GRADE ACHIEVED	GRADE POINTS
DUE100012	Communicative English 1	2	B	3.00
MPU24XX1	Sukan/ Unit Beruniform 1	1	A	4.00
DBM10013	Engineering Mathematics 1	3	B+	3.33
DBS10012	Engineering Science	2	A-	3.67
DUW10022	Occupational, Safety and Health for Engineering	2	A-	3.67
DJJ10013	Engineering Drawing	3	B	3.00
DJI11012	Automotive Manufacturing Workshop Practice	2	B+	3.33
DJJ10033	Workshop Technology	3	A	4.00
Credit Total		**18**		

GPA = Σ (Credit hours X Credit points) ÷ Σ Total Credit hours

= {(2X3) + (1X4) + (3X3.33) + (2X3.67) + (2X3.67) + (3X3.00) + (2X3.33)+(3X4) } ÷ {2+1+3+2+2+3+2+3}

= 62.33 ÷ 18
= 3.46

Therefore, **Semester GPA = 3.46**

GRADING SYSTEM

- A student will be evaluated based on the following mark scales, grades and grade points as being outlined in Table below:

Mark Scale	Grade Point	Grade	Status
90 – 100	4.00	A+	High Distinction
80 - 89	4.00	A	Distinction
75 – 79	3.67	A-	Credit
70 – 74	3.33	B+	Credit
65 – 69	3.00	B	Credit
60 – 64	2.67	B-	Pass
55 – 59	2.33	C+	Pass
50 – 54	2.00	C	Pass
45 – 49	1.67	C-	Pass
44 – 46	1.33	D+	Pass
40 – 43	1.00	D	Pass
30 – 39	0.67	E	Fail
20 – 29	0.33	E-	Fail
0 – 19	0.00	F	Fail

COURSE CREDIT HOUR

- Total credit hours taken by students are in between 12 to 20 credit hours every semester which have been stated in the Curriculum Document and Program Structure.
- A minimum total credit hours shall be fulfilled before the students are qualified to be awarded a Diploma (including advanced diploma) which has also been stated in the curriculum document and program structure.

REGISTER COURSE

- Students must register within fourteen days (14) of the commencement date of each semester.
- Students should get an advice from the Academic Advisor and get approval from the Head of Mechanical Engineering Department before registering the courses more than 20 credit hour.
- Students should register the repeated course/s in the current semester if that particular course/s being offered except, there was undue circumstances. Therefore, students must get an approval first from the Head of Mechanical Engineering Department.

- If students fail to register the repeated course/s or any course/s that should be taken in the particular semester
- The student will be given Grave F with the grade point equivalent to 0.00 for that particular course; and
- The student will be assumed as has already taken the course and failed it.

ADD COURSE

- Course adding can be done on the 3rd until the 6th week of an academic session. Students should get an advice from the Academic Advisor and obtain an approval from the Head of Mechanical Engineering Department.

DROP COURSE

- Students are allowed to drop the course with one condition that the students' credit hours are not less than 12 hours.
- Course's dropping can be done on the 3rd until the 6th week of an academic session. Students should get an advice from the Academic Advisor or the Head of Program, and obtain an approval from the Head of Mechanical Engineering Department

REPEAT COURSE

- Student who fails two or more courses in previous semester is required to repeat that particular course/s in any semester after getting confirmation from the Examination Board.

ASSESMENT RESULT CATEGORY

- Assessment result for each semester can be categorized into:

Pass status

- Student who obtains a CGPA (Cumulative Grade Point Average) equivalent to or more than 2.00.

Conditional pass status

- Student who obtains a CGPA (Cumulative Grade Point Average) equivalent to or more than 1.60 and less than 2.00.

Fail status

- Student who obtains a CGPA (Cumulative Grade Point Average) less than 1.60.
- Student who obtains a GPA (Cumulative Grade Point Average) less than 1.00 except for final semester student and part-time student.
- Student who fails in any courses for three (3) times including the special final examination.
- Student who obtains conditional pass status for three times consecutively.

CRITERIA TO GRADUATE UNDER NEW GRADING SYSTEM

A student will graduate from his/her studies for a program if he/she fulfills the criteria below:

I. Pass all courses under a program;
II. Obtain a CGPA (Cumulative Grade Point Average) equivalent to or more than 2.00;
III. Obtain sufficient total credit hours for a program;
IV. Student who obtain the minimum passing grade (C-, D+ and D) is allowed to repeat the course only once to improve their grade for the next semester including the short semester. Only the higher grade calculation will be taken into the result without adding the credit hour.
V. Fulfill all program's requirement and certified by the *Lembaga Peperiksaan*.

PROGRAM DURATION

- Duration of a full-time program are as follows:

  Diploma

  - Minimum is five (5) semesters
  - Maximum is nine (9) semesters

- Student that has been charged disciplinary action (will be suspended under Act 174) is included in the duration of study.
- The period of deferment that has been approved by the Director of Polytechnic will not be computed as part of the period of study.

ALUMNI

- The alumni assist students preparing for their professional future through:
  Their own success stories
  Career Information
  Seminars/Talks on career
- Alumni/polytechnic graduates are expected to provide their feedback through the Tracer Study which is carried out annually. 85% of polytechnic graduates take part in this Tracer Study in order to provide their feedback pertaining to the curriculum taught and their mandatory 6-month industrial experience. All these input serves provide the basis for curriculum development, achievement of learning outcomes and future programs.
- Details of Alumni of Politeknik Muadzam Shah are as follows:

Address : Persatuan Alumni Politeknik Muadzam Shah Rompin Pahang
Lebuhraya Tun Abdul Razak
26700 Muadzam Shah
Pahang Darul Makmur

No Telefon : 09 – 4502005
No. Faks : 09 – 4502009

Website : https://pms.mypolycc.edu.my/

INDUSTRIAL TRAINING

INTRODUCTION TO INDUSTRIAL TRAINING

Industrial Training (LI) is part of the curriculum requirements that must be fulfilled by the students before they are awarded with Diploma from Polytechnic. Diploma students will undergo their LI in Semester 6.

Duration of the LI is 20 weeks where the students are spreads to selected firms and organizations all over the country.

PREPARATION FOR INDUSTRIAL TRAINING

Once eligible, the students need to follow proper procedures for the LI. The students are required to apply for LI placement from the firms or organizations that offered LI via the Industrial Training Officer of Department (PLIJ) respectively. It is advisable that the LI should be relevant to the students' academic courses of study.

The following documents will be issued by the PLIJ to be used in the application for a placement in the firms or organizations:

- Industrial Training Application Letter/*Surat Memohon Tempat Latihan Industri* - that has Polytechnic's letterhead
- Reply Form/*Borang Jawapan* - that has to be submitted to the firms/organizations

INDUSTRIAL TRAINING

DURING INDUSTRIAL TRAINING

The confirmation of the LI attachment is done when the students submit the following documents for verification purpose on the registration of the LI day at each respective firms/organizations:

- Letter of Report Duty/*Surat Lapor Diri* - that has Polytechnic's letterhead
- Polytechnic Student's ID card/*Kad Pelajar*
- Letter of Indemnity/*Surat Lepas Tanggung*
- End of Training Confirmation Letter/*Surat Tamat Latihan Industri*
- Log Book/*Buku Log* - available in PMS Cooperative Shop
- Performance Evaluation Form/*Borang Penilaian Pelajar*

An academic supervisor will be assigned to each of the students. The academic supervisor (or representative) will visit the students at the firms/organizations during the LI and thus, will be evaluated.

COMPLETION OF INDUSTRIAL TRAINING

After completing of LI, the students are required to re-register to the Polytechnic with the End of Training Confirmation Letter and fee payment bank slip that will be posted to the students' latest address.

Upon completion, the students are required to prepare a technical report about their LI. The students are expected to include information related to the job/task which they have undergone during LI in the write up and shall submit both report and log book to the PLIJ.

OTHER FACILITIES

Department of Mechanical Engineering

Squash Court

Multipurpose Court

Swimming Pool

Futsal Court

Tennis Court

Basketball Court

OTHER FACILITIES

Department of Mechanical Engineering

Gym

Football Field

Jogging Track

Rugby Field

Volley Ball Court

ACTIVITIES

Department of Mechanical Engineering

Department of Mechanical Engineering

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All feedback or suggestions for the Handbook should be directed to Administrator of Department of Mechanical Engineering Politeknik Muadzam Shah

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