KEMENTERIAN PENGAJIAN TINGGI

POLITEKNIK MALAYSIA
MUADZAM SHAH

MECHANICAL ENGINEERING
DEPARTMENT

STUDENT GUIDE

FOR
INTAKE
1 : 2024/2025

DIPLOMA IN MECHANICAL ENGINEERING (PRODUCT DESIGN)

2024 EDITION

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PREFACE

Politeknik Muadzam Shah

Bismillahirrahmanirrahim
Assalamualaikum.

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 !

HAJI MOHD YUSOF BIN ZAKARIA
Director
Politeknik Muadzam Shah

PREFACE

Politeknik Muadzam Shah

Assalamualaikum.

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 develops for its graduates. Currently, we offer Diploma of Mechanical Engineering (Product Design)-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.

DR. NURUL AFIZAH BINTI ADNAN
Head of Mechanical Engineering Department
Politeknik Muadzam Shah

VISION

To Be The Leading Edge TVET Institution

MISSION

1. To provide wide access to quality and recognized TVET programmes.
2. To empower communities through lifelong learning.
3. To develop holistic, entrepreneurial and balanced graduates.
4. To capitalise on smart partnership with stakeholders.

VISI

Menjadi Peneraju institusi TVET yang unggul.

MISI

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.*

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 4.1 below.

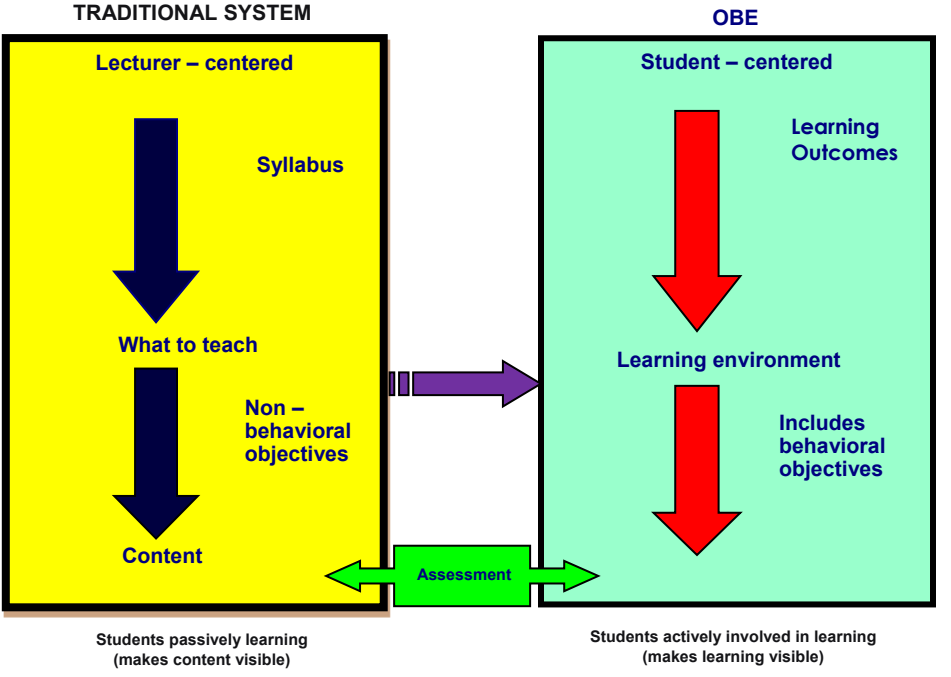


Figure 4.1 : A Paradigm Shift for Educational System

INTRODUCTION

Outcome Based Education (OBE)

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 .

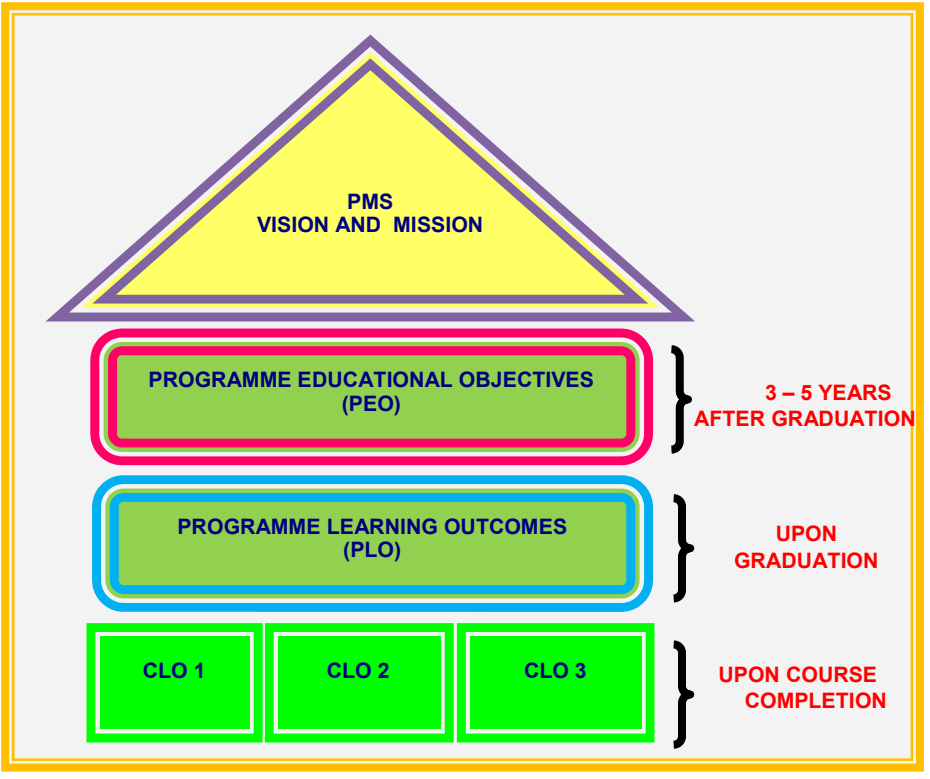


Figure 4.2: OBE Educational Framework

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.

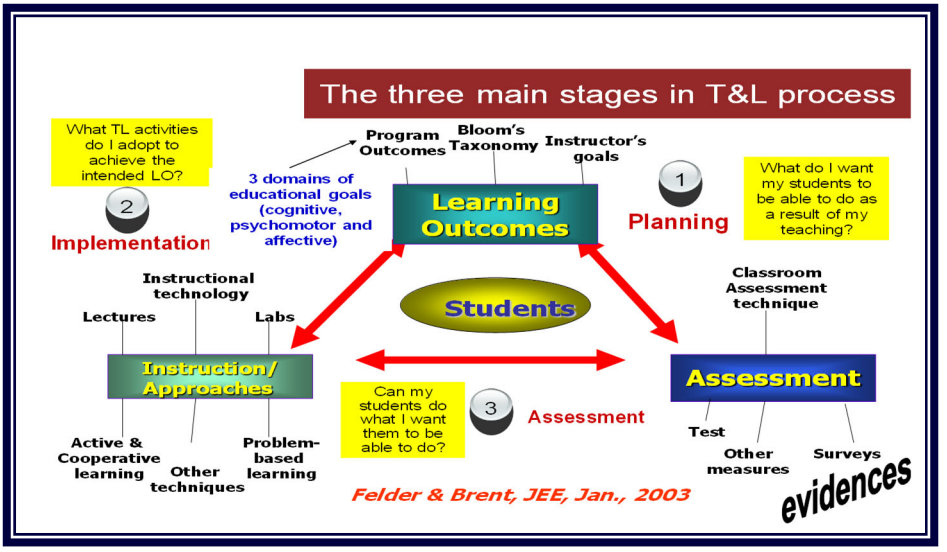


Figure 4.3: Teaching and Learning process

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

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

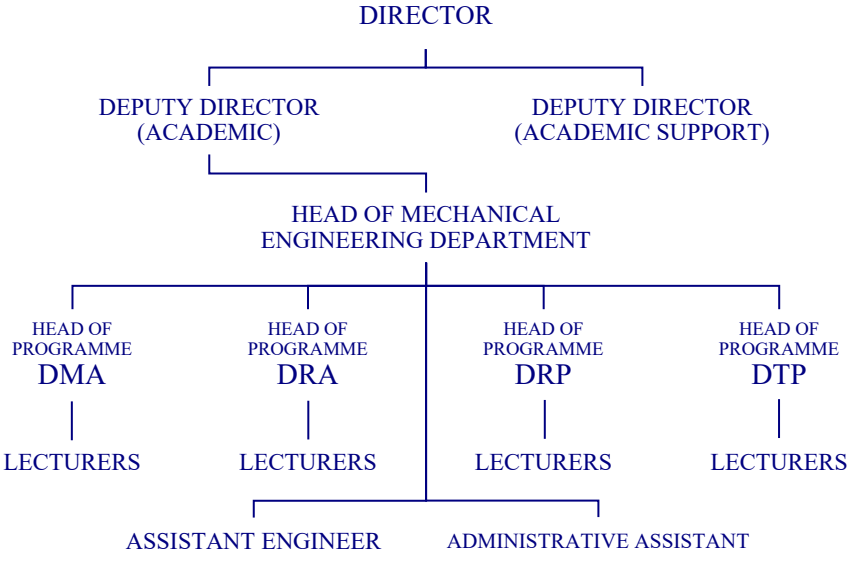
Mechanical Engineering Department **(JKM)** was established at the Politeknik Muadzam Shah at the end of November 2010. It's establishment is in line with the movements of the Campus PMS operations while the permanent campus. There are four diploma programs offered in this polytechnic:

- 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



LABORATORY FACILITIES

Department of Mechanical Engineering

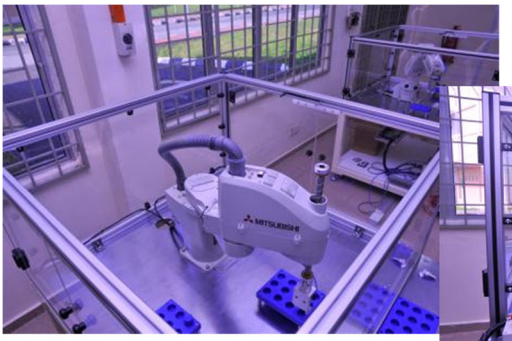
NO	ROOM
1	Design Studio 2
2	Design Studio 3
3	Design Studio 4
4	Quality Assurance Lab
5	Automation Lab
6	CAD/CAM Lab
7	Control Engineering Lab
8	Engineering Science Lab
9	Advance Manufacturing Lab
10	Prototyping Lab 1
11	Prototyping Lab 2
12	Project Room and Foundry
13	Fitting & Machining Workshop
14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

LABORATORY FACILITIES
Department of Mechanical Engineering

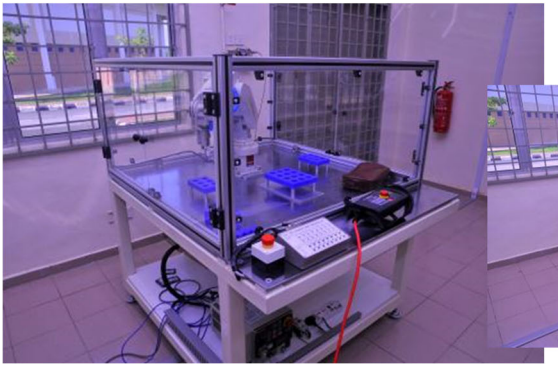
Welding Workshop

LABORATORY FACILITIES

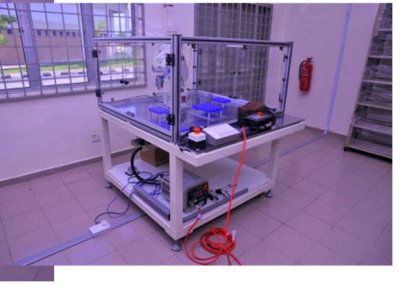
Department of Mechanical Engineering



Robot Facility



Control Lab



DIPLOMA IN
MECHANICAL ENGINEERING
(PRODUCT DESIGN)

DIPLOMA IN MECHANICAL ENGINEERING (PRODUCT DESIGN)

SYNOPSIS

The Diploma in Mechanical Engineering (Product Design) programme is designed to produced holistic graduates with knowledge and skills in mechanical engineering and product design field. It uses the principles of science and engineering which contributes to the engineering knowledge through applied mathematics and science, computational method, engineering and engineering technology practices, and final year project which is integrated with professional engineering practices. This programme includes industrial revolution related skills to meet the needs of the industry and society. To gain the industrial work experience, student is required to undergo 20 weeks of industrial training during the final semester. experience, student is required to undergo 20 weeks of industrial training during the final semester.

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DIPLOMA IN MECHANICAL ENGINEERING (PRODUCT DESIGN)

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

Within a few years after completing Diploma in Mechanical Engineering (Product Design), graduates are able to:

PEO1 : proficient with industry-relevant knowledge and skills in mechanical engineering (product design) field

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

PEO3 : acquire with entrepreneurial skills and mindset in the real working environment

PEO4 : establish links with society and players in the industry

DIPLOMA IN MECHANICAL ENGINEERING (PRODUCT DESIGN)

PROGRAMME LEARNING OUTCOMES (PLO)

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

PLO 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 in the area of mechanical engineering (product design).
PLO 2	Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to mechanical engineering (product design) field (DK1 to DK4).
PLO 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 in the area of mechanical engineering (product design) (DK5).
PLO 4	Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements (DK8).
PLO 5	Apply appropriate techniques, resources, and engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK2 and DK6).
PLO 6	Consider sustainable development impacts* to: society, the economy, sustainability, health and safety, legal frameworks, and the environment, in solving well-defined engineering problems (DK1, DK5 and DK7).
PLO 7	Understand and commit to professional ethics and responsibilities and norms of technician practice and including compliance with national and international laws. Demonstrate an understanding of the need for diversity and inclusion (dk9).
PLO 8	Function effectively as an individual, and as a member in diverse inclusive teams in multi-disciplinary, face-to-face, remote, and distributed settings (DK9).
PLO 9	Communicate effectively and inclusively 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.
PLO 10	Demonstrate awareness of engineering management principles as a member or leader in a technical team and to manage projects in multidisciplinary environments.
PLO 11	Recognise the need for and have the ability i) independent and lifelong learning and ii) critical thinking in the face of specialised technical knowledge (DK8).

DIPLOMA IN MECHANICAL ENGINEERING (PRODUCT DESIGN)

JOB PROSPECT

This programme provides knowledge and skills in mechanical engineering (Product Design) field that can be applied to a broad range of careers in manufacturing industries. The knowledge and skills that the graduates acquire from the programme will enable them to participate in the job market:

a. Assistant Engineer
b. Assistant Product Engineer
c. Assistant Design Engineer
d. Assistant Project Engineer
e. Process Technician
f. Supervisor
g. Technical Specialist
h. Design Drafter
i. CAD/CAE Technician
j. CAD/CAM Technician
k. Product Design Entrepreneur

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
PRODUCT DESIGN (DRP)

COURSE TYPE	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PREREQUISITE
			L	P	T	O		
SEMESTER 1								
Compulsory	DUE10062	Technical English 1	1	0	2	0	2	
	MPU 24031	Sukan 1	0	2	0	0	1	
	MPU 24041	Kelab / Persatuan 1						
	MPU 24XX1	Unit Beruniform 1						
Common Core	DUW10042	Occupational, Safety and Health for Engineering	2	0	0	0	2	
	DBS10042	Engineering Science	2	1	0	0	2	
	DBM10163	Engineering Mathematics 1	2	0	2	0	3	
Discipline Core	DJJ10223	Engineering Drawing	1	3	0	0	3	
	DJJ10243	Workshop Technology	3	0	0	0	3	
	DJJ10232	Mechanical Workshop Practice 1	0	4	0	0	2	
TOTAL			**25**				**18**	
SEMESTER 2								
Compulsory	MPU23182	Sains Teknologi dan Kejuruteraan Islam*	1	0	2	0	2	
	MPU23172	Nilai Masyarakat Malaysia**						
	MPU 24051	Sukan 2	0	2	0	0	1	MPU 24031
	MPU 24061	Kelab / Persatuan 2						MPU 24041
	MPU 24XX1	Unit Beruniform 2						MPU 24XX1
	MPU22071	Integriti dan Anti-Rasuah	0	0	2	0	1	
Common Core	DBM20173	Engineering Mathematics 2	2	0	2	0	3	DBM10163
Discipline Core	DJJ20263	Electrical and Electronic Technology	2	1	1	0	3	
	DJJ30313	Engineering Mechanics	2	1	1	0	3	
Specialization	DJD20092	Product Design	1	3	0	0	2	
	DJD20102	Engineering Graphics	1	3	0	0	2	DJJ10223
TOTAL			**27**				**17**	

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
PRODUCT DESIGN (DRP)

COURSE TYPE	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PREREQUISITE
			L	P	T	O		
SEMESTER 3								
Compulsory	DUE30072	Technical English 2	1	0	2	0	2	
Common Core	DBM30183	Engineering Mathematics 3	2	0	2	0	3	DBM20173
Discipline Core	DJJ20273	Fluid Mechanics	2	1	1	0	3	
	DJJ30323	Strength of Materials	2	1	1	0	3	
Specialization	DJD30113	Product Design and Development	2	2	0	0	3	
	DJD30123	Prototype Modelling	0	4	0	0	3	DJD20102
TOTAL			**23**				**17**	
SEMESTER 4								
Discipline Core	DJJ40343	Material Science and Engineering	2	1	1	0	3	
	DJJ30293	Thermodynamics	2	1	1	0	3	
	DJJ40373	Pneumatic and Hydraulics	2	1	1	0	3	
	DJJ40392	Project 1	2	0	0	0	2	
Specialization	DJD40133	Ergonomics	3	0	0	0	3	
Electives	DJXXXXX	Elective					2	
TOTAL			**17**				**16**	
SEMESTER 5								
Common Core	DJJ30332	Engineering and Society	2	0	0	0	2	
Compulsory	MPU21072	Penghayatan Etika dan Peradaban	1	0	2	0	2	
	DUE50082	Technical English 3	1	0	2	0	2	
	MPU22062	Entrepreneurship	1	0	2	0	2	
Discipline Core	DJJ50403	Project 2	1	3	0	0	3	DJJ40392
Specialization	DJD50143	Manufacturing Process	2	1	0	0	3	
TOTAL			**18**				**14**	

PROGRAMME STRUCTURE DIP. IN MECH. ENG.
PRODUCT DESIGN (DRP)

COURSE TYPE	COURSE CODE	COURSE NAME	CONTACT HOURS				CREDIT VALUES	PREREQUISITE
			L	P	T	O		
SEMESTER 6								
Industrial Training	DUT600910	Engineering Industrial Training	0	0	0	0	10	
TOTAL			**0**				**10**	
ELECTIVES								
1	DJJ40442	Industrial Management	2	0	0	0	2	
2	DJF52092	Quality Control	2	0	0	0	2	
3	DJI30152	Engineering and Tooling Design	2	1	0	0	2	
4	DJJ40352	Computer Programming	1	2	0	0	2	
5	DJJ40452	Instrumentation and control	2	0	0	0	2	
FREE ELECTIVES								
1	DUD10012	Design Thinking	1	0	0	1	2	

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 dot the B code courses in three different fields that are Mathematics, Science and Computer. Besides, JMSK coordinate all courses in Mathematics, Engineering Science and Computer which became as a core to the students' academic achievement in Politeknik Muadzam Shah.

This department was set up in December 2010 and its currently running with 11 lecturers, one laboratory assistant and one office assistance.

JMSK is supported by the head of department; supported by three (3) course leaders of Mathematics, Science and Computer. 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 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 three Heads of Course and also lecturers from the English Language Unit, the Islamic Education and Moral Studies Unit and Co-curriculum Unit. Furthermore, the department has three language laboratories that are equipped with the necessary peripherals to enhance the languages' learning and teaching sessions.

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

SYNOPSIS & COURSE LEARNING OUTCOME (CLO) FOR ALL COURSES

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	4 (Male)	6 (Female)
Total Room	536	804
Total Beds	1440	2160

Supporting Facilities:

Facilities	Capacity
Hostel Office	Hostel Supervisor Office and Warden Office
Cafeteria	4 Food Stalls
Recreation Room	At each Block (1 room)
Reading Room	At each Block (1 room)
Surau	At each Block (1 room)
WIFI	At Recreation Room and Reading Room

STUDENT FACILITIES
Department of Mechanical Engineering

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

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.

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 /Disease Cause) Death (Accidental Cause) Total Permanent Disablement (Natural / Disease Cause) Total Permanent Disablement (Accidental Cause) Partial Permanent Disablement (Accidental Cause) Funeral Expenses (Natural / Disease Cause) Funeral Expenses (Accidental Cause) Accidental Medical Reimbursement Hospital Benefit (Accident, Max. 30 days)	RM 5,000.00 RM40,000.00 RM 5,000.00 RM40,000.00 RM40,000.00 RM 750.00 RM1,500.00 RM3,000.00 RM1,500.00 (RM50.00/ day)

Steps to be taken if accidents occur:

i. Students could get medical treatment from Public or Private Hospital
ii. Academic Advisor/Student should inform the details of the accident to the Student Affairs Department within 5 days from the date of occurrence.
iii. The Student Affairs Department will inform the insurance company within 24 hours from the date of report received.
iv. Insurance Claim Form will be given to the student for claim purpose.
v. 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
- Student card
- A copy of relation document (birth certificate)
- A copy of Police Report/ Factory etc.
- The Doctor's / Medical Report/Post Mortem
- Burial permit (applicable for death claim)
- Driving license (death causes by accident)
- A copy of death certificate (applicable for death claim)
- Others document (if need)

FINANCIAL AID

Scholarships

- Yayasan-yayasan Negeri
- Jabatan Kemajuan Orang Asli (JAKOA)

Loans

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

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.

SPORTS & CULTURAL

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

NO.	RECREATIONAL AND FACILITIES AND OTHERS AMENITIES	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	2
8.	Badminton Court	8
9.	Gymnasium	1
10.	Archery equipment	4
11.	Tennis Table	5
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 Field	1
21.	Mountain Bike	6
22.	Takraw Court	4
23.	Petanque Court	2

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 TITLE	CREDIT HOURS	GRADE ACHIEVED	GRADE POINTS
DUE10012	Communicative English 1	2	A	4.00
MPU24XX1	Sukan	1	B	3.00
DBM10013	Engineering Mathematics 1	3	B+	3.33
DBS10012	Engineering Science	2	A-	3.67
DUW10022	Occupational, Safety and Health	2	A-	3.67
DJJ10013	Engineering Drawing	3	B	3.00
DJJ11012	Product Design 1	2	B+	3.33
DJJ10033	Workshop Technology	3	A	4.00
Credit Total		**18**		

$$GPA = \frac{\Sigma \text{ (Credit hours X Credit points)}}{\Sigma \text{ Total Credit hours}}$$

$$= \frac{\{(2X4) + (1X3) + (3X3.33) + (2X3.67) + (3X3) + (2X3.33) + (3X4)\}}{\{2+1+3+2+2+3+2+3\}}$$

$$= \frac{55.99}{18}$$

$$= 3.11$$

Therefore, **Semester GPA = 3.11**

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 Commerce Department before registering the courses.
- 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 Commerce 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 Commerce 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 Commerce 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 times including the special final examination.
- Student who obtains conditional pass status for three times consecutively.
- Student who fails Training Industry for two times consecutively.
- Student who exceeds the maximum period of study.

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:

  Advanced Diploma (for Diploma graduate)
  - Minimum is four (4) semesters
  - Maximum is eight (8) semesters

  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**
  Politeknik Muadzam Shah
  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 last semester.

Duration of the LI is 20 weeks where the students are spreads to selected firms and organizations all over the country. LI programme will be conducted on December and June session every year. Before the students are allowed to undergo the LI, they should pass all the course in programme structure.

PREPARATION FOR INDUSTRIAL TRAINING

Once eligible, the students need to follow proper procedures for the LI. Each student must attend the LI Preparation Briefing by Industrial Training Unit. 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*
- Reflection Journal
- Self Confirmation Card/ *Kad Pengesahan Lapor Diri*
- Student Information Card & Location Plan/ *Kad Maklumat Pelajar & Pelan Lokasi*

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 :

- My Internship Reflection
- Reflection Journal
- Draft of Industrial Training report
- Student Recommendation/ suggestion about the training

COMPLETION OF INDUSTRIAL TRAINING

After completing the six months of LI, the students are required to re-register to the Polytechnic with :

- End of Training Confirmation Letter from firms/organizations
- LI Performance Assessment by firms/organizations (Practical Task form & Reflective Journal form)
- Reflection Journal
- Final Report on Industrial Training
- Present about the training to the polytechnic evaluation panel

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

EDITORIAL BOARD

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

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