

Sixth Edition

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PREFACE

Bismillahirrahmanirrahim

Assalamulaikum w.b.t and Salam Sejahtera.



Dear Students,

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

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

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

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

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

Thank you.

Sincerely,

Mohd Hatta bin Zainal

Director

Politeknik Merlimau

PREFACE

Assalamualaikum w.b.t and Salam 1 Malaysia.

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



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

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

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

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

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

Sr. Mohamad Kelana Bin Juwit

The Head of Civil Engineering Department Polytechnic of Merlimau

INTRODUCTION

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

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

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

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

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

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

VISION & MISSION



VISSION

To Be the Leading-Edge TVET Institution



TAG LINE

Expertise For Excellence, X4X

MISSION

1.To develop holistic,
entrepreneurial and balanced
TVET graduates through
dynamic education in-line
with the current Industrial
Revolution.

2.To capitalise on smart
partnership with
stakeholders.

3.To empower communities
through life-long learning,
research and innovation.



MANAGEMENT ORGANISATION



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

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

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

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

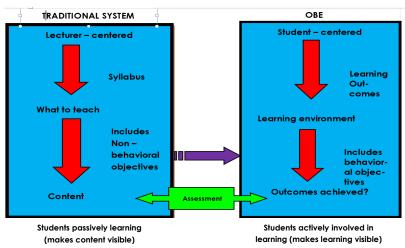
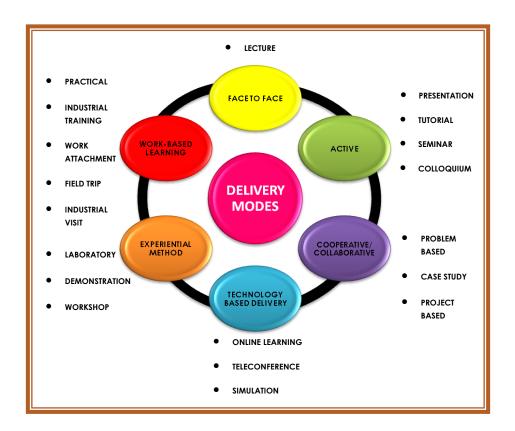


Figure 5.1: A Paradigm Shift for Educational System

DELIVERY MODES

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



OBE EDUCATIONAL FRAMEWORK

Programme Educational Objectives (PEO):

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

Programme Learning Outcomes (PLO):

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

Course Learning Outcomes (CLO):

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

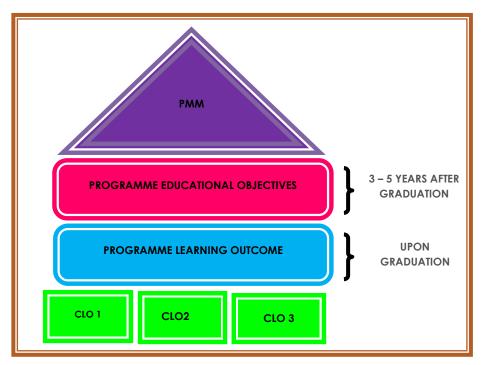


Figure 5.3: OBE Educational Framework

FORMATION OF LEARNING OUTCOMES

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

	Summary of	CLUSTER 1:			CLUSTER 3: FUN	ICTIONAL WORK SKI		CLUSTER 4:	CLUSTER 5:
MQF LEVEL	Learners' Profile	Knowledge and Understanding	CLUSTER 2: Cognitive skills	Practical skills	Interpersonal and Communication Skills	Digital and Numeracy Skills	Leadership, Autonomy and Responsibility	Personal and entrepreneuri al skills	Ethics and Professionalism
Level 4 DIPLOMA	Learners will have a broad knowledge of the general theories, principles and demonstrate sails in a focused and demonstrate sails in a focused area of study discipline enabling discipline enabling objects and the sail of sail of the s	Demonstrate systematic comprehension (understanding) of complex technical and theoretical and theoretical and theoretical and theoretical and skills to undertake varied, complex technical and side of the complex technical and skills to undertake varied, complex study within a field discipline.	Identify, interpret, apply and evaluate general concepts, theory and or principles within a well-defined context of a subject/discipline and/or work with minimal supervision. Solve problems of a common and well-defined kind as well as those others of a non-routine nature.	Apply a limited range of practical skills, essential tools, methods and procedures to perform required tasks work. Reflect and make adjustments to Practices and processers, so necessary, releited to routine or non-routine tasks.	skills Communicate clearly, both orally cand in writing, ideas, information, problems and solutions, to others including peers, experts and non- experts. Interact effectively, individually or as member of a team with supervisors, Peers and subordinates Demonstrate a high level of proficiency in at least one other language besides the national language.	Skills Use a range of digital applications to support study /work as well as to seek and process data related to work or study. Demonstrate skills to use and interpret routine and complex numerical and graphical/visual data.	Perform work with significant degree of personal responsibility and autonomy under broad guidance and direction on well-defined and non-routine study /work activities performed in a variety of contexts. Lead and manage diverse teams to manage issues at work.	Identify soil- improvement initiatives and possibilities and professional goals. Explore and engage in activities relating to enterpreneurship. Show interest in and participate a professional and crivic activities leading to local and region wide communities building.	Demonstrate ability understand and company of the c



Figure 5.4: Competency Domain to be applied in MQA Outcomes (Learning Outcomes, LO)

THREE MAIN STAGES IN TEACHING AND LEARNING PROCESS

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

- i. Planning,
- ii. Implementation and
- iii. Assessment

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

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

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

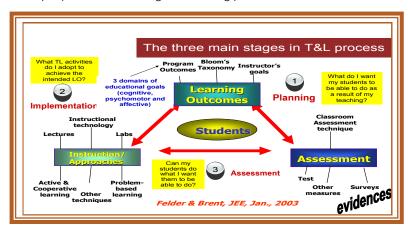


Figure 5.5: Three Main Stage in Learning and Teaching Process

Towards the future of OBE:

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

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

UNIT OF E-LEARNING

Introduction

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

VISION

Transforming Politeknik Merlimau towards global competitiveness through e-learning.

MISSION

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

OBJECTIVE

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

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

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

UNIT OF E-LEARNING









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UNIT OF E-LEARNING

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FACILITIES



Main Entrance



Lecturer Room Ground Level



Meeting Room



Gallery



Foyer



Lecturer Room First Floor



Inovation Hub



Archaive Room

FACILITIES



TECC Room



Lecturer Hall



Lecturer Room



AVA Room



CADD Lab 1



CADD Lab 2



Architectural Studio



Exhibition Hall

FACILITIES



GIS, Remote Sensing & Carthography Lab



Photogrammetry Lab



Brick Work Lab



Carpentry Workshop



Structure Lab



Plumbing Workshop



Hydraulic Lab



Eng. Survey, Cadastral and Hydrographic Survey Lab

DIPLOMA IN GEOMATIC

Programme Overview

Introduction

Geomatics is an area of technology for three-dimensional measuring, managing, presentation and analyzing the geospatial data relating to earth. Geospatial data are obtained from various sources including observation of satellites orbiting the earth, sensors that are formed in the air, sea and terrestrial instruments. This will give the students some added values which are relevant to the requirement of Land Surveyors Board (LJT), Land Surveyor Board Sarawak, Sabah Surveyor Board, Royal Institution of Surveyors Malaysia (RISM) and Department of Survey and Mapping, Malaysia (JUPEM). The accreditation from the Royal Institution of Surveyor Malaysia (RISM), Licensed Land Surveyors Board (LJT), related universities, government departments and Licensed Land Surveyors Consultant firm is the most important requirement in order to complete the curriculum development process.

Synopsis

The Diploma in Geomatics provides students with knowledge and generates skill in the field of land survey especially on measurement and positioning technique, geospatial data capture, data processing, data analysis and data representation. The graduates from this programme will have the potentials to work in both private and government sectors locally and abroad. In addition, they also have the opportunities to further their studies in other higher learning institutions locally and abroad.

Job Prospects

This program provides the knowledge and skills in geomatics and geospatial industry. This program can also be applied to a broad range of careers available. The knowledge and skills that the students acquire from the program will enable them to participate in the job market as:

- a. Geomatician
- b. Assistant Surveyor
- c. Assistant Land Officer
- d. Land Survey Site Supervisor
- e. Land Survey Draughtsman
- f. Assistant Hydrographic Surveyor
- g. Assistant Information System Officer (GIS)
- h. Assistant Information System Officer (Remote Sensing)
- i. Entrepreneur

DIPLOMA IN GEOMATIC

Vision

To be the Leading-Edge TVET Institution

Mission

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

Educational Goal

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

Programme Aims

This program believes that every individuals has the potential to be possess skilled in survey and mapping Geomatician in supporting the country's aspiration toward new technological advancement and challenges in geomatics fields

Programme Educational Objectives (PEO)

Diploma in Geomatics programme should produce Geomatician that able to:

- PEO1: adapt themselves with new technological advancement and challenges in the field of geomatics
- PEO2: become a leader and work as a team
- PEO3: promote good morality and behavior that will continuously enhance their knowledge and skills
- PEO4: solve managerial and field problems and possess entrepreneur skills to prepare themselves for future challenges as lifelong learning

DIPLOMA IN GEOMATIC

Programme Learning Outcomes (PLO)

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

- PLO1: Apply knowledge in geomatics discipline that fulfills standard terms re quirement
- PLO2: Analyze field problems critically and creatively
- PLO3: Construct practical skills by using appropriate technic and surveying in strument in geomatics discipline
- PLO4: Integrated communication skills and collaborative skills in networking and culture issues
- PLO5: Organize information and pursue knowledge relating to digital and numerical skills
- PLO6: Organize leadership and responsibilities of team work in geomatics field
- PLO7: Organize personal skills and entrepreneurial mind set for career path development
- PLO8: Organize high ethical standards and professionalism pertaining to the surveying practices

PROGRAMME STRUCTURE

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	DBM10013	Engineering Mathematics (2	9	2	0	3	4		_	4	4			_	
Discipline		Basic Surveying	2	3	0	0	.3.	4		3	_		4			
Core	DCG19022	Surveying Computation	1	Œ	2	0	2	4	. 4			1				
		TOTAL		2	5		17									
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	MPU23052	Sains, Teknologi dan Kejurunenan Dalam Islam	Į,	0	2	0	2							4	4	
Compulsory	MPU23042	Nilai Mayarakat Malaysia	0		*		-							Ι.	'	
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Common Core	DBM20021	Engineering Mathematics 2	2	0	2	0	- 3	4			4	4				DBM:00
	DCG20033	Cadattal Sunsying 1	2	3.	9	0	3	4		4	4					
Discipline	DCG20042	CADD For Surveyors	0	3.	ò	0	2		4			4				
Core	DCG20053	Engineering Surveying 1	2	3.	0	0	3	4		4	4					
	DCG20063	Field Astronomy	2	2	à	0	.3	4	4	4						
	***************************************	TOTAL	Г	7	6		17			•	•		•			•
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Compulsory	DUE10022	Communicative English 2	ī	0	2	0	2				4			4		DUELOG
Common Core		Green Technology Compliance	2	0	2	0	3		4	4	4					
		Cartography	1	2	0	0	2	3		1	_	_		_		_
Discipline		Engineering Surveying 2	2	3	0	0	3		4	4	-	-	-	4	-	DCG200
Core		Land Laws & Regulations	1	0	1	0	2	4		-	-	-	4			
		Pletogrammetry	2	3	a	0	3	3	_	4		1	<u> </u>		_	_
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	_	Cadartal Surveying 2	2	3	0	-	3	\vdash	₹.	4	-			4		DCG2003
		Engineering Surveying 3	2	3	0	-	3	\vdash	3	4			4	-		DCG3008
Discipline		Geographical Information System	1	1	0	0	3	₩	3	-	4	7	-	_		200,000
Core			-	_	-	0	2	Ы	`	_	`	,	4			
		Hydrographic Surveying	2	0	0	-	-	H	-	-	-	_	٦.			
	DC040163	Remote Sensing	1	3	0	0	3	₩	4	4	4		_	_		
	1	TOTAL	1 1		1	1	1	ı 1	- 1	- 1						

PROGRAMME STRUCTURE

			C	HO				PLO1	PL02	PL03	PL04	PL05	PL06	PLO7	PLOS	
CLASSIFICATION	COURSE CODE	COURSE NAME		P	Т	0	CREDIT VALUES	Knowledge & Understanding	Cognitive Skills	Practical Skills	Interpersonal & Communication skills	Digital & Numeracy Skills	Leadership, Autonomy & Resposibility	Personal & Entrepreneurial Skills	Ethics & Professionalism	PREREQUISITE / CO-REQUIS
								CLS1	CLS2	CLS3a	CLS3b	CLS3c	CLS3d	CLS4	CLSS	
				SEM	ES:	TER	5									
	DCG50232	Topical Studies	1	2	0	0	2					٧		4		
	DCG50173	Geodesy 2	1	4	0	0	3		V	√			V			DCG40132
Discipline	DCG50182	Land Management & Development	2	0	0	0	2	4						4		
Core	DCG50192	Survey Adjustment	1	٥	1	0	2		4		4					
	DCG50201	Survey Camp	0	0	0	0	1			1			٧			DCG40113 DCG40123 DCG40152
	DCG50213	Utility Mapping	1	3	٥	0	3		4	1					-V	
Electives		Elective 1	1	2	0		2									
		TOTAL		1	9		15									
				SEM	ES:	TER	6									
Industrial Training	DUT60019	Industrial Training	0	0	0	0	9			√	√	V	√	٧.	1	
		TOTAL			D		9									
		TOTAL CREDIT VALUE					93									
				ELI	CT	IVE	S									
1	DCG50222	Cadastral Surveying in Sabah & Sarawak	1	2	0	0	2		4	√			٦			
2	DCG50242	Town and Country Planning	2	0	0	0	2		4		V					
3	DCG50252	Visual Basic Programming	1	2	0	0	2	٧		4						
	I		_	_	_	_	VES-						_			
1	DUD10012	Design Thinking	1	0	0	1	2		√.	$oxed{L}$	V			\Box		\sqcup

	Total Credit	96
i, (a) Compulsory	14	15%
(b) Compulsory (Bahasa Kebangsaan A) ^b	26	0%
ii. Common Core	13	14%
iii. Discipline Core	55	59%
iv. Specialization	0	0%
Total Credit	82	
v. (a) Electives	2	2%
(b) Free Electives*	2*	0%
vi. Industrial Training	9	10%
Grand Total Credit	93	100%

	Total Hours	90
i, Lecture	30	39%
ii. Practical	43	56%
iii. Tutorial	4	5%
Total Contact Hours	77	100%

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
	DCG10013 BASIC SURVEYING	3	BASIC SURVEYING provides basic knowledge in surveying, map and plan, datum determination and the usage of survey equipment. It also provides early exposure to students about land survey professional bodies. The course emphasizes on conducting a closed traverse based on standard procedure during practical fieldwork. Students are also exposed with the knowledge of booking for a closed traverse.	Upon completion of this course, student should be able to: 1. explain the fundamental of surveying concept, survey equipment, datum selection and functions of surveying agencies and government department.(C3, PLO1) 2. measure surveying works base on standard procedure and using appropriate instruments. (P3, PLO3) 3. initiate good leadership and teamwork by contributing actively in groups during fieldwork. (A3, PLO6)
1	DCG10022 SURVEYING COMPUTATION	2	surveying computation equips students with knowledge and understanding in problem solving related to the calculations of traverse. It also provides early exposure to students about concept of bearing and angle, trigonometry and three point problems. The course emphasizes on calculation for surveying works. Students are also exposed with the knowledge of area division for a closed traverse	Upon completion of this course students should be able to: 1. indicate the angle measurement calculation in a close traverse by using related methods. (C2, PLO1) 2. apply the concept traverse adjustment to generate final coordinates and solve the subdivision problem by using related formula. (C3, PLO2) 3. propose the solutions of computation base on given task. (A3, PLO5)

SEMESTER	COURSE	CREDIT	synopsis	CLO
2	DCG20033 CADASTRAL SURVEYING 1	3	CADASTRAL SURVEYING 1 provides students with the knowledge on title survey, land development process and exposure to conduct cadastral works according to the latest regulations. It also emphasizes on problem solving and techniques of collecting data manually and Field To Finish (F2F) concept until the production of Certified Plan (CP).	Upon completion of this course, student should be able to: 1. apply the concept of cadastral survey works and land developments according to Cadastral Survey Regulation and National Land Code. (C3, PLO1) 2. measure cadastral work with F2F concept according to the Department of Survey and Mapping Malaysia (JUPEM) or Department of Land and Survey Sarawak (JTSS) or Department of Land and Survey Sabah (JTUS) format. (P4, PLO3) 3. propose a good communication skill in presentation individually or in group within stipulate time frame. (A3, PLO4)
	DCG 20042 CADD FOR SURVEYORS	2	CADD (Computer Aided Design and Draffing) FOR SURVEYORS provides students with knowledge and skill in producing cadastral and engineering survey plans with relevant survey software according to a standard format.	Upon completion of this course, students should be able to: 1. relate the technical knowledge and specific command in CADD software. (P1, PLO2) 2. perform processing skills to process cadastral and engineering survey data according to standard procedure. (P4, PLO5) 3. complete the production of cadastral and engineering plans according to standard format. (A3, PLO8)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
	DC 20053 ENGINEERING SURVEYING 1	3	ENGINEERING SURVEYING 1 provides basic knowledge in engineering surveying. The course emphasizes on bearing and distance measurement, levelling, area and volume works. It also provides early exposure to students in practical work.	Upon completion of this course, student should be able to: 1. apply basic knowledge and calculations of engineering surveying. (C3, PLO1) 2. measure perimeter survey and leveling works using equipment according to survey regulation. (P3, PLO3) 3. propose a good presentation either individually or in group within a stipulated time frame. (A3, PLO4)
2	DCG20063 FIELD ASTRONOMY	3	FIELD ASTRONOMY equips students with knowledge on the position of celestial bodies such as moon, sun, stars and planets with reference to earth. This study is important to land surveyors in field works such as determining the azimuth in land boundaries, checking angles in long traverse and determining geodetic positions or geographic points on earth.	Upon completion of this course, students should be able to: 1. apply astronomical concept according to Department of Survey and Mapping Malaysia (JUPEM) and Department of Islamic Development Malaysia (JAKIM) using related formula. (C3, PLO1) 2. measure the horizontal angle and altitude of the sun to determine the azimuth using extra meridian method. (P3, PLO2) 3. share the idea to solve qiblah direction and prayer time using related formula in group presentation. (A3, PLO3)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
	DCG30072 CARTOGRAPHY	2	CARTOGRAPHY provides students with knowledge and basic principle of data collection and arranging graphic information to produce a map. This course exposes students to the knowledge of how maps are published using digital techniques.	Upon completion of this course, students should be able to: 1. apply cartography concept and technique according to elements of cartography.(C3, PLO1) 2. construct digital mapping by using digital cartography techniques to produce map. (P4, PL03) 3. studies cartographic related problems with appropriate equipment and software by using standard procedure. (A3, PLO5)
3	DCG30083 ENGINEERING SURVEYING 2	3	ENGINEERING SURVEYING 2 provides knowledge on Topographic survey, automation survey, calculation of volume using Mass Haul Diagram and concept Global Positioning System (GPS). It also emphasizes on detail surveying and GPS field work.	Upon completion of this course students should be able to:- 1. apply the concept of topographic surveys. automation survey, positioning and earthwork volume. (C4, PLO2) 2. measure topographic and positioning survey work by using Total Station and Global Navigation Satellite System (GNSS) equipment. (P3, PLO3) 3. propose management skills using knowledge gained related to engineering survey services. (A3, PLO7)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
3	DCG30092 LAND LAWS & REGULATIONS	2	LAND LAWS AND REGULATIONS provides exposure and knowledge related to the legislative system which are used in land administration in Peninsular Malaysia before and after the introduction of the National Land Code and also the land administration system for Sabah and Sarawak. This course also explains about land disposals, land decling and transactions, Malay Reserve, Sabah and Sarawak Land Reserve and land acquisition by the state Authorities. This knowledge is important in order to solve problems related to land administration and manage-	Upon completion of this course students should be able to: 1. interpret the National Land Code in Peninsular Malaysia and land administration in Sabah and Sarawak. (C3, PLO1) 2. apply the concept of Malay reserve in Peninsular Malaysia, land reserve in Sabah and Sarawak and land acquisition under Land Acquisition Act 1960 (Act 486). (C3, PLO1) 3. propose a good communication skills in presentation as individually or in group, on assigned topic. (A3, PLO6)
	DCG30103 PHOTOGRAMMETRY	3	PHOTOGRAMMETRY equips student with knowledge regarding the principles, methods and equipment for aerial survey works. It is important for a surveyor to solve problems related to aerial surveys. It also explains the principles and methods in conducting digital stereo mapping.	Upon completion of this course students will be able to: 1. apply basic principles and concept in photogrammetry elements. (C3, PLO1) 2. display appropriate techniques to conduct the stereoscopic viewing and digital photogrammetry. (P3, PLO3) 3. follow the specifications to practice flight planning for capture aerial photo. (A3, PLO5)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCG40113 CADASTRAL SURVEYING 2	3	CADASTRAL SURVEYING 2 provides students with the knowledge on cadastral system and cadastral electronic services. It emphasizes on the usage of Global Navigation Satellites System (GNSS) equipment for cadastral work via post processing and MyR-TKnet environment. Besides, students are also exposed to strata, stratum title and information to develop housing layout plan.	Upon completion of this course, students should be able to: 1. analyze concept of cadastral modules related to cadastral works according to Cadastral Survey Regulation. (C4, PLO2) 2. calibrate the GNSS equipment to carry out cadastral survey work according to Cadastral Survey Regulation. (P4, PLO3) 3. initiate a business plan using knowledge gained related to cadastral surveying. (A3, PLO7)
	DCG40123 ENGINEERING SURVEYING 3	3	ENGINEERING SURVEYING 3 provides knowledge on principles of engineering survey. The course emphasizes on the construction survey work, setting out in construction, curve alignment, monitoring survey and dimensional survey. It also exposes students to field works.	Upon completion of this course, students should be able to: 1. correlate the principles of engineering survey in construction projects. (C4, PLO2) 2. display engineering survey works for construction projects (P3, PLO3) 3. share the ablity to lead and work as a team in presenting final reports on dimensional survey. (A3, PLO6)

SEMESTER	COURSE	CREDIT	SYNOPSIS	сго
4	DCG40132 GEODESY 1	2	GEODESY 1 introduces students to the field related to geodesy and provides knowledge of the reference surface in geodesy, ellipsoidal geometry characteristics, datum in geodesy, geodesy coordinate system and computation on an ellipsoid. This course also emphasize on calculation on geodetic coordinate.	Upon completion of this course, students should be able to: 1. explain the basic concept and knowledge of geodesy in the field of geomatic. (C2,PLO1) 2. apply the calculation to obtain the required data in Geodesy (C3,PLO1) 3. share good communication skill in oral presentation in group on assigned topic within as stipulated time frame. (A3, PLO6)
	DCG40143 GEOGRAPHICAL INFORMATION SYTEM	3	GEOGRAPHICAL INFORMATION SYSTEM (GIS) emphasizes the utilization of computer software, databases, and survey technology via hands-on exercises in field data collection, input, conversion, analysis, map output and multimedia presentation. Students are exposed with the knowledge and skills gained in these studies can be applied to work in various industrial sectors, including surveying, mapping, local and regional government, forestry, agriculture, town planning, military, health, business, education and the environment.	Upon completion of this course, students should be able to: 1. illustrate the concepts of Geographic Information System (GIS) to develop GIS database. (C4,PLO2) 2. display the ability to manipulate the spatial data analysis. (P4,PLO5) 3. share the idea of GIS application in group by using appropriate technique. (A3,PLO4)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCG40113 CADASTRAL SURVEYING 2	3	CADASTRAL SURVEYING 2 provides students with the knowledge on cadastral system and cadastral electronic services. It emphasizes on the usage of Global Navigation Satellites System (GNSS) equipment for cadastral work via post processing and MyRTKnet environment. Besides, students are also exposed to strata, stratum title and information to develop housing layout plan.	Upon completion of this course, students should be able to: 1. analyze concept of cadastral modules related to cadastral works according to Cadastral Survey Regulation. (C4, PLO2) 2. calibrate the GNSS equipment to carry out cadastral survey work according to Cadastral Survey Regulation. (P4, PLO3) 3. initiate a business plan using knowledge gained related to cadastral surveying. (A3, PLO7)
	DCG40123 ENGINEERING SURVEYING 3	3	ENGINEERING SURVEYING 3 provides knowledge on principles of engineering survey. The course emphasizes on the construction survey work, setting out in construction, curve alignment, monitoring survey and dimensional survey. It also exposes students to field works.	Upon completion of this course, students should be able to: 1. correlate the principles of engineering survey in construction projects. (C4, PLO2) 2. display engineering survey works for construction projects (P3, PLO3) 3. share the ablity to lead and work as a team in presenting final reports on dimensional survey. (A3, PLO6)

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SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
	DCG40132 GEODESY 1	2	GEODESY 1 introduces students to the field related to geodesy and provides knowledge of the reference surface in geodesy, ellipsoidal geometry characteristics, datum in geodesy, geodesy coordinate system and computation on an ellipsoid. This course also emphasize on calculation on geodetic coordinate.	Upon completion of this course, students should be able to: 1. explain the basic concept and knowledge of geodesy in the field of geomatic. (C2,PLO1) 2. apply the calculation to obtain the required data in Geodesy (C3,PLO1) 3. share good communication skill in oral presentation in group on assigned topic within as stipulated time frame. (A3, PLO6)
4	DCG40143 GEOGRAPHICAL INFORMATION SYTEM	3	GEOGRAPHICAL INFORMATION SYSTEM (GIS) emphasizes the utilization of computer software, databases, and survey technology via hands-on exercises in field data collection, input, conversion, analysis, map output and multimedia presentation. Students are exposed with the knowledge and skills gained in these studies can be applied to work in various industrial sectors, including surveying, mapping, local and regional government, forestry, agriculture, town planning, military, health, business, education and the environment.	Upon completion of this course, students should be able to: 1. illustrate the concepts of Geographic Information System (GIS) to develop GIS database. (C4,PLO2) 2. display the ability to manipulate the spatial data analysis. (P4,PLO5) 3. share the idea of GIS application in group by using appropriate technique. (A3,PLO4)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CLO
4	DCG40152 HYDROGRAPHIC SURVEYING	2	HYDROGRAPHIC SURVEYING provide students with the fundamental knowledge in hydrographic survey including the theory of tides, hydrographic survey planning, and techniques for positioning, sounding and charts production process. The knowledge and skills gained from this study can be applied to work in various industrial sectors, including surveying, oil and gas, regional government and hydrographer.	Upon completion of this course students should be able to: 1. explain the concept of hydrographic survey, function of hydrographic agencies, planning procedures and plans production process. (C3, PLO 1) 2. apply the concept of tidal observation, datum transfer, positioning and sounding according to standard for hydrographic survey. (C3, PLO 1) 3. demonstrate the ability to lead and work as a team in applying the most appropriate methods of positioning and sounding in hydrographic survey complying to the requirements of the clients and survey planning. (A3, PLO 6)
	DCG40163 REMOTE SENSING	3	REMOTE SENSING equips students with the knowledge of imagery concept. This course explains the concept of data capture from electromagnetic energy recorded, by sensors brought by airplane or satellite. This course also develops student's skills in using software for digital image processing, digital image enhancement and image classification.	Upon completion of this course students should be able to:- 1. list appropriate principles and theories of remote sensing in solving relevant problems. (C4, PLO 2) 2. display a result of geometric correction, image enhancement, image classification and map annotation using remote sensing image processing software. (C3, PLO 3) 3. describe applications of remote sensing in various area with a good communication skills. (A3, PLO 6)

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SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
5	DCG50232 TOPICAL STUDIES	2	TOPICAL STUDY equips the students with the ability to apply theories of land survey that they have learned throughout the semester. This course trains the students in developing their skills in communication, team work, work planning and decision making. They are also trained to make recommendation and use all the resources that are available creatively.	Upon completion of this course students should be able to:- 1. demonstrate the ability to pursue independent study and illustrate the awareness for lifelong learning. (C2, PLO 5) 2. organize data gathered from various sources such as laboratory, field work, industry, government agency and community according to technical research standard. (C4, PLO 5) 3. proceed to explore entrepreneurial business and management principles for a successful commercial application of research and innovation. (P2, PLO 7)
	DCG50173 GEODESY 2	3	GEODESY 2 introduces students to earth's gravity and its measurement, height system in geodesy, vertical and horizontal control network, development of Malaysia Geodetic Network and positioning with GNSS. Establishing of horizontal and vertical network control are part of the practical work.	Upon completion of this course students will be able to: 1. classify the physical and Geodetic Survey (C4,PLO2) 2. display the practical skills in Geodetic Control Survey. (P5, PLO3) 3. perform the ability to work in team to complete assigned tasks during practical work sessions. (A5, PLO6)

SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
5	DCG50182 LAND MANAGEMENT & DEVELOPMENT	2	LAND MANAGEMENT AND DEVELOPMENT provides students with the exposure and knowledge related to various Act regarding land management and development in Malaysia. Students are exposes to Strata Title, Underground and Mining Land Development, Group Settlement Area (GSA) and Town and Country	Upon completion of this course, students should be able to:- 1. explain definition, concept and process of vertical development (strata) and underground land development (stratum). 2. relate land development based on Mineral Development Act 1994 and State Mineral Enactment, Group Settlement Area Act 1960, National Land Code 1965 and Town and Town and Country Planning Act 1976. (C3, PLO1) 3. demonstrate good communication skills during individual presentation or in group on assign topic. (A3,PLO7)
	DCG50192 SURVEY ADJUSTMENT	2	SURVEY ADJUSTMENTS provides the students with knowledge on adjustment. The course emphasizes the calculation of adjustment using the least square adjustment method through observation and condition equations in solving surveyed data. Besides, it is also provides students with knowledge and practical skills to calculate	At the end of the course, students should be able to: 1. evaluate the surveying data using statistical analysis and programming of least square adjustment. (C5, PLO2) 2. generalize good critical thinking skills and problem solving skills individually in class during discussion sessions. (A4, PLO4)

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SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
5	DCG50201 SURVEY CAMP	1	SURVEY CAMP provides students with knowledge and generate skills in the field of land and hydrographic surveys especially on measurement and positioning technique, data processing and plan presentation. This course emphasizes on the cadastral survey, engineering survey, GPS survey and hydrographic survey. It also exposes the students with team work in completing the tasks assigned during the survey camp.	Upon completing this course students should be able to: 1. measures the survey task during the engineering survey camp successfully and presenting engineering survey camp report satisfactorily. (P3, PLO 3) 2. complete control survey, cadastral survey works, Global Positioning System (GPS) survey, hydrographic survey, and automation survey appropriately according to Department of Survey and Mapping Malaysia (JUPEM) and license surveyor. (P4, PLO 3) 3. demonstrate the ability to lead and work as a team to complete the task given according to JUPEM and License Surveyor standard. (A3, PLO6)
	DCG50213 UTILITY MAPPING	3	UTILITY MAPPING exposes the students to introduction, instrument, method of survey, occupational safety and health, processing and mapping utility data of underground utility mapping. This course also emphasized the field work knowledge such as determining the positions of under-	Upon completion of this course, students should be able to:- 1. distinguish the method of utility mapping by various instrument. (C4, PLO2) 2. measure utility detection survey for mapping purposes. (P4, PLO3) 3. demonstrate good ethics and professionalism in utility mapping field. (A3, PLO8)

SEMESTER	COURSE	CREDIT	SYNOPSIS	сго
5	DCG50222 CADASTRAL SURVEYING IN SABAH AND SARAWAK	2	CADASTRAL SURVEYING IN SA-BAH and SARAWAK focuses on the structure and functions of Land and Survey Department in Sabah and Sarawak. It also exposes students with the establishment of Land Surveyors Board of Sabah and Sarawak according to Land Surveyors Ordinance 1960 and The Surveyors Ordinance 2001. Apart from this, students will be provided with the knowledge and skills to execute cadastral field works practice according to Sabah and Sarawak cadastral law and regulation. Students are also evaluated on their soft skills in leadership and interpersonal during the completion of the given task	Upon completion of this course students will be able to: 1. explain the structure and function of Land and Survey Department and Land Surveyors Board of Sabah and Sarawak related to Assistant Surveyors. (C3, PLO2) 2. organize cadastral survey works which includes field practices, data recording and processing, produce final plan according to Sabah and Sarawak cadastral survey regulation. (P4, PLO3) 3. demonstrate the ability to lead a team and utilize the sources to comlete assigned practical work within a stipulated time frame. (A3, PLO6)
	DCG50242 TOWN AND COUNTRY PLANNING	2	TOWN AND COUNTRY PLANNING provides students with knowledge of town and regional planning field. This course focuses on theory of planning, functions of Town and Country Planning Act (ACT 172) and development plans. It also provides knowledge on the preparation of housing layout plans.	Upon completion of this course, the students should be able to: 1. analyze the concept of town and country planning as practiced in Malaysia accurately. (C4, PLO2) 2. analyze the type of development plan and the principles of housing planning concept correctly. (C4, PLO2) 3. Propose continuous learning and information management skill while engaging in independent acquisition of new knowledge and skills to develop housing layout plan project. (A3, PLO4)

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SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
5	DCG50252 VISUAL BASIC	2	VISUAL BASIC PROGRAMMING provides students with knowledge of the programming concepts using the Visual Basic programming language. The course emphasizes on design of the programme which includes examining code, looping statement and also creates and document naming standard.	Upon completion of this the course, students should be able to: 1. explain concepts of Visual Basic programming to develop a standalone application programmes. (C3, PLO1) 2. build a programme to solve problems using Visual Basic language. (P3, PLO3) 3. demonstrate related programme design in Visual Basic language. (A3, PLO3)
6	DUT60019 INDUSTRIAL TRAINING	9	INDUSTRIAL TRAINING prepares students with employability skills and current industrial technologies in actual working environment. This course allows students to experience the work culture of the workplace as well as provides a platform for students to put into practice the skills and knowledge learnt. The desired attributes include organizational orientation and professional ethics, effective communication, leadership and teamwork, continuous learning and information management, as well as selfmanagement and entrepreneurial mind at the workplace.	Upon completion of this the course, students should be able to: 1. Perform duties in accordance with job requirements at the workplace (P4, CLS 3a) 2. Display effective communication and social skills at the workplace (A5, CLS 3b) 3. Integrate values, attitudes and professionalism effectively at the workplace (A4, CLS 5 4.Develop responsibility of leadership and teamwork at the workplace (A4, CLS 3d) 5. Organize information management appropriately at the workplace (P4, CLS 3c) 6. Integrate lifelong learning skills and entrepreneurial mind at the workplace (A4, CLS 4)

HIGHER ACADEMIC PATHWAY

CAREER PATHWAYS FOR POLYTECHNIC STUDENTS

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

Institution of Higher Learning (Public/Private)

This pathway allows polytechnic students to advance their studies in other public universities, as well as other private learning institutions. Apart from this, students are also able to pursue other non-technical paths, should they desire.

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
UTM UNIVERSITI TEKNOLOGI MALAYSIA	 Bachelor of Engineering (Geomatic) Bachelor of Science (Geoinformatics) Bachelor of Civil Engineering 	Universiti Teknologi Malaysia, UTM Skudai, 81310 Johor, Malaysia. Tel: (6)07 - 553 3333 Fax: (6)07 - 553 0388 Email:corporate@utm.my www.utm.my
UNIVERSITI TEKNOLOGI MARA	Bachelor of Science Geomatic Bachelor's Degree In Civil Engineering	Universiti Teknologi MARA (UITM) 40450 Shah Alam, Selangor Darul Ehsan, Malaysia Tel: (6)03-5544 2000 Fax: (6)03-5544 3999 www.uitm.edu.my
UPM UNVERSIT PUTA MALAYSIA SEKKENSUS	Bacelor Civil Engineering	Universiti Putra Malaysia 43400 UPM Serdang Selangor Darul Ehsan Malaysia Tel: (6)603-9769 1000 Fax: (6)603 8948 7273 www.upm.edu.my

HIGHER ACADEMIC PATH-

LIST OF UNIVERSITY	PROGRAMME	INFORMATION
UNIVERSITI KEBANGSAAN MALAYSIA National University of Malaysia	Bachelor of Civil Engineering with Honours	Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, MALAYSIA. Tel: +603 8921 5555 Fax: +603 8921 4097 www.ukm.my
UNIVERSITI SAINS MALAYSIA	Bachelor of Civil Engineering (Hons)	Universiti Sains Malaysia, Level 1, Building E42, Chancel- lory II,Universiti Sains Malaysia 11800 USM Penang, Malaysia Tel: (6)04-653 3888 Fax: (6)04-653 6484 www.usm.my
UNIVERSITI MALAYA	 Bachelor of Real Estate Bachelor of Civil Engineering Bachelor of Urban and Region Planning Bachelor of Building Surveying 	University of Malaya, 50603 Kuala Lumpur, MALAYSIA Tel: (6) 03-7967 3502/3278/3279 Fax: (6)03-7967 3581 Email: skp_aasc@um.edu.my www.um.edu.my

DEPT. OF MATHEMATICS, SCIENCE

Introduction

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

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

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

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



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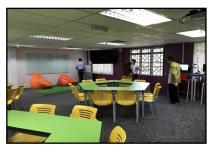


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CILITIES



TECC



Computer Laboratory



Classroom



Science Laboratory



Discussion Room



Lecturer Meeting Room



Prayer Room



Gazebo

SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
1	DBM 10013 Engineering Mathematics 1	3	ENGINEERING MATHEMATICS 1 exposes students to the basic algebra including resolve partial fractions. This course also covers the concept of trigonometry and the method to solve trigonometry problems by using basic identities, compound angle and double angle formulae. Students will be introduced to the theory of complex number and concept of vector and scalar. Students will explore advanced matrices involving 3x3 matrix.	Upon completion of this course, students should be able to: CLO1: Use mathematical statement to describe relationship between various physical phenomena. (C3, CLS1) CLO2: Show mathematical solutions using the appropriate techniques in mathematics. (C3, CLS 3c) CLO3: Use mathematical expression in describing real engineering problems precisely, concisely and logically. (A3, CLS 3b)
1	DBM10102 Elementary Mathematics	2	ELEMENTARY MATHEMATICS exposes students to basic algebra which focuses on expressions and fraction used in solving linear and quadratic equations. This course also covers the concept of measurement and geometry which focuses on calculating areas and properties of angles in a circle including angular problems. Students will be introduced to the basic concept of trigonometric and its functions in solving problems.	Upon completion of this course, students should be able to: CLO1: Use mathematical statement to describe relationship between various physical phenomena (C3, CLS1) CLO2: Show mathematical solutions using the appropriate techniques in mathematics. (C3, CLS3c) CLO3: Demonstrate awareness to social needs and active learning through geometrical approaches (A3, CLS3b)

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SYNOPSIS & COURSE LEARNING OUTCOMES (CLO)

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SEMESTER	COURSE	CREDIT	SYNOPSIS	CIO
1	DBS10012 Engineering Science	2	ENGINEERING SCIENCE course introduces the physical concepts required in engineering disciplines. Students will learn the knowledge of fundamental physics in order to identify and solve engineering physics problems. Students will be able to perform experiments and activities to mastery physics concepts.	Upon completion of this course, students should be able to: CLO1: Use basic physics concept to solve engineering physics problems (C3, CLS 1) CLO2: Apply knowledge of fundamental physics in activities to mastery physics concept. (C3, CLS 1) CLO3: Perform appropriate activities related to physics concept (P3, CLS 3a)
2	DBM20023 Engineering Mathematics 2	3	ENGINEERING MATHEMATICS 2 exposes students to the basic laws of indices and logarithms. This course introduces the basic rules of differentiation concepts to solve problems that relates maximum, minimum and calculate the rates of changes. This course discusses integration concepts in order to strengthen student's knowledge for solving area and volume bounded region problems. In addition, students will learn application of both techniques of differentiation and integration.	Upon completion of this course, students should be able to: CLO1: Use algebra and calculus knowledge to describe relationship between various physical phenomena. (C3, CLS 1) CLO2: Solve the mathematical problems by using appropriate and relevant fundamental calculus techniques. (C3, CLS 3c) CLO3: Use mathematical language to express mathematical ideas and arguments precisely, concisely and logically in calculus. (A3, CLS 3b)

DEPARTMENT OF GENERAL STUDIES

Introduction

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

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

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

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



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

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

SEMESTER	COURSE	CREDIT	SYNOPSIS	сго
3	DUE 3012	2	COMMUNICATIVE ENGLISH 2 emphasizes the skills required at the workplace to describe products or services as well as processes or procedures. It also focuses on the skills to give and respond to instructions. This course will also enables students to make and reply to enquiries and complaints.	1. Describe products or services related to your field using appropriate language (C3:LD3,A3:LD3) 2. Transfer information on processes or procedures using appropriate language from non-linear to linear form. (C3,LD1) 3. Listen and respond to enquiries using appropriate language (C3,LD1) 4. Make and respond to complaints using appropriate language (C3,LD3)
5	DUE5012	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 job hunting mechanics. Students will learn to present data through the use of graphs and charts. Students will learn the process of job hunting which includes job search strategies and making enquiries. They will also learn to write resumes and cover letters. The students will develop skills to introduce themselves, highlight their strengths and abilities, present ideas, express opinions and respond appropriately during job interviews.	1. Describe and analyse information contained in graphs and charts clearly and accurately based on a mini project (C4:LD1,A3:LD3) 2. Write an effective resume and a supporting cover letter for a relevant job opening (C3,LD1) 3. Handle a job interview effectively and confidently. (C3,LD3)

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

UNIT OF SPORTS, CO CURRICULUM

Introduction

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

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

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

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

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UNIT OF SPORTS, CO CURRICULUM



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



FACILITIES



Basketball Court



Takraw Court



Tennis Court



Futsal Court



Rugby Field



Football Field



Petanque Field



Volleyball Court

FACILITIES



Music Studio



Music set



Squash Court



Table Tennis



Multi Purpose Court (Indoor)



Golf Green



Sport Centre



Multipurpose Court

DEPT. OF STUDENT AFFAIR AND DEVELOP-

Introduction

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

Activities of the Department:

Recruitment & Data

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

Welfare & Discipline :-

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

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En Mohd Izwan Bin Md. Pojan	Ext : 1183
Students Affair Officer (Registration)	Email: mohdizwan@pmm.edu.my
Pn Masitah Yaakub	Ext : 1187
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UNIT OF EXAMINATION

Introduction

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

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

Activities carried out by the Examination Unit

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

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UNIT OF TRAINING & CONTINUING ED-

Introduction

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

The main activities of this unit are to:

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

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ULPL PMM



UNIT OF LIBRARY

Introduction

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

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

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UNIT OF PSYCHOLOGY MANAGE-

Introduction

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

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

The goal of this unit is to help the student progress toward academic excellence, social, personal, spiritual and career;

planning, implementation, evaluation and control of Psychology and Counseling Services Program effectively at the Polytechnic.

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

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



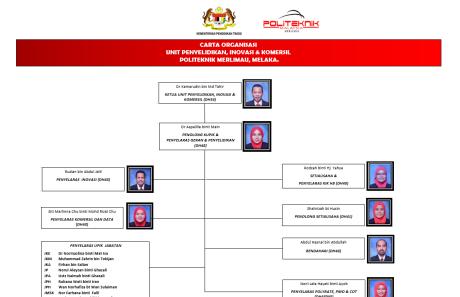
UNIT OF RESEARCH AND IN-

Introduction

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

The objectives of the unit are to;

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



UNIT OF INDUSTRIAL LIAISON &

Introduction

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

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

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



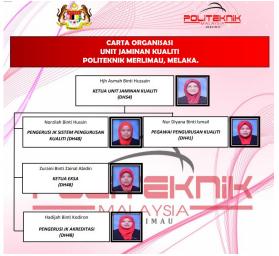
UNIT OF QUALITY ASSUR-

Introduction

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

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

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





UNIT OF CISEC

Introduction

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

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

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UNIT OF KAMSIS

Introduction

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

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

FACILITIES PROVIDED

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

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

APPLICATION CONDITIONS KAMSIS RANKED

- 1) Applications can be made online via the Student Information Management System (SPMP) in PMM portal.
- 2) Completed forms that have been submitted online must also be printed and sent to the Office of Management Kamsis before the closing date, together with other supporting documents such as:
 - i. salary slip / income verification letter that was approved by the headman or officer of the Management and Professional Group;
 - ii. health report that was confirmed by a physician for students who have serious health problems; and
 - iii. Death Certificate for orphans.

UNIT OF KAMSIS

SELECTION CRITERIA FOR STUDENTS OF KAMSIS POLITEKNIK MERLIMAU

Here are the selection criteria's for the Kamsis application:

- Salary and dependents of parents / guardians;
- Orphans;
- Discipline;
- Activities participated in Kamsis / Department;
- Distance home to the Polytechnic;
- Health problems;
- Form complete and the information is correct; and
- On availability



UNIT OF ENTREPRENEURIAL

Introduction

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

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

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

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



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