



REKA BENTUK KURIKULUMPENYAMPAIAN/ PENTAKSIRAN

20 JULAI 2022

PROFESOR MADYA IR. DR. MOHD HADZLEY BIN ABU BAKAR

TS. MOHD SUFFIAN BIN AB RAZAK

Profesor Madya Ir. Dr. Mohd Hadzley Bin Abu Bakar.

KETUA JABATAN, JABATAN TEKNOLOGI INDUSTRI (JTI)
ROOM F3 – NEAR MAKERS LAB
Machining, Wear, Metal 3D Printer
Consultant for Laser Engrave Plaque
012-9166215

hadzley@utem.edu.my



LEARNING OUTCOME

1. Menghasilkan dokumentasi dan persediaan yang perlu bagi membangunkan kursus WBL.
2. Memahami dan menghayati dengan mempraktikkan proses pembangunan kursus WBL.

Hasil pembelajaran dapat direalisasikan dengan

1. Sesi praktikal untuk menghasilkan segala dokumentasi-dokumentasi dan persediaan yang perlu bagi membangunkan kursus WBL.
2. Dibantu dan di pantau/tunjuk ajar secara praktikal (*coaching*) oleh penceramah
3. Perbincangan secara spesifik bagi menyiapkan dokumentasi kursus WBL.

TENTATIF

Pembangunan dokumentasi WBL

Perancangan Mengajar (9-11 am)

MoU/MoA (11 am-1 pm)

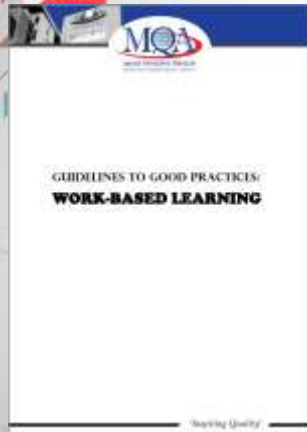
Laporan/Portfolio bagi LI WBL

Rubrik Penilaian bagi Laporan/Portfolio LI WBL

Rubrik Pentaksiran

Dokumen Aku Janji dan Tanggung Rugi
dan lain-lain yang berkaitan

RUJUKAN & BENCHMARKING



Guidelines to Good Practices WBL
(MQA)



GP Pelaksanaan WBL
(Politeknik Sultan Azlan Syah)



Creating Rubric for WBL
(UTHM)

BENGKEL PERLAKSANAAN WBL SIRI 1 (1-3 MAC 2022)



SENARAI SEMAK AKTIVITI WBL

SEBELUM WBL

- ✓ MoU / MoA
- ✓ Pembentangan senarai industri kepada pelajar
- ✓ Surat Niat - Surat Setuju Terima Pelajar dan aku janji terima
- ✓ Surat Penempatan WBL (kepada pelajar).
- ✓ Surat Iringan WBL (kepada industri).
- ✓ Borang Lapor Diri.
- ✓ Surat Lantikan Penyelaras Industri. – dokumen persetujuan bersama penilaian
- ✓ Surat Lantikan Jurulatih Industri - – dokumen persetujuan bersama penilaian
- ✓ Bengkel/Taklimat persediaan WBL kepada industri.
- ✓ Taklimat WBL kepada pelajar.

SENARAI SEMAK AKTIVITI WBL

SEMASA WBL

- ✓ Perancangan Mengajar
- ✓ Lawatan Penyelia Fakulti ke Industri (4x setahun)
- ✓ Penyampaian kursus WBL (*online lecture, coaching, assessment*)
- ✓ Cadangan tajuk PSM
- ✓ Perlaksanaan PSM 1 & 2, Latihan industri

SENARAI SEMAK AKTIVITI WBL

SELEPAS WBL

- ✓ Penilaian akhir Latihan Industri.
- ✓ Pembentangan Latihan Industri.
- ✓ Borang-borang Latihan Industri, *Exit Survey* (Pelajar, Industri)
- ✓ Surat Tamat WBL oleh Fakulti dan Industri.

CURRICULUM STRUCTURE - BACHELOR OF TECHNOLOGY INDUSTRIAL MACHINING WITH HONOURS

YEAR	FIRST		SECOND		THIRD		FOURTH
SEMESTER	I	II	III	IV	VI	VII	VIII
DISCIPLINE CORE (104)	BMIM 1033 Product Drafting and Specification	BMIM 1054 Tool Setup and Refurbishment	BMIM 2094 Precision and Finishing in CNC Technology	BMIM 2129 Multi Axis Machining	BMIM 3164 Die (Tool and Die Making, Aerospace Machining, Rapid Machining, Human Factor Technology, Production Planning in Machining)	BMIM 3134 FYP 1 (WBL)	BMIM 3186 FYP 2
	BMIM 1023 Standard Product Precision	BMIM 1063 Sustainable Machining	BMIM 2103 Precision and Finishing in EDM and Grinding Technology	BMIM 2134 Complex CAD/CAM Product	BMIM 3214 Rework and Rehabilitation of Machined Component	BMIM 3234 Machine Maintenance	
	BMIM 1043 Workpiece and Cutting Tool Properties	BMIM 1075 Condition Monitoring in Machining	BMIM 2134 Prismatic CAD/CAM Product	BMIM 2143 Heat Treatment of Machined Component	BMIM 3224 Surface Aesthetics of Machined Component	BMIM 3244 Project Management and Supervision	
	BMIM 1043 Jig and Fixture	BMIM 1083 Assessment of Machinability		BMIM 3154 Assembly Method	BTMU 3134 Capstone Technopreneur 2	BMIM 3254 Acc and Risk Assessment in Machining Production	
				BTMU 2124 Capstone Technopreneur 1			

TAKWIM WBL PROGRAM BMMI

Tarikh	Subjek	Jumlah Hari	Sem
7 Mac 2022 – 8 April 2022 W01-W05	BMMI 3254 Acts and Risks Assessment in Machining Production	25 (5 minggu)	6
11 April 2022 – 13 Mei 2022 W06-W10	BMMI 3234 Machine Maintenance	25 (5 minggu)	6
16 Mei 2022 – 17 Jun 2022 W11-W15	BMMI 3244 Project Management and Supervision	25 (5 minggu)	6
7 Mac 2022– 22 Julai 2022	BMMU 3134 Final Year Project 1	100 (20 minggu)	6
25 Julai 2022– 16 Sept 2022	BMMU 3186 Final Year Project 2	38 (8 minggu)	6 (SEM KHAS)
19 Sept 2022 – 3 Mac 2023	BMMU 3212 Industrial Training	6 Bulan (24 Minggu)	7

CURRICULUM STRUCTURE - BACHELOR OF TECHNOLOGY IN WELDING WITH HONOURS

YEAR	FIRST		SECOND		THIRD		FOURTH	
SEMESTER	I	II	III	IV	V	VI	VII	VIII
DISCIPLINE CORE (DRC)	BMMK 1014 Safety in Welding	BMMK 1003 Product Design in Welding	BMMK 2074 Inspection in Welding	BMMK 2114 Computer Aided Analysis	BMMK 2144 Economic Of Welding And Procurement	BMMK 2134 FIT	BMMK 3134 CPE2	BMMK 4212 Industrial Training
	BMMK 1014 CAD and Welding Graphic	BMMK 1054 Welding Documentation	BMMK 2084 Material Behavior in Welding	BMMK 2124 Electrical Welding Equipment	BMMK 2184 Welding Quality Assurance	BMMK 3130 Cyber Physical System in Welding		
	BMMK 1014 Metal Fabrication Process	BMMK 1064 Non-Conventional Welding Process	BMMK 2094 Safety Management	BMMK 2134 Non-Destructive Test	BMMK 2134 Capstone Technopreneurship 1	BMMK 3134 Capstone Technopreneurship 2	BMMK 3134 Reclamation Workshop	
			BMMK 2104 Welding Design Analysis	BMMK 2134 Capstone Technopreneurship 1	ELK701 BMMK 3134 NDT for Professional BMMK 3134 Welding Technology for Professional BMMK 3174 Welding Inspection for Professional	BMMK 3134 Managing Production and Supervision		
UNIVERSITY REQUIRED CORE	BLHL 1212 Bahasa Inggeris W	BKRC 1631 K4C1 W	BLHW 3452 Bahasa Inggeris untuk Kejuruteraan Profesional W	BLHW3772 Bahasa Inggeris untuk Kejuruteraan				
	BKRM 1051 K4C1 W	BLHW 3452 Bahasa Inggeris						
	BLHW 1142 Bahasa Inggeris untuk Kejuruteraan	BMMK 1112 Bahasa Inggeris						

REKABENTUK KURIKULUM WBL

Pengiraan Student Learning Time (SLT)

1. Theory and Work

Masa dikira untuk teori dibahagikan kepada 2 komponen.

1) Dependent Learning (DL) 2) Independent Learning (IDL)

Teori dipelajari sama ada waktu kerja/ luar waktu kerja/ online.

2. Industrial Guidance (IG).

Merujuk kepada jumlah jam diperuntukkan kursus untuk dilatih, diselia dan dinilai oleh Jurulatih Industri. Jumlah IG diperlukan utk 4 WBL kursus per semester = Kursus A (200 jam) + Kursus B (200 jam) + Kursus C (200 jam) + Kursus D (200 jam) = 800 jam.C

Rujukan: Guidelines to Good Practices WBL (MQA)

REKABENTUK KURIKULUM WBL

Effective Learning Time (ELT)

1. $ELT = 80 \% \times SLT$

Mengambil kira realiti suasana kerja, dianggarkan 20% dari masa bekerja sehari digunakan untuk rehat, solat, makan, perjalanan, dsb.

Oleh itu hanya 80% dari kiraan SLT sahaja dikira efektif dalam masa pembelajaran berasaskan kerja.

2. $Credit = ELT / 40^*$

*Malaysia Notional Hour yang ditetapkan MQA.

Rujukan: Guidelines to Good Practices WBL (MQA)

REKABENTUK KURIKULUM WBL

Effective Learning Time (ELT)

$$\text{SLT DI UNIVERSITI} = 80 \% \times \text{SLT DI INDUSTRI}$$

$$160 \text{ JAM} = 80 \% \times 200 \text{ JAM}$$

Rujukan: Guidelines to Good Practices WBL (MQA)

REKABENTUK KURIKULUM WBL

Effective Learning Time (ELT)

LAJURAN 11: GAMBAR, PENGALAMAN BERKUALITI DAN/ATAU BERKUALITI LAINNYA

Memahami bahawa: Student Learning Time (SLT) bagi rekabentuk peng-
kualiti WBL adalah berdasarkan formula Effective Learning Time (ELT)
= (Theory + Practical + Assessment) x 80%

Contoh plan rekabentuk subjek WBL 4 kredit

Course Name	PROJECT MANAGEMENT AND SUPERVISION						
Course Code	BMMS 504						
Synopsis	This course provides a systematic and thorough introduction to all aspects of project management and supervision. Projects are an increasingly important aspect of modern business, as we begin with the relation between projects and the strategic goals of the organization. This course covers the technical, cultural, and interpersonal skills necessary to successfully manage projects from start to finish. The course emphasizes that manufacturing project management with its own tools, body of knowledge, and skills.						
Names of Academic Staff	En. Dr. Mero Udaya Siv Ak						
Course Learning Outcomes (CLO)	<p>CLO1 Present the case study that exhibit excellent project manager (PLOT, A3)</p> <p>CLO2 Analyzing the case facts in analyzing project management outcome with consideration of (PLOT, A4)</p> <p>CLO3 Develop project management skills through theoretical understanding and practical application of the project management processes (PLOT, A5)</p>						
Learning Outcomes	Project Learning Outcomes (PLO)	Learning Outcomes	Assessment Methods				
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	
CLO1							Written (exam)
CLO2							Practical (exam)
CLO3							Practical (exam)

TEACHING PLAN WBL - UNDER THE PROJECT MANAGEMENT AND SUPERVISION WBL									
Teaching and Learning Activities									
Course Content Outline	CLO	L	T	P	O	Learning Method (LMT)	SLT	Day	Weeks (2023)
Project Management Overview	1	2	4			L	10		
Project Management Overview	2	2	4			L	10		
Project Management Overview	3	2	4			L	10		
Project Management Overview	4	2	4			L	10		
Project Management Overview	5	2	4			L	10		
Project Management Overview	6	2	4			L	10		
Project Management Overview	7	2	4			L	10		
Project Management Overview	8	2	4			L	10		
Project Management Overview	9	2	4			L	10		
Project Management Overview	10	2	4			L	10		
Project Management Overview	11	2	4			L	10		
Project Management Overview	12	2	4			L	10		
Project Management Overview	13	2	4			L	10		
Project Management Overview	14	2	4			L	10		
Project Management Overview	15	2	4			L	10		
Project Management Overview	16	2	4			L	10		
Project Management Overview	17	2	4			L	10		
Project Management Overview	18	2	4			L	10		
Project Management Overview	19	2	4			L	10		
Project Management Overview	20	2	4			L	10		
Project Management Overview	21	2	4			L	10		
Project Management Overview	22	2	4			L	10		
Project Management Overview	23	2	4			L	10		
Project Management Overview	24	2	4			L	10		
Project Management Overview	25	2	4			L	10		
Project Management Overview	26	2	4			L	10		
Project Management Overview	27	2	4			L	10		
Project Management Overview	28	2	4			L	10		
Project Management Overview	29	2	4			L	10		
Project Management Overview	30	2	4			L	10		
Project Management Overview	31	2	4			L	10		
Project Management Overview	32	2	4			L	10		
Project Management Overview	33	2	4			L	10		
Project Management Overview	34	2	4			L	10		
Project Management Overview	35	2	4			L	10		
Project Management Overview	36	2	4			L	10		
Project Management Overview	37	2	4			L	10		
Project Management Overview	38	2	4			L	10		
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Project Management Overview	42	2	4			L	10		
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Project Management Overview	45	2	4			L	10		
Project Management Overview	46	2	4			L	10		
Project Management Overview	47	2	4			L	10		
Project Management Overview	48	2	4			L	10		
Project Management Overview	49	2	4			L	10		
Project Management Overview	50	2	4			L	10		
Project Management Overview	51	2	4			L	10		
Project Management Overview	52	2	4			L	10		
Project Management Overview	53	2	4			L	10		
Project Management Overview	54	2	4			L	10		
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Project Management Overview	59	2	4			L	10		
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Project Management Overview	64	2	4			L	10		
Project Management Overview	65	2	4			L	10		
Project Management Overview	66	2	4			L	10		
Project Management Overview	67	2	4			L	10		
Project Management Overview	68	2	4			L	10		
Project Management Overview	69	2	4			L	10		
Project Management Overview	70	2	4			L	10		
Project Management Overview	71	2	4			L	10		
Project Management Overview	72	2	4			L	10		
Project Management Overview	73	2	4			L	10		
Project Management Overview	74	2	4			L	10		
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Project Management Overview	76	2	4			L	10		
Project Management Overview	77	2	4			L	10		
Project Management Overview	78	2	4			L	10		
Project Management Overview	79	2	4			L	10		
Project Management Overview	80	2	4			L	10		
Project Management Overview	81	2	4			L	10		
Project Management Overview	82	2	4			L	10		
Project Management Overview	83	2	4			L	10		
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Project Management Overview	87	2	4			L	10		
Project Management Overview	88	2	4			L	10		
Project Management Overview	89	2	4			L	10		
Project Management Overview	90	2	4			L	10		
Project Management Overview	91	2	4			L	10		
Project Management Overview	92	2	4			L	10		
Project Management Overview	93	2	4			L	10		
Project Management Overview	94	2	4			L	10		
Project Management Overview	95	2	4			L	10		
Project Management Overview	96	2	4			L	10		
Project Management Overview	97	2	4			L	10		
Project Management Overview	98	2	4			L	10		
Project Management Overview	99	2	4			L	10		
Project Management Overview	100	2	4			L	10		

Credit Hour Calculation				
Activity	Frequency	Duration	Hours	Weight
1. Lecture	10	1	10	10
2. Case Study	10	1	10	10
3. Presentation	10	1	10	10
4. Performance evaluation (industry)	10	1	10	10
Total			40	40

$$\text{CREDIT HOURS} = 200 \times 0.8 / 40 = 4 \text{ CREDIT}$$

TAKWIM WBL PROGRAM BMMK

Tarikh	Subjek	Jumlah Hari	Sem
7 Mac 2022 – 8 April 2022 W01-W05	BMMK 3204 Reclamation in Welding	25 (5 minggu)	6
11 April 2022 – 6 Mei 2022 W06-W09	BMMK 3193 Cyber Physical Systems in Welding	20 (4 minggu)	6
16 Mei 2022 – 10 Jun 2022 W11-W14	BMMK 3214 Managing Production and Supervision	25 (5 minggu)	6
7 Mac 2022– 22 Julai 2022	BMMU 3134 Final Year Project 1	100 (20 minggu)	6
25 Julai 2022– 16 Sept 2022	BMMU 3186 Final Year Project 2	38 (8 minggu)	6 (SEM KHAS)
19 Sept 2022 – 3 Mac 2023	BMMU 3212 Industrial Training	6 Bulan (24 Minggu)	7

ISU DENGAN SISTEM OBE

1. Sistem OBE UTeM hanya boleh key-in untuk SLT, bukan ELT
Perlu ada pilihan button untuk mod industri / WBL / 2u2i

Week	CLO	Guided Learning Time				Independent Learning								Assessment Time				SLT
		L	T	P	O	L	T	P	O	F	T	A	O	F	T	A	O	
W1		1		25		1	0	0	0	3	0	0	0	0				30
W2		1		25		1	0	0	0	3	0	0	0	0				30
W3		1		25		1	0	0	0	3	0	0	0	0				30
W4		1		25		1	0	0	0	3	0	0	0	0				30
W5		1		25		1	0	0	0	11.5	0	0	1.2	0		0.3		40
W6																		0
W7																		0
W8																		0
W9																		0
W10																		0
W11																		0
W12																		0
W13																		0
W14																		0
>W14																		0
Overall		5	0	125	0	5	0											160

Industrial guidance (IG) perlu disesuaikan supaya dapat dimasukkan dalam kiraan SLT dalam OBE

Week	CLO	Guided Learning Time				Independent Learning								Assessment Time				SLT
		L	T	P	O	L	T	P	O	F	T	A	O	F	T	A	O	
W1		1		25		1	0	0	0	3	0	0	0	0				30
W2		1		25		1	0	0	0	3	0	0	0	0				30
W3		1		25		1	0	0	0	3	0	0	0	0				30
W4		1		25		1	0	0	0	3	0	0	0	0				30
W5		1		25		1	0	0	0	11.5	0	0	1.2	0		0.3		40
W6																		0
W7																		0
W8																		0
W9																		0
W10																		0
W11																		0
W12																		0
W13																		0
W14																		0
>W14																		0
Overall		5	0	125	0	5	0											160

SLT Credit Equivalent 4

MOU: 1. HUBUNGI INDUSTRI YANG BERPOTENSI

CONTOH

Assalamualaikum w.b.t.; Salam Tuan Syamsul, Saya Prof Madya Ir. Dr. Mohd Hadzley Bin Abu Bakar, Ketua Jabatan, Jabatan Teknologi Industri di Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP), Universiti Teknikal Malaysia Melaka (UTeM).

Saya dapat maklumat saudara dari post Halatuju TVET Malaysia. Di UTeM, saya bertanggungjawab membangunkan Kursus Ijazah Sarjana Muda Teknologi (BTech) untuk Pelajar-pelajar Kolej Vokasional.

Mungkin dari sini, bolehlah CrescentGear memulakan langkah menjadi institusi dominan teknologi gear. Saya fikir baiknya kita adakan mesyuarat atas talian untuk saya perkenalkan dan bentangkan proposal kerjasama ini. Mohon hubungi/whatsapp saya di 0129166215 atau email ke hadzley@utem.edu.my

MOU: 1. HUBUNGI INDUSTRI YANG BERPOTENSI

CONTOH 2

Dear Dr. Mohd Hadzley,

I am Jack, an executive from Wong brothers Refrigeration, we are a more than 50 years old company which specialized in providing small to large cold room that caters to restaurants to warehouse. We are proud to serve our clients such as Genting Hotel Central Kitchen, McDonald's, Litt Tatt, etc.

We noticed that UTEM provided courses related to this industry, and we see the opportunity to allow your students to have a better understanding and gain experience before graduating. Hence, we seek a long-term collaboration to offer paid internships and work opportunities for your students.

We believe this initiative will help the students in UTEM to be well-prepared and increase their employability before they graduate from the university. We are happy to discuss more details if you are interested in the partnership.

MOU: 2. PERJUMPAAN BERSAMA INDUSTRI

MOU: 2. HANTAR DRAF KE INDUSTRI

MEMORANDUM OF UNDERSTANDING

BETWEEN



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

AND



MALAYSIA MARINE AND HEAVY ENGINEERING SDN. BHD.

APPENDIX 2

JOINT WORKING GROUP

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

1. Associate Professor Ir. Dr. Mohd Hadzley Bin Abu Bakar – Head of Department
2. Associate Professor Ts. Dr. Umar Al Amani Bin Haji Azlan – Dean
3. Ts. Dr. Mohd Basij Bin Ali – Course Coordinator (BMMI)
4. Ts. Mohd Azlan Bin Mohamed – Course Coordinator (BMMK)
5. Ts. Qamar Fairuz Bin Zahmani – Course Coordinator (BMMS)
6. Ts. Adnan Bin Katsan – Course Coordinator (BMMF)
7. Ts. Mohd Suffian Bin Ab Razak – WBL Coordinator
8. Prof Madya Dr Nur Izzan Syahriah Binti Hussein

MMHE

1. Three (3) representatives from Human Resource Division
2. Three (3) representatives from the Executive Development Committee (EDC)

MOU: 3. PENERANGAN KE PUU

Assalamualaikum w.b.t.

Adalah dimaklumkan bahwa FTKMP, UTeM bercadang untuk mengadakan MOU Bersama MMHE Berhad.

Secara ringkasnya, MOU berfokus kepada aktiviti 'Work Based Learning' bersama Inano Technology Sdn. Bhd, seperti Latihan Industri pelajar, penyediaan pelajar, Projek Sarjana Muda dan lain-lain seperti pada lampiran.

Draf MOU ini telah disemak dan maklumat telah diberi maklumbalas oleh pihak Inano Technology Sdn. Bhd. seperti pada lampiran email di bawah.

Memohon pihak PUU menyemak draf MOU seperti yang dilampirkan. Dimajukan juga Profil dan juga financial statement dari syarikat.

Terima Kasih.

Disertakan latarbelakang kerjasama dengan Inano Technology Sdn. Bhd.

1. Apakah latar belakang kerjasama – kenapa Inano Technology Sdn. Bhd. dipilih, bagaimana mula persetujuan untuk bekerjasama?

Kerjasama ini adalah berdasarkan keperluan Fakulti FKMP untuk mencari rakan industri yang sesuai untuk menempatkan pelajar di industri selama 1 tahun. Program ini dinamakan Work Based Learning (WBL). Ipetro dipilih kerana operasi di Ipetro sesuai dengan program akademik yang dijalankan di FTKMP iaitu untuk ijazah Sarjana Muda Teknologi Kimpelan. Ipetro juga pernah mengambil pelajar UTeM dan Staf menajagi Latihan Industri and Sangkut Industri sebelum ini.

MOU: 3. PENERANGAN KE PUU

1. Draf MOU
2. Salinan SSM
3. Senarai 'Board of Directors'
4. Profil Syarikat












SSM
SURuhanIAJA SYARIAH MALAYSIA
COMPANIES COMMISSION OF MALAYSIA
Companies Act, 1965

CERTIFICATE OF INCORPORATION OF PRIVATE COMPANY
[According To Section 11(2)(b)]

Directors' report	1 - 8
Statement by directors	7
Statutory declaration	7
Independent auditors' report	8 - 11
Statement of comprehensive income	12
Statement of financial position	13
Statement of changes in equity	14
Statement of cash flows	15 - 16
Notes to the financial statements	17 - 90



MOU: 4. KERTAS KERJA KE JTKSHEA

-  BORANG PENILAIAN AWAL RISIKO
-  BORANG PENILAIAN AWAL RISIKO_Versi 2021 MOU UTeM PUSPAWN
-  KERTAS KERJA MOU UTeM DAN DAI PUSPAWN
-  LAMPIRAN A1 PERAKUAN AKREDITASI SEMENTARA BMMF MQAPA12853
-  LAMPIRAN A2 PERAKUAN AKREDITASI SEMENTARA BMMS MQAPA12852
-  LAMPIRAN A3 PERAKUAN AKREDITASI SEMENTARA BMMK MQAPA12854
-  LAMPIRAN A4 PERAKUAN AKREDITASI SEMENTARA BMMI MQAPA12855
-  LAMPIRAN B MoU UTeM-PUSPAWM 23112021
-  LAMPIRAN C MAKLUMBALAS PUU UTeM - PUSPAWN
-  LAMPIRAN D PROFILE PUSPAWN
-  LAMPIRAN E RESEARCH PROPOSAL UTEM-PUSPAWM

2008年10月

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RINGKASAN EKSEKUTIF

HERTAS KOTRA MELANGKAH 2022

KERTAS KERJA PERMOHONAN UNTUK MEMENTERAJI MEMORANDUM PERSEPAHAMAN (MOU) ANTARA UNIVERSITI TEKNIKAL MALAYSIA MELAKA DAN PERSATUAN USAHAKURAN PEMERANGKUAN AUTOMOTIF WANITA MALAYSIA (PUAPAWA).

Kertas kerja ini disediakan bagi memohon kelulusan Majlis Jawatankuasa Tetap Sosial Hal Ehwal Masyarakat (JOTTHO) untuk memohon Memanfaatkan Peralihan (MPL) antara Universiti Telekom Malaysia Melaka (UTeM) dan Persatuan Latihan Peningkatan AutoCAD Wira Malaysia (P2PRAW) bagi tempoh LIMA (5) tahun bermula 1 Februari 2022 hingga 31 Januari 2027.

HYBRID NANO (TiO₂ & SiO₂) BLEND BIODIESEL TO COMBUSTION, PERFORMANCE
AND EMISSION ON INTERNAL COMBUSTION ENGINE

1.0 Research Background

Energy security is very crucial and becoming an intergovernmental issue nowadays.

The energy security issue is due to the unbalanced supply and demand of fossil fuel which are the primary sources of energy. Due to the ability and high potential of bio-based to replace fossil fuels, it has received much attention in the past decade [1, 2]. Currently, the fossil fuel demand and supply are in a critical state which is believed to run out within a century [3-6]. Based on a study, 60% of the world's energy needs are from fossil diesel [7]. An prediction by the US Energy Information Administration (EIA), the use of global fuel consumption by the year 2025 will increase from 86.1 million bbl/day to 110.6 million bbl/day [8].

MOU: 5. TANDANTANGAN DOKUMEN DAN MATI SETEM

Ministration of Understanding (D'One Sdn. Bhd. & Universiti Teknologi Malaysia)	
IN WITNESS WHEREOF, We, undersigned, have duly authorized (hereby) by the Parties, have signed this MoU.	
Signed on the _____ day of _____ FOR AND ON BEHALF OF UNIVERSITI TEKNOLOGI MALAYSIA SELANGA  PROFESSOR DR. SAIFUR RAZI BIN IBRAHIM DEPUTY VICE CHANCELLOR (ACADEMIC & INTERNATIONAL)	FOR AND ON BEHALF OF 3D SINO SIRA (SE)  SHAMSUL AZHAR BIN ABDULL AZIZ MANAGING DIRECTOR
Witnessed by:  ASSOCIATE PROFESSOR DR. IBRAHIM AL-JARRAH BIN ALI ALZAHAN DEAN (FACULTY OF MECHANICAL AND MANUFACTURING ENGINEERING TECHNOLOGY)	Witnessed by:  SHAMSUL AZHAR BIN ABDULL AZIZ SALES AND OPERATING MANAGER

[illegible]

PENEMPATAN PELAJAR DI INDUSTRI

INDUSTRI	BMMI (21)	BMMK (17)
1. I-NANO TECHNOLOGY SDN. BHD. (P.PINANG)	4	-
2. GLASFIL POLYMER SDN. BHD. (SELANGOR)	5	-
3. 3D GENS SDN. BHD. (SELANGOR)	7	2
4. DAI LIENG BERHAD (SARAWAK)	5	1
5. I-PETRO SERVICES SDN. BHD. (MELAKA)	-	2
6. UWC BERHAD (P.PINANG)	-	6
7. TERAS TEGAP AGROTECH SDN. BHD. (MELAKA)	-	5
8. HRSB HOLDING SDN. BHD. (MELAKA)	-	1

PENEMPATAN PELAJAR DI INDUSTRI

1.12 Pertukaran Industri dalam tempoh Mod Pengajian Industri:

Perpindahan antara industri/syarikat/firma adalah tidak digalakkan. Giliran pekerjaan atau antara jabatan dalam syarikat yang sama adalah dibenarkan kerana merupakan sebahagian daripada Pelan WBL. Walau bagaimanapun, pemindahan mungkin diperlukan dalam keadaan berikut:

- sekiranya pelajar tidak dapat memenuhi keperluan WBL di syarikat semasa,
- jika berlaku masalah keselamatan atau kesihatan,
- jika ada konflik personaliti yang serius antara pelajar dan jurulatih WBL/Pekerja di syarikat semasa.

Pertukaran hanya akan berlaku pada semester seterusnya. Pelajar adalah digalakkan melengkapkan Pembelajaran WBL pada semester tersebut melainkan alasan yang boleh diterima oleh universiti.

Sebarang permohonan pertukaran lokasi/alamat hendaklah mengikut syarat dan peraturan pelaksanaan Latihan Industri universiti dan melalui JKWBLF yang dilantik.

TERIMA KASIH

REKABENTUK KURIKULUM WBL

Untuk kursus dijalankan di industri

CLO	Domain	Assessment Method	Marks	
CLO 1	Cognitive	Presentation	20%	Lecturer
		Case Study Report (case study based on task 1-4 compile)	40%	
CLO 2	Psychomotor	Student Performance Evaluation (Practical) Weekly Report	20%	Industrial Coach
CLO3	Affective	Student Performance Evaluation (Soft Skill) Soft Skill Rubric	20%	

PROJEK SARJANA MUDA WBL

Projek Sarjana Muda 1 & 2 mod industri (WBL) menjalankan projek berformatkan laporan teknikal. Pembahagian PSM 1 dan 2 adalah seperti berikut.

- Introduction
 - Design of Experiment / Design Process
 - Project Execution
 - Data Analysis
 - Summary
- PSM 1
- PSM 2

BMMU 3134 PROJEK SARJANA MUDA 1

BMMU3134	2022								
	WEEK (SEMESTER 6)								
	12	13	14	15	16	17	18	19	20
Propose Title									
Vetting title									
Selection of SV									
Finalised Title									
Briefing									
Title Registration									
Weekly SV Meeting									
Supervisor Visit									
Technical Report Writing 1. Introduction 2. Experimental Design/Design Proposal									
Technical Report Review									
PSM 1 Presentation									

BMMU 3134 PROJEK SARJANA MUDA 2

BMMU3186	2022							
	WEEK (SHORT SEMESTER)							
	1	2	3	4	5	6	7	8
Briefing								
Weekly SV Meeting								
Technical Report Writing 1. Project execution 2. Analysis								
Technical Report Review								
Technical Presentation								
Technical Report Submission								

PSM 1 & PSM 2 EVALUATION

Code Course	Evaluation	
	Industry	Faculty
BMMU3134 (PSM 1)	Logbook (20%) Performance (10%) Presentation (10%)	Report (50%) Presentation (10%)
BMMU3186 (PSM 2)	Logbook (20%) Performance (10%) Presentation (10%)	Report (50%) Presentation (10%)

LATIHAN INDUSTRI

1. Pelaksanaan Latihan Industri.

Perjalanan LI adalah mengikut format yang sama dengan mod perdana. (2 lawatan penyelia fakulti, logbook, presentation)

2. Focused Case Study Report

Berbeza dengan Latihan Industri mod perdana, focused Case Study Report akan dilaksanakan menggantikan Laporan Latihan Industri.

REKABENTUK KURIKULUM WBL

Case Study Report

Case Study Report

- Background case study
- Problem statement
- Objective
- Project timeline
- Project execution
- Result
- Discussion
- Recommendation

CASE STUDY ASSESSMENT RUBRICS

ITEM	Excellent (4)	Good (3)	Satisfactory (2)	Poor (1)
Background of study including the rationale for case to choose the project	Well formulated introduction based on facts with clear definition of key terms and concepts. Comprehensive review of the literature using quality evidence and specifically addresses the research variables by describing the individual studies and findings that support the focus and focused problem.	Fairly well formulated introduction that has with some definition of key terms and concepts. Comprehensive review of the literature using quality evidence but does not adequately address the research findings, merely reports on the literature.	Introduction is not well constructed and little or no definition of key terms and concepts. Superficial review of the literature that does not describe the research findings, merely reports on a few studies and uses poor quality resources for information gathering.	Lacks a proper introduction. Superficial review of the literature that is poorly organized and lacks credibility based on the level of evidence and resources presented.
Identify the problem statement in the project using appropriate methods	Very clearly identify the problem involved by using appropriate methods.	Fairly well identify the problem involved by using appropriate methods.	The identification of the problem involved by using appropriate methods is not clearly stated.	Lacks the statement of the problem involved by using appropriate methods.
Describe the success criteria that will indicate the project objectives have been met	Excellent quality discussion on the criteria that will indicate the project objectives have been met.	Good quality discussion on the criteria that will indicate the project objectives have been met.	Modestly conducted discussion on the criteria that will indicate the project objectives have been met.	Poorly conducted discussion on the criteria that will indicate the project objectives have been met.
Develop risk monitoring and control plans	Excellent quality discussion on the development of risk monitoring and control plans.	Good quality discussion on the development of risk monitoring and control plans.	Modestly conducted discussion on the development of risk monitoring and control plans.	Poorly conducted discussion on the development of risk monitoring and control plans.
Content & Development	Content is comprehensive, accurate, and persuasive. Major points are stated clearly and are well supported. All questions answered.	Content is accurate, and persuasive. Content and purpose of the writing are clear. Most questions answered.	Major points are addressed, but not well supported. Responses are inadequate or do not address assignment. Some questions answered.	Content is incomplete. Major points are not clear and/or persuasive. Few questions answered.
Content & Development	Content is comprehensive, accurate, and persuasive. Major points are stated clearly and are well supported.	Content is accurate, and persuasive. Content and purpose of the writing are clear. Most questions answered.	Major points are addressed, but not well supported. Responses are inadequate.	Content is incomplete. Major points are not clear and/or persuasive.

REKABENTUK KURIKULUM WBL

Weekly Summary Student Guideline (example)

BMMK 3204 RECLAMATION IN WELDING

Learning Outcome (CLO 2): Demonstrate high quality of repair welding which will benefit the industry in term of productivity and savings (PLO2, P3).

1. Report the current job related to welding process	
Week 1	<ul style="list-style-type: none"> Visual Inspection and Welding Quality Types of welding Defect Reclamation requirement
	Select 1 Welding Job/ Process
	Explain the S.O.P of the welding job (example SMAW, TIG, MIG).
	Determine the types of defect and the procedure to detect the defects (example porosity, under cut etc.)
	Suggest a take the photo and visual inspection by remarks the defect according to related Welding Procedure Specification (WPS).

2. Assist supervisor to plan the reclamation and repair works	
Week 2	<ul style="list-style-type: none"> Reclamation procedure Pre-heat requirement Inspection requirement and finish classification
	Select 1 Refer to related standards for repair procedure
	Explain the procedure of reclamation and repair under taken the operator (ASME, API 1104, AWS & etc and depends on the customer requirement and application)
	Suggest and process that can help to reduce the welding cost

REKABENTUK KURIKULUM WBL

Assessment Rubric


FAKULTI TEKNOLOGI KEJURUTERAAN MEKANIKAL DAN PEMBUATAN
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

WEEKLY REPORT
BMMK 3204 – RECLAMATION IN WELDING
 CLO 2: Demonstrate high quality of repair welding which will benefit the industry in term of productivity and savings (P)

Name: _____
 Industrial Coach: _____

PRESENTATION RUBRIC
BMMK 3204 – RECLAMATION IN WELDING
 CLO 1: Extrapolate the repair welding skill and apply techno-economic for practical problems (PLO2, C4)

Name: _____ Student ID: _____
 Industrial Coach: _____ Company: _____

No	Criteria	4 (Excellent)	3 (Good)	2 (Satisfactory)	1 (Poor)	Score
1	Organize case study systematically	The presentation was well organized, well prepared, and easy to follow	The presentation had organizing ideas but could have been much stronger with	The audience has some difficulty following the presentation sequence, but acceptable	The presentation lacked organization and had little evidence of preparation	4


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SOFT SKILLS RUBRIC
BMMK 3204 – RECLAMATION IN WELDING
 CLO 3: Acquire the skills to carry out practical feasible repair techniques maintaining low cost (PLO6, A5)

Name: _____ Student ID: _____
 Industrial Coach: _____ Company: _____

CRITERIA	SCORE				MARKS
	Excellent (4)	Good (3)	Acceptable (2)	Poor (1)	
1. Dependability	Give information when attention is anticipated. Consistently completes tasks and meets deadlines, sometimes in advance of schedule. Initiates communication with supervisors for ongoing or anticipated projects.	Prepared to start work on time. Initiates organization of activities in a timely manner. Completes tasks well ahead of deadlines.	Arrives at work on time. Follows emergency absence procedures. Generally, completes the task on time.	Frequently arrives to work late or leaves early. Fails to notify administration of business or absence. Assigned tasks/projects are late or incomplete.	
2. Attitude	• Positive • Respectful • Cooperative	• Initiates for assignments • Engages in unplanned activities when interested or unexpectedly open	Integrates schedule changes and adjusts activities accordingly. Independently identifies where assistance is needed and provides it.	Takes given direction despite unanticipated assignment. Urges request off task, subjects, colleagues, and supervisors.	Is unresponsive for assignment when a schedule is unexpectedly open. Refusers to engage about reassignment.

ISU PENEMPATAN PELAJAR

- 1. Pelajar ingin menukar tempat.**
- 2. Lewat terima surat tawaran dari industri.**
- 3. Industri menukarkan penempatan pelajar ke cawangan di saat akhir**
- 4. Isu permit kerja**
- 5. Isu Insuran generic**
- 6. Maklumkan dalam MOU ada keperluan insuran**
- 7. Briefing insuran**

TERIMA KASIH