GUIDE BOOK

2008/09

Program Specifications for Bachelor Degree in Petroleum Engineering

Department of Petroleum Engineering, Faculty of Chemical & Natural Resources Engineering, Universiti Teknologi Malaysia, Skudai.

Program Specifications for Bachelor in Engineering (Petroleum)

1. Awardin	a hefituti	an .	I limit to an it! Tal.				
				nologi Malaysia			
2. Teaching	-	<u>on</u>		nologi Malaysia			
3. Program			Bachelor in Petroleum Engineering				
4. Final Aw			Bachelor of E	ngineering (Petroleum)			
5. Program			TK31 (SKP)				
		atutory Body of	Board of Engi	neers Malaysia (BEM)			
Accredit				. ,			
7. Languag			English and M	lalay			
8. Mode of	Study (Co	nventional, Distance	Conventional				
Learning							
9. Mode of	Operation	(Franchise, Self-	Self-govern				
govern, e	etc.)						
10. Str	udy Scher	ne (Full Time/Part	Full Time				
Time)							
11. Sti	ıdy Durati	on	Minimum : 4	YTS			
			Maximum : 6				
Type of	No	o. of Semesters	Ne	o. of Weeks			
Semester	Full	Part Time	Full Time	Part Time			
Ochrodici	Time		E				
Regular	8		14				
Short	4		8				
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12. Entry Re	auirement		Matriculation of	r STPM with minimum			
	-i		1	natics, Chemistry and			
			not color blind.	y and CPA 2.75 and			
3. Programi	me Ohiect	ivoc	noccolor billia.				
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Programme Objectives

The objectives of the programme are to produce graduates who are:

- (1) Ability to apply knowledge of basic science and engineering fundamental;
- (2) Ability to apply their knowledge and skills in the planning, analysis, and design of works related to petroleum engineering projects;
- (3) Competent in solving problems creatively and critically;
- (4) Ability to function effectively as an individual and on multi-disciplinary teams;
- (5) Ability to pursue lifelong learning through continuing education or post-graduate education;
- (6) Responsible to the Creator and society and have good professional and ethical conducts.

Program Specifications for Bachelor in Engineering (Petroleum)

Intended Learning Outcomes	Teaching and Learning Methods	
LO1. Have in-depth to	echnical competence in	Petroleum Engineering
Ability to apply and practice knowledge of petroleum engineering principles.	discipline Lectures, tutorials, seminars, laboratory works, directed reading, independent research, and problem-based learning.	Examinations, laboratory reports, seminar presentation discussions, problem based exercises, group projects, independent projects.
LO2. Ability to desi	gn, conduct experiment	s, gather organize
	nalyze and interpret dat	
Ability to undertake problems identification, formulation and solution through the integration of knowledge in science, mathematics, and engineering. LO3. Ability to make	lectures, tutorials, computer practical classes, laboratory works, final year individual project, field development project.	Examinations, laboratory reports, seminar presentations, reports of group projects and individual projects.
necessary for m	odern Petroleum Engine	ering practice
ability to utilize ppropriate nathematical, computational and nodern petroleum ngineering tools in order understand, analyze, valuate, and solve perational problems lated to petroleum ngineering.	Project supervision, lectures, tutorials, seminars, laboratory works, directed reading, simulation exercises, computer-based exercises, independent research, problem-based learning.	problem-based examinations, laboratory reports, seminar presentations, design project, individual research project.

14. Programme Learning	Outcomes	
Intended Learning	Teaching and	Assessment
Outcomes	Learning Methods	
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LO4. Ability to comm		witing and verbally
Ability to communicate	Group projects,	Oral presentation
effectively and confidently	independent	and technical
over technical and non-	research, tutorials,	report.
technical issues to all types	and presentation.	
of audience.		
LO5. Ability to function ef	lectively individually a	n d as a team me mbe
Possess good inter-perso		nizing, and leadershi
A Life of the second	skills	
Ability to contribute	Tutorials, laboratory	Group reports, log
effectively whether as an	works, and group	book, presentation
individual, team member or	field development	of final year projec
leader.	project.	and field
		development
		project.
LO6. Demonstrate p	rofessional and ethica	ll responsibility
Ability to demonstrate the	Undergraduate	Industrial training
roles and responsibility of a	research projects,	report, final year
professional engineer and a	group field	project report,
responsible citizen.	development	learning portfolios,
	projects, industrial	and industrial visit
	training, and	reports.
	industrial visits.	
L0.7 Have capacity t	o work in challenging	environments
Ability to respond and adapt	Industrial training,	Industrial training
readily to new	laboratory works,	report, project
environments. Interact well	study trips, and final	reports, and
with people from different	year field	geology field trip
packgrounds and cultures.	development project.	report.
LO:8 Eng	age in life-long learnin	ıg
Ability to seek and acquire	Independent	Industrial training
new knowledge, concept,	research projects,	report, industrial
and technology in Petroleum	group research	visit and technical
Engineering and other	projects, industrial	reports, Seminar
fisciplines.	training, and	and conference
	industrial visits.	reports.
LO:9 App	y entrepreneurial skill	
bility to incorporate	Lectures, class	Reports,
nowledge into business	projects, field	presentations,
ninking/entrepreneurship	development project,	examinations,
or decision making.	independent research	assignments.

CURICULLUM FOR BACHELOR OF ENGINEERING (PETROLEUM) 4 YEAR PROGRAMME, INTAKE 2008/09

		SUBJECTS	GREDIT	PRE-REQUISITES
Y	SEU 2003 UHB 1412 SSE 1792 SKF 1023 SKM 1013 SSC 1293	SEMESTER 1 Electrical Technology English for Academic Communications Calculus Introduction to Engineering Statics Analytical Chemistry I	3 2 2 2 3 3 3 3 3	
Ā		Subtotal	16	A compared services as a service
	4	SUBJECTS		
R		SEMESTER 2	CREDIT	PRE-REQUISITES
1	ULT 1022 SSE 1893 SKM 1043 SKM 1711 SKM 1022 SKM 1033 SKM 1312 U** ***1	Asian and Islamic Civilisation I Engineering Mathematics Fluid Mechanics Fluid Mechanics Lab. Dynamics Engineering Drawing Fundamentals of Petroleum Engineering Co-curriculum	2 3 3 1 2 3 2	
		Sub total	17	
		SUBJECTS	CREDIT	PRE-REQUISITES
Y E	UHB 2422 UHS 1152 SSE 1793 SKF 1013 SKV 1013 SKF 2711 SKM 2112	Advanced English for Academic Com. Ethnic Relations Differential Equations Thermodynamics Materials Engineering Thermodynamics & Materials Eng. Lab. Engineering Economics Sub total	2 2 3 3 3 1 2	
Α				
R		SUBJECTS	CREDIT	PRE-REQUISITES
	SSE 2193 DCP 2**3 SKM 2213 SKM 2721 SKM#2313 SKM 2731 ULT 2122@ ULT 2132 U** ***1	Engineering Statistics Programming Techniques Basic Geoscience Geoscience Lab. Reservoir Rock and Fluids Properties Reservoir Engineering Lab. Islamic Institution@ Current Issues Co-curriculum	3 3 3 1 3 1 2	
		Sub total	17	

CURICULLUM FOR BACHELOR OF ENGINEERING (PETROLEUM) 4 YEAR PROGRAMME, INTAKE 2008/09

		CIDEROS	al established	
		SUBJECTS SEMESTER 1	CREDIT	PRE-REQUISITES
	SSE 2393	Numerical Methods	3	Section 1 Prints
	UHS 2**2 SKM 3413	Elective Drilling Engineering	2	016114060
f	SKM 3471	Drilling Engineering Lab.	3 1	SKM 1312
Y	SKM 3213 SKM 3313	Formation Evaluation Reservoir Engineering	3	
E	SKM 3921#	Geology Field Work	1	SKM2213
Α		Sub total	16	
R				
		SUBJECTS	CREDIT	PRE-REQUISITES
3	UHB 3**2	SEMESTER 2 Elective		
-	SKM 3423	Well Completion	2 3 3 3 3 5	
	SKM 3223 SKM 3113	Petroleum Geology Evaluation & Management of Petroleum Projects	3	-
	SKM 3513 SKM 3523	Petroleum Production Engineering	3	1
Table and	SKM 3915*	Gas Engineering Industrial Training (Compulsory)	3 5	
		Subtotal	222	
		SUBJECTS	CREDIT	PRE-REQUISITES:
	DIVER ADAD	SEMESTER 1		
	SKM 4812 SKM 4804	Undergraduate Project Field Development Project	2 4	SKM 3413, 3513,
	SKM 4313 SKM 4513	Reservoir Simulation Well Diagnosis & Treatments	3	3223, SKM 3313
	SKM 4**3	Petroleum Eng. Elective	3 3	SKM 3313
Y		Sub total		
Ę		Jubitidi e	15	
Α		SUBJECTS	AD-DI-	
R		SEMESTER 2	CREDIT	PRE-REQUISITES
	1	Oldinacion Isaac		
-1	SKM 4824	Undergraduate Project II	4	
4	SKM 4323	Well Testing	4 3	SKM3313
4	SKM 4323 UHS 3102 SKM 4**3	Well Testing Entrepreneurship & Business Development Petroleum Eng. Elective	3 2 3	SKM3313
4	SKM 4323 UHS 3102	Well Testing Entrepreneurship & Business Development	3	SKM3313
4	SKM 4323 UHS 3102 SKM 4**3 SKM 4**3	Well Testing Entrepreneurship & Business Development Petroleum Eng. Elective	3 2 3	SKM3313

[#] SKM 3921 (Geology Field Work) is done during the semester holiday after the 4th semester (May Semester)

* SKM 3915 (Industrial Training) has 5 credits. It is compulsory and should be done during the semester break, after the 6th semester. The evaluation is only pass or fail.

Petroleum Engineering Department

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Petroleum Engineering Department

18. Mappin	g of Pro	gramm	e Learn	ing Out	comes	to Subi	ects	·	***
	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9
SKM 4824	а	а	b	1	1	1	1 1	1	1
SKM 4323	а	а	b	1	2	 	1	2	<u> </u>
SKM 4**3	a	d		1	2			2	
SKM 4**3	а	Ь	<u> </u>	1	2		 	2	
SKP 5153	а	b	 	2	 			1	-
SKP 5253	а	b	 -		2	 	 	1	
SKP 5333	a	b		-	2	 		1	-
SKP 5413	а	b			2	 	-		
SKP 5573	a	b		ļ	2		-	1	
UHB 1412				1	2		 		
ULT 1022				-	1	2			
UHB 2422				1	2				
UHS 1152				·	1	2			
ULT 2122						2		1	
ULT 2132						2		1	
UHS 2**2					1	2			
UHB 3**2				1	2				
UHS 3102				1		2			
U 1						2			1
U 1				1			2		
SKM 3915				1			2		
OLGO 1019	a	a	a	1	1	1	1	1	1

Key:

Technical Skills: a = major contribution to outcome;
b = moderate contribution to outcome;
c = minor contribution to outcome

Generic Skills: 1 = Substantial (with assessment); 2 = not substantial (introduce)

Petroleum Engineering Department

18. Mappin	g of Pro	gramm	e Learn	ing Ou	tcomes	to Sub	ects		
	L01	LO2	LO3	LO4				LO8	LO9
SKM 4824	a	а	b	1	1	1 1	1	1 1	1
SKM 4323	а	а	b	1	2	<u> </u>	<u> </u>	1 2	
SKM 4**3	а	b	 	1	1 2	+	 	$+\frac{2}{2}$	 -
SKM 4**3	а	Ь		1	+			$\frac{1}{2}$	
SKP 5153	а	b		2		<u> </u>	 	1	<u> </u>
SKP 5253	a	Ь			2	 	-	1	
SKP 5333	а	b		 	2	 	 	1	<u> </u>
SKP 5413	а	b			2		 	1 1	
SKP 5573	а	b			2) ' 1	<u> </u>
UHB 1412				1 1	2	<u> </u>	 	1	<u></u>
ULT 1022			····	<u> </u>	1	2	1		<u></u>
UHB 2422				1	2	<u> </u>	<u> </u>		
UHS 1152					1				····
ULT 2122						2		····	
ULT 2132						2		1	
UHS 2**2						2		1	
UHB 3**2					1	2			
!				1	2	2			···
UHS 3102						2			1
U1				1		****	2		
U1				1			2		
SKM 3915	а	а	а	1	1	1	1	1	1

Key:

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