



**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

ANNEXEURE B1

**CARRICULUM DESIGN**

Knowledge Area	Subject	Credit Hour		Total Subjects	Total Credit Hours
		Th	Pr		
Culture	Islamic Studies/Ethics	2	0	2	4
	Pakistan Studies/Ideology and Constitution of Pakistan	2	0		
Foreign Language	Functional English	3	0	2	6
	Technical Report writing & Communication skills	3	0		
	Chinese Language-I	3	0		
	Chinese Language-II	3	0		
Social Sciences	Introduction to Sociology	2	0	1	3
	Sociology	2	0		
	Sociology for Engineers	2	0		
	Social Psychology	2	0		
	Sociology and Development	2	0		
	Introduction to Sociolinguistics	2	0		
	Psychology and Human Behavior	2	0		
	Professional Psychology	2	0		
	Organizational Behavior	2	0		
	Logical & Critical Thinking	2	0		
	Introduction to Philosophy	2	0		
	Professional Ethics	2	0		
	Microeconomics	3	0		
	Engineering Economics	3	0		



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B1**

	Research Methodology	3	0		
<b>Natural Sciences</b>	Applied Physics	3	1	<b>7</b>	<b>22</b>
	Applied Chemistry	3	1		
	Applied Geology	2	1		
	Introduction to Environmental Microbiology	2	1		
	Elements of Set Theory & Mathematics	3	0		
	Statistics	3	0		
	Discrete Mathematics	3	0		
	Calculus and Analytical Geometry	3	0		
	Linear Algebra	3	0		
	Differential Equations	3	0		
	Complex Variable and Transforms	3	0		
	Probability & Statistics	3	0		
	Numerical Analysis & Complex Application	2	1		
<b>Management sciences</b>	Principles of Management	2	0	<b>2</b>	<b>6</b>
	Industrial Management	2	0		
	Engineering Management	3	0		
	Project Management	3	1		
	Engineering Project Management	2	0		
	Project Planning & Management	2	0		
	Environment and Safety Management	3	0		
	Quality Control	3	0		
	Engineering Economics and Management	3	0		
	Entrepreneurship	2	0		



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B1**

	Entrepreneurship and Marketing	3	0		
<b>Computing</b>	Introduction to Information & Communication Technologies	2	1	<b>2</b>	<b>6</b>
	Computer Fundamentals & Programming	2	1		
	Computer Programming	3	1		
	Computer Simulations	2	1		
	Numerical Analysis and Software Applications	2	1		
	Modeling & Simulation	2	1		
<b>Engineering Foundation</b>	Fluid Mechanics	2	1	<b>7</b>	<b>17</b>
	Fundamentals of Petroleum Engineering	3	0		
	Introduction to Electrical Engineering	2	1		
	Engineering Drawing	0	2		
	Workshop Practice	0	2		
	Mechanics of Materials	2	0		
	Unconventional Reservoirs	2	0		
<b>Major Based Core (Breadth)</b>	Petrophysics	2	1	<b>6</b>	<b>23</b>
	Properties of Reservoir Fluids	3	1		
	Drilling Engineering	3	1		
	Reservoir Engineering	3	1		
	Well Logging	3	1		
	Petroleum Production Engineering	3	1		
	Petroleum Economics	2	0		
<b>Major Based Core (Depth)</b>	Principles of Enhanced Oil Recovery	3	1	<b>7</b>	<b>27</b>



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B1**

	Well Testing	3	1		
	Gas Reservoir Engineering	3	1		
	Reservoir Simulation	3	1		
	Natural Gas Engineering	2	1		
	Well Completion Integrity	3	1		
	Drilling Fluids and Hydraulics	3	1		
<b>Inter-Disciplinary Engineering Breadth</b>	Instrumentation and Process Control	2	1	<b>5</b>	<b>15</b>
	Applied Thermodynamics	2	1		
	Petroleum Geology and Geophysical Exploration	3	0		
	Petroleum Refinery Engineering	3	1		
	Reservoir Geo-Mechanics	2	0		
	Application of data Sciences in Engineering	2	0		
<b>Senior Design Project (FYDP)</b>	Final Year Design Project	0	6	<b>1</b>	<b>6</b>



DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI  
NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

DEPARTMENT OF PETROLEUM AND GAS ENGINEERING  
SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS

ANNEXEURE B2

LIST OF UNIVERSITY COMMON SUBJECTS

Course Code	Name of Subject	Credit Hour		Prerequisites
		Theory	Lab	
<b>Culture</b>				
HUM-1001	Islamic Studies/Ethics	2	0	Pre Engineering
HUM-1002	Pakistan Studies/Ideology and Constitution of Pakistan	2	0	Pre Engineering
<b>Foreign Language</b>				
HUM-1003	Functional English	3	0	
HUM-1004	Technical Report writing & Communication skills	3	0	Functional English
HUM-1005	Chinese Language-I	3	0	Chinese Language-I
HUM-1006	Chinese Language-II	3	0	
<b>Social Sciences</b>				
BS-x005	Introduction to Sociology	2	0	
BS-x006	Sciology	2	0	
BS-x007	Sciology for Engineers	2	0	
BS-x008	Social Psychology	2	0	
BS-x009	Sciology and Development	2	0	
BS-x010	Introduction to Sciolinguistics	2	0	
BS-x011	Psychology and Human Behavior	2	0	
BS-x012	Professional Psychology	2	0	
BS-x013	Organizational Behavior	2	0	
BS-x014	Logical & Critical Thinking	2	0	
BS-x015	Introduction to Philosophy	2	0	



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B2**

<b>BS-x016</b>	<b>Professional Ethics</b>	<b>2</b>	<b>0</b>	
<b>BS-x017</b>	<b>Microeconomics</b>	<b>3</b>	<b>0</b>	
<b>BS-x018</b>	<b>Engineering Economics</b>	<b>3</b>	<b>0</b>	
<b>BS-x019</b>	<b>Research Methodlogy</b>	<b>3</b>	<b>0</b>	
<b>Natural Sciences</b>				
<b>BS-1001</b>	<b>Applied Physics</b>	<b>3</b>	<b>1</b>	<b>Pre Engineering</b>
<b>CHEM-1002</b>	<b>Applied Chemistry</b>	<b>3</b>	<b>1</b>	<b>Pre Engineering</b>
<b>PGE-1003</b>	<b>Applied Geology</b>	<b>2</b>	<b>1</b>	
<b>EEE-1004</b>	<b>Introduction to Environmental Microbiology</b>	<b>2</b>	<b>1</b>	
<b>MATH-1005</b>	<b>Elements of Set Theory &amp; Mathematics</b>	<b>3</b>	<b>0</b>	
<b>MATH-1006</b>	<b>Statistics</b>	<b>3</b>	<b>0</b>	
<b>MATH-1007</b>	<b>Discrete Mathematics</b>	<b>3</b>	<b>0</b>	<b>Pre Engineering</b>
<b>MATH-1008</b>	<b>Calculus and Analytical Geometry</b>	<b>3</b>	<b>0</b>	<b>Pre Engineering</b>
<b>MATH-1009</b>	<b>Linear Algebra</b>	<b>3</b>	<b>0</b>	<b>Pre Engineering</b>
<b>MATH-2010</b>	<b>Differential Equations</b>	<b>3</b>	<b>0</b>	<b>Calculus and Analytical Geometry</b>
<b>MATH-2011</b>	<b>Complex Variable and Transforms</b>	<b>3</b>	<b>0</b>	
<b>MATH-3012</b>	<b>Probability &amp; Statistics</b>	<b>3</b>	<b>0</b>	
<b>MATH-3013</b>	<b>Numerical Analysis &amp; Complex Application</b>	<b>2</b>	<b>1</b>	
<b>Management Sciences</b>				
<b>MGT-x601</b>	<b>Principles of Management</b>	<b>2</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x602</b>	<b>Industrial Management</b>	<b>2</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x603</b>	<b>Engineering Management</b>	<b>3</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x604</b>	<b>Project Management</b>	<b>3</b>	<b>1</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x605</b>	<b>Engineering Project Management</b>	<b>2</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B2**

<b>MGT-x606</b>	<b>Project Planning &amp; Management</b>	<b>2</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x607</b>	<b>Environment and Safety Management</b>	<b>3</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x608</b>	<b>Quality Control</b>	<b>3</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x609</b>	<b>Engineering Economics and Management</b>	<b>3</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x610</b>	<b>Entrepreneurship</b>	<b>2</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>MGT-x611</b>	<b>Entrepreneurship and Marketing</b>	<b>3</b>	<b>0</b>	<b>Offered to students not before Junior Year (Year 3):</b>
<b>Computing</b>				
<b>ICT-x501</b>	<b>Introduction to Information &amp; Communication Technologies</b>	<b>2</b>	<b>1</b>	
<b>ICT-x502</b>	<b>Computer Fundamentals &amp; Programming</b>	<b>2</b>	<b>1</b>	
<b>ICT-x503</b>	<b>Computer Programming</b>	<b>3</b>	<b>1</b>	
<b>ICT-x504</b>	<b>Computer Simulations</b>	<b>2</b>	<b>1</b>	
<b>ICT-x505</b>	<b>Numerical Analysis and Software Applications</b>	<b>2</b>	<b>1</b>	
<b>ICT-x506</b>	<b>Modeling &amp; Simulation</b>	<b>2</b>	<b>1</b>	



**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

ANNEXEURE B2

**LIST OF B.E. PETROLEUM AND GAS ENGINEERING SUBJECTS**

Program Course (P&GE)				
<b>Engineering Foundation</b>				
PGE-1101	Fundamentals of Petroleum Engineering	3	0	
PGE-1102	Introduction to Electrical Engineering	2	1	
PGE-1103	Engineering Drawing	0	2	
PGE-1104	Workshop Practice	0	2	
PGE-2105	Mechanics of Materials	2	0	
PGE-2106	Fluid Mechanics	2	1	
PGE-2107	Unconventional Reservoirs	2	0	
<b>Major Based Core (Breadth)</b>				
PGE-2201	Petrophysics	2	1	Petroleum Geology and Geophysical Exploration
PGE-2202	Properties of Reservoir Fluids	3	1	Applied Thermodynamics
PGE-2203	Drilling Engineering	3	1	Fundamentals of Petroleum Engineering
PGE-3204	Reservoir Engineering	3	1	Properties of Reservoir Fluids
PGE-3205	Well Logging	3	1	Properties of Reservoir Fluids
PGE-3206	Petroleum Production Engineering	3	1	Properties of Reservoir Fluids/Only offered to students of Senior Year
<b>Major Based Core (Depth)</b>				
PGE-4301	Drilling Fluids and Hydraulics	3	1	Drilling Engineering/Only offered to students of Senior Year
PGE-4302	Gas Reservoir Engineering	3	1	Reservoir Engineering/Only offered to students of Senior Year
PGE-4303	Well Testing	3	1	Well Logging/Only offered to students of Senior Year
PGE-4304	Well Completions and Integrity	3	1	Petroleum Production Engineering/Only offered to students of Senior Year





**DAWOOD UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**  
 NEW M. A. JINNAH ROAD EXT, MUSLIMABAD, KARACHI – 74800 (SINDH) PAKISTAN  
 PHONE: 021-99232641 (Direct), 021-99231195-96 (Ext: 223), FAX: 021-99230710

**DEPARTMENT OF PETROLEUM AND GAS ENGINEERING**  
**SCHEME OF STUDIES FROM BATCH 2023-FALL AND ONWARDS**

**ANNEXEURE B2**

<b>PGE-4305</b>	<b>Reservoir Simulation</b>	<b>3</b>	<b>1</b>	<b>Reservoir Engineering/Only offered to students of Senior Year</b>
<b>PGE-4306</b>	<b>Natural Gas Engineering</b>	<b>2</b>	<b>1</b>	<b>Properties of Reservoir Fluids/Only offered to students of Senior Year</b>
<b>PGE-4307</b>	<b>Principles of Enhanced Oil Recovery</b>	<b>3</b>	<b>1</b>	<b>Reservoir Engineering/Only offered to students of Senior Year</b>
<b>PGE-4308</b>	<b>Petroleum Economics</b>	<b>2</b>	<b>0</b>	<b>Reservoir Engineering</b>
<b>Inter-Disciplinary Engineering Breadth</b>				
<b>IDE-x401</b>	<b>Instrumentation and Process Control</b>	<b>2</b>	<b>1</b>	<b>Numerical Analysis</b>
<b>IDE-x402</b>	<b>Applied Thermodynamics</b>	<b>2</b>	<b>1</b>	<b>Applied Chemistry</b>
<b>IDE-x403</b>	<b>Petroleum Geology and Geophysical Exploration</b>	<b>3</b>	<b>0</b>	<b>Fundamentals of Petroleum Engineering</b>
<b>IDE-x404</b>	<b>Petroleum Refinery Engineering</b>	<b>3</b>	<b>1</b>	<b>Environment and Safety Management</b>
<b>IDE-x405</b>	<b>Reservoir Geo-Mechanics</b>	<b>2</b>	<b>0</b>	<b>Petrophysics</b>
<b>IDE-x407</b>	<b>Application of data Sciences in Engineering</b>	<b>2</b>	<b>1</b>	<b>Computer Fundamentals &amp; Programming</b>
<b>Senior Design Project (FYDP)</b>				
<b>PGE-4999</b>	<b>Final Year Design Project</b>	<b>0</b>	<b>6</b>	<b>Only offered to students of Senior Year</b>