

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO 1: Professionalism

Graduate of the programme will establish themselves in oil and gas or related professions in multi-national organizations or institutions.

PEO 2: Continuous Professional Development

Graduate of the programme will pursue their career growth through advanced degrees, research and involvement in professional bodies.

PEO3: *Corporate Societal Responsibility*

Graduate of the programme will contribute to sustainable development through innovative technologies by mimicking natural processes to serve the needs of the society and the nation as a whole.

PROGRAM OUTCOMES

PO 1: Engineering Knowledge – Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems;

PO2: Problem Analysis – Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences;

PO3: Design/Development of Solution – Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations;

PO4: Investigation – Conduct investigation into complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;

PO5: Modern Tool Usage – Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations;

PO6: The Engineer and Society – Apply reasoning informed by contextual knowledge to assess societal, health, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice;

PO7: Environment and Sustainability – Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development;

PO8: Ethics – Apply ethical principles and commit to professional ethics, responsibilities, and norms of engineering practice.

PO9: Individual and Team Work – Function effectively as an individual, as a member or leader in diverse teams and in multi-disciplinary settings;

PO10: Communication – Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions;

PO11: Project Management and Finance – Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life Long Learning – Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM OUTCOMES COURSE MATRIX

List	Code	Course Name	Program Outcome											
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	KG04403	Calculus	X											
2	KG12501	Engineering Workshop	X											
3	KG12903	Applied Mechanics	X	X										
4	KG12303	Fundamentals of Oil and Gas Engineering	X	X										
5	KG05503	Multivariable Calculus	X											
6	KG06603	Engineering Programming	X	X			X							
7	KG12202	Properties of Matter	X	X										
8	KG12403	Petro Physics	X	X										
9	KG12601	Laboratory 1				X					X	X		
10	KG22903	Fluid Mechanics	X	X										
11	KG22303	Differential Equations	X											
12	KG22101	Laboratory II				X					X	X		
13	KG22903	Petroleum Geology	X	X										
14	KG22702	Engineering Design			X		X							
15	KG22802	Electrical Technology	X											
16	KG22203	Drilling Engineering	X	X					X					
17	KG22603	Numerical Mathematics	X	X										
18	KG22801	Laboratory III				X					X	X		
19	KG22003	Petroleum Chemistry	X											
20	KG22403	Engineering Thermodynamics	X	X										
21	KG32303	Facilities Engineering and Operations	X	X										
22	KG32502	Engineering Statistics	X											
23	KG32903	Process Control and Instrumentation	X	X			X							
24	KG32101	Laboratory IV				X					X	X		
25	KG32103	Reservoir Engineering	X	X			X							
26	KG32703	Heat and Mass Transfer	X	X										
27	KG32403	Well Completion	X		X									
28	KG32603	Process Safety Engineering						X	X	X				

29	KG32001	Laboratory V			X						X	X		
30	KG32203	Offshore Pipeline Engineering Design	X		X									
31	KG32803	Oil and Gas Separation Processes	X	X										
32	KG30005	Industrial Training								o		o		o
33	KG08803	Ethics and Law for Engineers	X							X				
34	KG01202	Project I				X				X		X		X
35	KG01204	Project II				X				X		X		X
36	KG42103	Capstone Project I			X	X	X	X			X	X	X	
37	KG42403	Capstone Project II			X	X	X	X			X	X	X	X
38	KG42503	Downstream Processing												
39	KG42702	Safety and Risk Management						X	X	X				
40	KG09903	Management & Accounting for Engineers											X	
41	KG42202	Energy Management	X						X				X	
42	KG4xxx3	Elective I, II, III	X	X										X

SYMBOL

(X)– Essential course contributing to PO attainment

(O)– Supplementary course (delivery only)