



**MAPPING OF 17 SUSTAINABLE DEVELOPMENT GOALS [17 SDGs]
with Courses Offered by Presidency School of Engineering
[Petroleum Engineering Department]
COURSE STRUCTURE**

Sl. No.	Name of the SDGs	Name of the Course	Course Code	Key Words
Program Core Courses				
1.	SDG 7 - Affordable & Clean Energy	Petroleum Geology	PET1001	Understanding origin, occurrence, and distribution of hydrocarbons, Exploration techniques
2.	SDG 9 - Industry, Innovation & Infrastructure			
3.	SDG 12 - Responsible Consumption & Production			
4.	SDG 11 - Sustainable Cities & Communities			
5.	SDG 6 - Clean Water & Sanitation			
6.	SDG 7 - Affordable & Clean Energy	Introduction to Oil and Gas Industry	PET1002	Role of fossil fuels, and energy security
7.	SDG 9 - Industry, Innovation & Infrastructure			
8.	SDG 13 – Climate Action			
9.	SDG 3 - Good Health and Well-Being	Drilling Fluids and Cements	PET2001	Groundwater protection, fluid loss control, wellbore integrity,
10.	SDG 6 - Clean Water and Sanitation			
11.	SDG 7 - Affordable and Clean Energy			
12.	SDG 9 - Industry, Innovation, and Infrastructure			
13.	SDG 12 - Responsible Consumption and Production			
14.	SDG 13 - Climate Action			
15.	SDG 14 - Life Below Water			
16.	SDG 15 - Life on Land			
17.	SDG 6 - Clean Water and Sanitation	Fundamentals of Geophysical Logging Techniques	PET2002	Groundwater mapping, Aquifer properties, Hydrogeology, Water quality assessment
18.	SDG 7 - Affordable and Clean Energy			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

19.	SDG 9 - Industry, Innovation, and Infrastructure			
20.	SDG 11 - Sustainable Cities and Communities			
21.	SDG 12 - Responsible Consumption and Production			
22.	SDG 13 - Climate Action			
23.	SDG 14 - Life Below Water			
24.	SDG 4 - Quality Education	Fundamentals of Oil and Gas Well Drilling Technology	PET2003	Technical competency, Industry skills, Engineering principles
25.	SDG 7 - Affordable and Clean Energy			
26.	SDG 8 - Decent Work and Economic Growth			
27.	SDG 9 - Industry, Innovation, and Infrastructure			
28.	SDG 12 - Responsible Consumption and Production			
29.	SDG 7 - Affordable and Clean Energy	Fundamentals of Petroleum Reservoir Engineering	PET2004	Energy efficiency, Optimized hydrocarbon recovery, Reservoir performance
30.	SDG 9 - Industry, Innovation, and Infrastructure			
31.	SDG 12 - Responsible Consumption and Production			
32.	SDG 13 - Climate Action			
33.	SDG 7 - Affordable and Clean Energy	Fundamentals of Instrumentation and Control Engineering	PET2005	Process control, Smart infrastructure, Automation technologies
34.	SDG 9 - Industry, Innovation, and Infrastructure			
35.	SDG 12 - Responsible Consumption and Production			
36.	SDG 13 - Climate Action			
37.	SDG 7 - Affordable and Clean Energy	Fundamentals of Oil and Gas Production Technology	PET2006	Digital oilfield, Advanced drilling, Enhanced Oil Recovery
38.	SDG 9 - Industry, Innovation, and Infrastructure			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

39.	SDG 12 - Responsible Consumption and Production			
40.	SDG 13 - Climate Action			
41.	SDG 7 - Affordable and Clean Energy		PET2007	
42.	SDG 9 - Industry, Innovation, and Infrastructure	Oil and Gas Surface Facility Design		Energy efficiency, Clean energy Infrastructure, Optimized production
43.	SDG 12 - Responsible Consumption and Production			
44.	SDG 13 - Climate Action			
45.	SDG 6 - Clean Water and Sanitation	Heat and Mass Transfer for Petroleum Engineering	PET2008	Heat exchanger networks, Mass-transfer equipment, Innovative thermal systems
46.	SDG 7 - Affordable and Clean Energy			
47.	SDG 9 - Industry, Innovation, and Infrastructure			
48.	SDG 7 - Affordable and Clean Energy	Thermodynamics of Reservoir Fluids	PET2009	Process optimization, Industrial innovation, Advanced simulation tools
49.	SDG 9 - Industry, Innovation, and Infrastructure			
50.	SDG 12 - Responsible Consumption and Production			
51.	SDG 13 – Climate Action			
52.	SDG 7 - Affordable and Clean Energy	Introduction to Oil and Gas Reservoir Simulation	PET2010	Computational tools, Innovation in energy industry, Digital infrastructure
53.	SDG 9 - Industry, Innovation, and Infrastructure			
54.	SDG 12 - Responsible Consumption and Production			
55.	SDG 13 – Climate Action			
56.	SDG 14 – Life Below Water			
57.	SDG 7 - Affordable and Clean Energy	Oil and Gas Downstream Operations	PET2011	Process innovation, Advanced refining technologies, digitalization
58.	SDG 8 – Decent Work and Economic Growth			
59.	SDG 9 - Industry, Innovation, and Infrastructure			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

60.	SDG 12 - Responsible Consumption and Production			
61.	SDG 6 - Clean Water and Sanitation	Reservoir Fluid Mechanics	PET2012	Groundwater flow, Porous media, Contaminant transport
62.	SDG 7 - Affordable and Clean Energy			
63.	SDG 9 - Industry, Innovation, and Infrastructure			
64.	SDG 12 - Responsible Consumption and Production			
65.	SDG 13 – Climate Action			
66.	SDG 7 - Affordable and Clean Energy	Geophysical Methods for Oil and Gas Exploration	PET2014	Hydrocarbon exploration, Energy resources, Efficient resource utilization
67.	SDG 9 - Industry, Innovation, and Infrastructure			
68.	SDG 12 - Responsible Consumption and Production			
69.	SDG 13 – Climate Action			
70.	SDG 7 - Affordable and Clean Energy	Oil and Gas Well Test Analysis	PET2019	Energy efficiency, Resource optimization, Hydrocarbon production
71.	SDG 9 - Industry, Innovation, and Infrastructure			
72.	SDG 12 - Responsible Consumption and Production			
73.	SDG 13 – Climate Action			
74.	SDG 7 - Affordable and Clean Energy	Offshore Drilling and Petroleum Production Practices	PET3003	Energy production, Fossil fuels, efficiency, Cleaner extraction
75.	SDG 8 – Decent Work and Economic Growth			
76.	SDG 9 - Industry, Innovation, and Infrastructure			
77.	SDG 12 - Responsible Consumption and Production			
78.	SDG 7 - Affordable and Clean Energy	Advanced Petroleum Reservoir Engineering	PET3006	Energy efficiency, Reservoir optimization, Enhanced oil recovery
79.	SDG 9 - Industry, Innovation, and Infrastructure			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

80.	SDG 12 - Responsible Consumption and Production			
81.	SDG 13 – Climate Action			
Discipline Elective Courses: General Petroleum Engineering Basket				
1.	SDG 9 - Industry, Innovation, and Infrastructure	Industrial Chemistry	CHE1002	Green chemistry, Sustainable industrial processes, Eco-friendly synthesis
2.	SDG 12- Responsible Consumption and Production			
3.	SDG 13 – Climate Action			
4.	SDG 9 - Industry, Innovation, and Infrastructure	Petroleum Data Analysis	PET1009	Data-driven decision making, Efficiency optimization, Emission reduction through predictive analytics
5.	SDG 12 - Responsible Consumption and Production			
6.	SDG 7 - Affordable and Clean Energy	Carbon Capture and Utilization for Sustainability	PET1010	CO ₂ sequestration, climate mitigation, carbon reuse
7.	SDG 9 - Industry, Innovation, and Infrastructure			
8.	SDG 12 - Responsible Consumption and Production			
9.	SDG 13 – Climate Action			
10.	SDG 8 – Decent Work and Economic Growth	Quality Management Practices in Oil and Gas Industry	PET2029	Process optimization, Efficiency improvement, Risk management
11.	SDG 9 - Industry, Innovation, and Infrastructure			
12.	SDG 12 - Responsible Consumption and Production			
13.	SDG 3 - Good Health and Well-being	Occupational Health and Safety	PET2030	Workplace safety, Hazard management, Health monitoring
14.	SDG 8 – Decent Work and Economic Growth			
15.	SDG 9 - Industry, Innovation, and Infrastructure	Minor Project	PET4001	Applied research, Innovation, sustainability-focused projects, Practical implementation of environmental solutions
16.	SDG 12 - Responsible Consumption and Production			
17.	SDG 13 – Climate Action			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Discipline Elective Courses: General Petroleum Engineering Basket

1.	SDG 9 - Industry, Innovation, and Infrastructure	Data Analytics for Oil and Gas Exploration	PET1003	Predictive modeling, Resource optimization, Sustainable exploration
2.	SDG 12 - Responsible Consumption and Production			
3.	SDG 9 - Industry, Innovation, and Infrastructure	Fundamentals of Pore Pressure and Geomechanics	PET1004	Wellbore stability, Safe drilling, Risk reduction
4.	SDG 13 - Climate Action			
5.	SDG 11 - Sustainable Cities and Community	Introduction to Geoinformatics	PET2013	Remote sensing, Spatial data analysis, Environmental monitoring
6.	SDG 13 - Climate Action			
7.	SDG 7 - Affordable and Clean Energy	Coal Bed Methane	PET2015	Alternative energy, low-carbon fossil fuels, methane recovery
8.	SDG 13 - Climate Action			
9.	SDG 7 - Affordable and Clean Energy	Shale Gas	PET2016	Unconventional energy, Hydraulic fracturing, Energy security
10.	SDG 12 - Responsible Consumption and Production			
11.	SDG 7 - Affordable and Clean Energy	Natural Gas Hydrates	PET2017	Emerging energy resources, Methane hydrates, Clean energy potential
12.	SDG 13 – Climate Action			
13.	SDG 9 - Industry, Innovation, and Infrastructure	Geomechanics for Wellbore Stability Analysis	PET3001	Structural integrity, Safe drilling, Risk mitigation
14.	SDG 13 - Climate Action			
15.	SDG 9 - Industry, Innovation, and Infrastructure	Directional Drilling Technology	PET3002	Precision drilling, Reduced surface impact, Enhanced recovery
16.	SDG 12 - Responsible Consumption and Production			
17.	SDG 9 - Industry, Innovation, and Infrastructure	Advanced Well Engineering	PET3004	Optimized well design, Sustainable production, Reduced environmental footprint
18.	SDG 12 - Responsible Consumption and Production			
19.	SDG 9 - Industry, Innovation, and Infrastructure	Multilateral and Horizontal Well Technology	PET3005	Maximized reservoir contact, Minimized surface footprint, Efficient hydrocarbon extraction
20.	SDG 12 - Responsible Consumption and Production			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Discipline Elective Courses: Reservoir and Production Engineering Basket

1.	SDG 7 - Affordable and Clean Energy	Integrated Field Development and Planning	PET2018	Field optimization, Energy efficiency, Resource planning
2.	SDG 9 - Industry, Innovation, and Infrastructure			
3.	SDG 9 - Industry, Innovation, and Infrastructure	Process Design and Calculations	PET2021	Process optimization, Efficiency, Minimizing waste
4.	SDG 12 - Responsible Consumption and Production			
5.	SDG 6 - Clean Water & Sanitation	Solids Handling in Oil and Gas Industry	PET2022	Waste management, Environmental protection, Handling hazardous solids
6.	SDG 12 - Responsible Consumption and Production			
7.	SDG 9 - Industry, Innovation, and Infrastructure	Design in Production Engineering	PET2023	Equipment design, Process safety, Energy-efficient production
8.	SDG 12 - Responsible Consumption and Production			
9.	SDG 12 - Responsible Consumption and Production	Wellbore Problems and Mitigation	PET2024	Risk reduction, Leak prevention, Reducing environmental hazards
10.	SDG 13 - Climate Action			
11.	SDG 7 - Affordable and Clean Energy	Enhanced Oil and Gas Recovery Techniques	PET3007	Efficient resource utilization, Reducing energy waste, Minimizing environmental footprint
12.	SDG 13 - Climate Action			
13.	SDG 6 - Clean Water & Sanitation	Fluid Flow through Porous Media	PET3008	Reservoir management, Water contamination prevention, Energy-efficient extraction
14.	SDG 7 - Affordable and Clean Energy			
15.	SDG 7 - Affordable and Clean Energy	Natural Gas Reservoir Engineering	PET3009	Clean fuel production, Carbon footprint reduction, Sustainable resource management
16.	SDG 13 - Climate Action			
17.	SDG 7 - Affordable and Clean Energy	Natural Gas Production Engineering	PET3010	Efficient production, Minimizing waste, Greenhouse gas reduction
18.	SDG 12 - Responsible Consumption and Production			
19.	SDG 9 - Industry, Innovation, and Infrastructure	Well Intervention Technologies	PET3011	Maintenance optimization, Extending asset life, Reducing environmental risks



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

20.	SDG 12 - Responsible Consumption and Production			
Discipline Elective Courses: Pipeline and Petroleum Refining Engineering Basket				
1.	SDG 7 - Affordable and Clean Energy	Process Pipeline Design	PET2020	Pipeline integrity, Leak prevention, Energy efficiency
2.	SDG 9 - Industry, Innovation, and Infrastructure			
3.	SDG 12 - Responsible Consumption and Production			
4.	SDG 7 - Affordable and Clean Energy	Petroleum Transportation, Marketing and Management	PET2025	Supply chain optimization, Clean fuel distribution, Logistics sustainability
5.	SDG 9 - Industry, Innovation, and Infrastructure			
6.	SDG 7 - Affordable and Clean Energy			
7.	SDG 9 - Industry, Innovation, and Infrastructure	Corrosion Science and Technology	PET2027	Material durability, Asset integrity, Corrosion mitigation
8.	SDG 12 - Responsible Consumption and Production			
9.	SDG 13 - Climate Action			
10.	SDG 7 - Affordable and Clean Energy	Fundamentals of Chemical Engineering	PET3012	Mass & energy balance, Sustainable processes, Cleaner production
11.	SDG 9 - Industry, Innovation, and Infrastructure			
12.	SDG 12 - Responsible Consumption and Production			
13.	SDG 7 - Affordable and Clean Energy	Advanced Refining Engineering	PET3013	Low-carbon refining, Energy-efficient operations, Emissions control
14.	SDG 9 - Industry, Innovation, and Infrastructure			
15.	SDG 12 - Responsible Consumption and Production			
16.	SDG 13 - Climate Action	Advanced Petrochemical Engineering	PET3014	Green chemistry, Sustainable petrochemicals, Circular economy
17.	SDG 9 - Industry, Innovation, and Infrastructure			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

18.	SDG 12 - Responsible Consumption and Production			
19.	SDG 13 - Climate Action			
20.	SDG 7 - Affordable and Clean Energy			
21.	SDG 9 - Industry, Innovation, and Infrastructure	Chemical Reaction Engineering	PET3015	Catalytic processes, Reactor optimization, Energy efficiency
22.	SDG 12 - Responsible Consumption and Production			
23.	SDG 9 - Industry, Innovation, and Infrastructure	Process Equipment Design	PET3016	Sustainable design, Safety engineering, Energy-efficient equipment
24.	SDG 12 - Responsible Consumption and Production			
25.	SDG 13 - Climate Action			
Open Elective Courses				
1.	SDG 6 - Clean Water & Sanitation	Geology for Engineers	PET1005	Natural resources, Groundwater, Soil stability
2.	SDG 7 - Affordable and Clean Energy			
3.	SDG 9 - Industry, Innovation, and Infrastructure			
4.	SDG 11 - Sustainable Cities and Communities			
5.	SDG 13 - Climate Action			
6.	SDG 7 - Affordable and Clean Energy	Overview of Energy Industry	PET1006	Energy value chain, Energy transition, Renewables
7.	SDG 8 - Decent Work and Economic Growth			
8.	SDG 9 - Industry, Innovation, and Infrastructure			
9.	SDG 12 - Responsible Consumption and Production			
10.	SDG 7: Affordable and Clean Energy	Introduction to Energy Trading and Future Options	PET1007	Energy markets, Pricing mechanisms, Risk management
11.	SDG 8 - Decent Work and Economic Growth			
12.	SDG 12 - Responsible Consumption and Production			



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

13.	SDG 13 - Climate Action			
14.	SDG 7 - Affordable and Clean Energy	Sustainable Energy Management	PET1008	Energy efficiency, Renewable integration, Sustainability strategies
15.	SDG 11 - Sustainable Cities and Communities			
16.	SDG 12 - Responsible Consumption and Production			
17.	SDG 13 - Climate Action			
18.	SDG 17 - Partnerships for the Goals			
19.	SDG 7 - Affordable and Clean Energy	Introduction to Computational Fluids Dynamics	PET2026	Simulation, Fluid flow modeling, Solar optimization
20.	SDG 9 - Industry, Innovation, and Infrastructure			
21.	SDG 11 - Sustainable Cities and Communities			
22.	SDG 13 - Climate Action			
23.	SDG 9 - Industry, Innovation, and Infrastructure	Polymer Science and Technology	PET2028	Biopolymers, Recycling, Biodegradable materials
24.	SDG 12 - Responsible Consumption and Production			
25.	SDG 13 - Climate Action			
26.	SDG 7 - Affordable and Clean Energy	Overview of Material Science	PET2031	Advanced materials, Energy materials, Nanomaterials
27.	SDG 9 - Industry, Innovation, and Infrastructure			
28.	SDG 12 - Responsible Consumption and Production			
29.	SDG 7 - Affordable and Clean Energy	Petroleum Economics	PET2032	Cost analysis, Economic sustainability, Energy policy
30.	SDG 8 - Decent Work and Economic Growth			
31.	SDG 12 - Responsible Consumption and Production			