Learning outcomes:

By the end of the program (Oil-gas engineering (050631)), the students should be able to:

PLO 1. Demonstrate basics of porosity, permeability, relative permeability, arithmetic and geometric average of permeability total porosity, effective porosity, primary and secondary porosity.

PLO 2. Determine pore volume methods, bulk volume, compressibility factors of reservoir rock.

PLO 3. Demonstrate basics of reservoir rock and fluid properties, pore pressure concepts.

PLO 4. Analyze fluid flow through in porous media.

PLO 5. Evaluate reservoir characteristics, select appropriate well locations and drilling techniques, design production facilities and transportation systems, and optimize production operations.

PLO 6. Formulate and calculate different types of fluid flow in reservoir.

PLO 7. Analyze and interpret geological data, evaluate reservoir performance, design drilling and production operations, and manage project risks.

PLO 8. Evaluate different well design options, select appropriate equipment and materials, and optimize drilling and completion operations.

PLO 9. Learn how to analyze well data and apply this information to improve production efficiency and reservoir performance.

PLO 10. Master the techniques for solving practical problems on the topics of the discipline.

Learning outcomes:

By the end of the program (Oil and gas production (060606)), the students should be able to:

PLO 1. Demonstrate advanced knowledge of porosity, permeability, relative permeability, arithmetic and geometric average of permeability total porosity, effective porosity, primary and secondary porosity.

PLO 2. Apply fundamental sciences in well performance management.

PLO 3. Demonstrate advanced basics of reservoir rock and fluid properties, pore pressure concepts.

PLO 4. Demonstrate advanced analyze fluid flow through in porous media.

PLO 5. Evaluate reservoir characteristics, select appropriate well locations and drilling techniques, design production facilities and transportation systems, and optimize production operations.

PLO 6. Design an advanced production system and apply various optimization techniques.

PLO 7. Analyze and interpret geological data, evaluate reservoir performance, design drilling and production operations, and manage project risks.

PLO 8. Evaluate different well design options, select appropriate equipment and materials, and optimize drilling and completion operations.

PLO 9. Learn how to analyze well data and apply this information to improve production efficiency and reservoir performance.

PLO 10. Master the techniques for solving practical problems on the topics of the discipline.

Oil gas engineering program (050631)

Learning outcomes

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	Overall
Drilling Engineering			+	+				+		+	4
General Geology	+	+	+								3
Introduction to Fluid Mechanics	+	+		+		+				+	5
Introduction to Petroleum Engineering	+		+							+	3
Petroleum Economics							+	+		+	3
Petroleum Engineering Design				+	+		+		+	+	5
Petroleum Geology	+	+									2
Petroleum Production Engineering II				+			+			+	3
Petroleum Reservoir Simulation			+	+	+	+	+			+	6
Physics of Oil and Gas	+	+								+	3
Program of Petroleum Production Engineering I					+		+		+	+	4
Reservoir Engineering				+	+	+	+			+	5
Well Completion			+			+		+	+	+	5

Oil and gas production (060606)

Learning outcomes

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	Overall
Advanced Drilling Engineering		+	+	+	+		+				5
Advanced Gas and Gas-Condensate Reservoir Engineering	+		+	+							3
Advanced Petroleum Reservoir Engineering	+		+	+	+				+		5
Advanced Production Technology		+				+		+	+	+	5
Design and Development of Oil and Gas fields	+		+	+	+					+	5
Enhanced Oil Recovery		+				+	+	+			4
Formation Evaluation	+						+		+		3
Numerical Reservoir Simulation	+		+	+							3
Well Stimulation		+				+		+	+	+	5