

APPLIED BACHELOR

Curriculum for Petroleum Engineering Technology with a Minor in Oil and Gas Process Engineering

Applies to students entering the PET program in the 2016-2017 academic year and [Passed Pre-Calculus \(MATH-100\)](#)

Pre-Calculus (MATH-100) - Passed

YEAR	FIRST SEMESTER			SECOND SEMESTER			SUMMER SEMESTER				
	Course No.	Course Title	CR	Course No.	Course Title	CR	Course No.	Course Title	CR		
1 (FRESHMAN)	MATH111	Calculus I	3	MATH112	Calculus II	3	ENG120P	Mech. Workshop	1		
	CHEM111	Chemistry I	3	PHYS102	Physics II	3	ENG114	Indust'l Safety and Pro Ethics	2		
	CHEM111P	Chemistry I Lab	1	PHYS102P	Physics II Lab	1	ENG113	Engineering Drawing	2		
	ICT110	Intro to Progr. & Probl. Solving	3	CHEM112	Chemistry II	3	ENG126	Thermodynamics	3		
	PHYS111	Physics I	3	CHEM112P	Chemistry II Lab	1	PET120	Petroleum Geology	3		
	PHYS111P	Physics I Lab	1	ENGL112	Technical English	3	PET120P	Petroleum Geology Lab	1		
	ENGL111	English Communication Skills	3	PET110	Introduction to Petroleum Eng.	3					
	Total Credit Hours			17	Total Credit Hours			17	Total Credit Hours		
2 (SOPHOMORE)	HUMxxx	Humanities Elective	3	PET216	Reservoir Fluid Properties	2	PET271	Pumps & Valves	1		
	ENG224	Statics & Strength of Materials	3	PET216P	Reservoir Fluid Properties Lab	1	PET272	Heat Exchangers & Steam Traps	1		
	PET209	Reservoir Rock Properties	2	PET225	Drilling Technology I	3	PET273	Air Compressors	1		
	PET209P	Reservoir Rock Properties Lab	1	PET225P	Drilling Technology I Lab	1	PET274	Experimental Fluid Mechanics	1		
	MATH213	Differential Equations	3	PET217	Reservoir Engineering I	3	PET275	Oil and Gas Testing	1		
	ENGL113	English for Oil and Gas	3	MATH211	Linear Algebra	3	PET276	DC Machines	1		
	ENG227	Fluid Flow & Heat Transfer	3	HUMxxx	Humanities Elective	3	PET277	AC Machines	1		
				OGPxxx	Technical Elective	2	PET278	Instrumentation & Control	1		
Total Credit Hours			18	Total Credit Hours			18	Total Credit Hours			9
3 (JUNIOR)	PET321	Subsurface Production Engineering	4	OGP-215	Equilibrium Thermodynamics	2	PET371	Rig Safety	1		
	PET314	Well Logging	4	PET317	Reservoir Engineering II	3	PET372	Drilling	1		
	PET314B	Well Logging Lab	1	MATH212	Probability & Statistics	3	PET373	Well Control	1		
	PET335	Drilling Technology II	2	OGP-220	Mass Transfer	3	PET374	Stuck Pipe Prevention	1		
	OGP-225	Chemical Reactors and Mixing	3	PET345	Well Completion & Workover	3	PET375	Cementing	1		
	OGP-225P	Chemical Reactors and Mixing Lab	1	PET394	Graduation Project	2	PET376	Well Head / Christmas Tree	1		
	PET-330	Health & safety at Work (HSW)	2	PETxxx	Technical Elective	3	PET377	Workover	1		
							PET378	Formation Evaluation	1		
Total Credit Hours			17	Total Credit Hours			19	Total Credit Hours			12
4 (SENIOR)	OGP-464	Process Dynamics & Control	3	PET425	Water Treatment and Injection	2					
	PET409	Prod. Syst. Design & Analysis	3	PET425P	Water Treatment and Injection Lab	1					
	PET417	Reservoir Simulation	4	OGPxxx	Technical Elective	3					
	PET411	Petroleum Economics	2	OGP-345	Petroleum Refining & Processing	2					
	PET430	Well Testing	3	OGP-345P	Petrol Refining & Processes Lab	1					
	PETxxx	Technical Elective	3	OGP-316	Gas Processing & Treatment	3					
				HUM-402	Creativity, Innov & Entrepreneurship	3					
			PET494	Graduation Project	3						
Total Credit Hours			18	Total Credit Hours			18	TOTAL CREDIT HOURS			175

NOTES:

- PETxxx** PET Elective to be taken from PET advanced courses after consultation with the advisor
- OGPxxx** OGP Elective to be selected after consultation with the advisor
- HUMxxx** Humanity Elective to be selected after consultation with the advisor
- Pre-requisite** for Calculus I (MATH-111): placement exam >70%, or precalculus MATH100
- Students** can select their specialization after taking PET-110
- Pre-requisite** for PET-495 are: Completion of 110 credits and cGPA ≥ 2.0
- Pre-requisites** for PET-394: Completion of 90 credits
- Pre-requisites** for PET-494: Senior level standing and advisor approval
- Pre-requisites** for PET-411 & PET 425: Senior level standing and advisor approval

Major (PET-xxx) Technical Electives (6 credits)	
Code	Course Title (credit hours)
PET-401	Numerical Methods (3 cr.)
PET-421	Enhanced Oil Recovery (3 cr.)
PET-431	Applied Environment (2 cr.)
PET-451	Special Topics in Petroleum Engineering (3 cr.)
Minor (OGP-xxx) Technical Electives (5 credits)	
Code	Course Title (credit hours)
OGP-222	Elementary Principles of Process Engineering (2 cr.)
OGP-340	Petroleum Storage and Loading (2 cr.)
OGP-371	Process Equipment Drawing (1 cr.)
OGP-415	Chemical Reactor Design (L+Lab) (4 cr.)
OGP-417	Process Modeling & Simulation (L+Lab) (3 cr.)
OGP-430	Petrochemicals (3 cr.)
OGP-465	Plant and Equipment Design (L+Lab) (4 cr.)
Humanities (HUM-xxx) Electives (6 credits)	
Code	Course Title (credit hours)
HUM-110	Life-Long Learning Skills (3 cr.)
HUM-111	Islamic Culture (3cr.)
HUM112	Emirates Society & Culture (3 cr.)
HUM-211	Arabic Communication Skills (3 cr.)
HUM-212	Applied Research & Development Skills (3 cr.)