

PETROLEUM AND NATURAL GAS ENGINEERING, BACHELOR OF SCIENCE (BS)

Recommended Four-Year Plan

Course	Title	Hours
First Year		
Fall		
ENGR 110	Introduction to Engineering	2
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
ENGL 102	Critical Writing	3
ESAP 101	FIRST Seminar *	0-1
MATH 225	Calculus I	4
SUBJ 139	Foundations of Academic Discovery ¹	3
Hours		16-17
Spring		
ENGR 120	Engineering Design Tools	2
ENGL 104	Critical Reading	3
CHEM 108 & CHEM 112	General Chemistry II and General Chemistry II Lab	4
MATH 230	Calculus II	4
PHYS 216	University Physics 1 with Lab	4
Hours		17
Second Year		
Fall		
PNGE 201	Introduction to Petroleum and Natural Gas Engineering	1
ENGR 130	Engineering Computing Tools	2
ENGR 210	Statics	3
MATH 301	Differential Equations I	3
PHYS 217	University Physics 2 with Lab	4
Humanities Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Hours		16
Spring		
PNGE 312	Petrophysics	4
ENGR 230	Mechanics of Materials	3
EGEO 201	Earth Materials and Processes/Lab	4
MATH 232	Linear Algebra	3
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	
Hours		17
Third Year		
Fall		
PNGE 315	Reservoir Fluids	3
PNGE 410	Drilling engineering with Lab	4
ENGR 301	Fluid Mechanics	3

ENGR 320	Thermodynamics	3
EGEO 327	Structural Geology	4
Hours		17
Spring		
PNGE 325	Reservoir Engineering	3
PNGE 432	Formation Evaluation	3
PNGE Elective		3
STAT 350	Applied Statistics	3
Social Science Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Hours		15
Fourth Year		
Fall		
PNGE 420	Production Engineering	3
PNGE 430	Reservoir Simulation	3
PNGE 440	Hydraulic Fracturing	3
PNGE 441	Oil and Natural Gas Resource Valuation and Economics	3
PNGE 459	Petroleum and Natural Gas Design/ Capstone I	1
ENGR 340	Engineering Economics	3
Hours		16
Spring		
PNGE 435	Pressure Transient Analysis	3
PNGE 460	Petroleum and Natural Gas Engineering Design/Capstone II	2
PNGE Elective ¹		3
Creative & Aesthetic Inquiry (https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/)		3
Free Elective		3
Hours		14
Total Hours**		128

¹ Course offered in multiple subjects; cannot take course in first major subject.

* Students are encouraged to take ESAP 101 as a Free Elective.

**Select PNGE Elective from: PNGE 470, EGEO 358, PNGE 445, or PNGE 330.

** This document is meant to serve as a guide. Some planners may show more than 120 credits because faculty have created flexibility in choosing courses. However, only 120 credits are required to obtain a degree. Please consult with your academic adviser and refer to your curriculum guide prior to registering for courses. This plan should be reviewed, and verified, by you and your academic adviser at least once each academic year.

Major Code: 6180

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