

Department of Geology | Engineering Dual Degree Curriculum
 Example Course Plan for B.A. in Geology + B.S. in Petroleum Engineering from UND



First Year Fall				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
CCC 100	Introduction to College Writing	3	AC	
MATH 135	Calculus I ¹	4	AC	
CHEM 105/117	General Chemistry I & Lab	4	AC	
GEOL 101	Physical Geology	4	AC	

Second Year Fall				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
MATH 215	Calculus III	4	AC	
PHYS 202/204	General Phys: Therm. & Electromagnetics/Laboratory ²	4	AC	PHYS201, PHYS203
GEOL 316	Paleontology	4	AC	GEOL101, GEOL102
ENGR 201	Statics	3	UND	MATH135
PTRE 201	Introduction to Petroleum Engineering	3	UND	GEOL 101

Third Year Fall				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
GEOL 318	Field & Lab Methods (EXP)	4	AC	GEOL307
GCON XXX	Great Conversation Course	3	AC	
GCON XXX	Great Conversation Course	3	AC	
ME 341	Thermodynamics	3	UND	PHYS201, PHYS203, MATH205
ME 306	Fluid Mechanics	3	UND	PHYS201, PHYS203, MATH215, ENGR 201

Fourth Year Fall				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
GEOL 403	Capstone: Senior Research	2	AC	GEOL307 or 314
GCON XXX	Great Conversation Course	3	AC	
PTRE 405	Petroleum Engineering Economy & Law	3	UND	
PTRE 401	Well Logging	3	UND	PTRE301
PTRE 411	Drilling Engineering	3	UND	
PTRE 431	Reservoir Engineering	3	UND	PTRE311, ME306

Fifth Year Fall				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
GCON XXX	Great Conversation Course	3	AC	
PTRE 421	Production Engineering	3	UND	PTRE431, ME306
PTRE 465	Petroleum Geomechanics	3	UND	PTRE411
PTRE 471	Numerical Reservoir Simulation	3	UND	PTRE431, MATH305
PTRE 484	Research Design	3	UND	PTRE401, GEOL407

SUMMER LABS (On UND Campus)		Credits	When to Take
PTRE 361: Petroleum Engineering Lab I		1	After Fifth Year Spring
PTRE 462: Petroleum Engineering Lab II		1	After Fifth Year Spring

First Year Spring				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
CCC 102	Public Speaking	3	AC	
MATH 205	Calculus II ¹	4	AC	
CHEM 106/118	General Chemistry II & Lab	4	AC	
PHYS 201/203	General Physics: Mechanics/ Laboratory ²	4	AC	MATH135/MATH205

Second Year Spring				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
MATH 305	Differential Equations	3	AC	
GEOL 102	Historical Geology	4	AC	
GEOL 307	Structural Geology	4	AC	GEOL101
GEOL 321	Contaminated Soil & Groundwater (WID)	3	AC	GEOL307
PTRE 301	Reservoir Rock Properties	3	UND	

Third Year Spring				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
GEOL 303	Earth Materials	4	AC	GEOL101
GEOL 314	Sedimentology & Stratigraphy	4	AC	GEOL101
ESS 375	Geographic Information & Positioning Systems	4	AC	
PTRE 311	Petroleum Fluid Properties	3	UND	CHEM106, CHEM118/ ME241, PTRE301
ENGR 203	Mechanics of Materials	3	UND	MATH135, PHYS201, PHYS203

Fourth Year Spring				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
GCON XXX	Great Conversation Course	3	AC	
MATH 321	Applied Statistical Methods	3	UND	MATH205
GEOL 407	Petroleum Geology	3	UND	
PTRE 445	Well Testing	3	UND	PTRE431, MATH305
PTRE 451	Advanced Drilling Engineering	3	UND	PTRE411

Fifth Year Spring				
Course #	Course Name	Credits	Where	Prereqs/Coreqs
PHIL 304	Ethics	3	AC	
ENGR 200	Computer Applications in Engineering	3	UND	MATH135
PTRE 475	Well Completions	3	UND	PTRE421
PTRE 485	Senior Design ³	3	UND	

Notes	
¹ MATH 135 and MATH 205 combine for equivalency to MATH 165 and 166 at UND.	
² PHYS 201, 202, 203, & 204 satisfies UND's PHYS 251 and PHYS 252 requirement.	
³ Prerequisite: PTRE 484, PTRE 405, PTRE 421, PTRE 451, PTRE 465, and PTRE 471; all prerequisites must be completed with a "C" or higher. S.	