

**Course Requirements and Registration Priorities  
School of Mining and Geosciences, Fall 2021**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>SMG</b>											
<b>Economics, School of Mining and Geosciences</b>											
1	SMG 200/ECON 220	Resource Economics	3	6	MATH 161 Calculus I (118) (C- and above) OR MATH 162 Calculus II (170) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS	SSH	
<b>Mining Engineering</b>											
2	MINE 301	Mine Surveying and Geographic Information Systems	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
3	MINE 302	Geomechanics	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
4	MINE 304	Resource Estimation	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
5	MINE 401	Mining Geotechnical Engineering	3	6	MINE 302 Geomechanics (5878) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
6	MINE 402	Coal Mining	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
7	MINE 405	Mine Ventilation	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

8	MINE 406	Mine Robotics and Automation	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
9	MINE 489	Research Project I	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
10	MINE 501	Foundations of Mining	3	6				Mining Engineering			
11	MINE 502	Geology for Mining Engineers	3	6				Mining Engineering			
12	MINE 503	Applied Geostatistics	3	6				Mining Engineering			
13	MINE 504	Mine Geomechanics	3	6				Mining Engineering			
14	MINE 505	Advanced Mine Ventilation	3	6				Mining Engineering			
15	MINE 601	Mine Management and Sustainability	3	6				Mining Engineering			
16	MINE 602	Mine Maintenance and Services	3	6	MINE 502 Geology for Mining Engineers (3691) (C- and above)			Mining Engineering			
17	MINE 605	Mechanized Excavation and Tunnelling	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
18	MINE 606	Underground Hard Rock Geotechnical Engineering	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
19	MINE 690	Thesis I	6	12				Mining Engineering			

20	MINE 701	Advanced Mine Geomechanics	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
21	MINE 801	Advanced Mechanized Excavation and Tunneling	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
22	MINE 805	Mine Robotics and Automation	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
23	MINE 890-0	Thesis Research	0	0				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
<b>Petroleum Engineering</b>											
24	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (D and above) OR CHEM 101 General Chemistry I (113) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS		
25	PETE 301	Numerical Methods for Petroleum Engineers	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

26	PETE 302	Reservoir Engineering I with Laboratory works	4	8	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
27	PETE 303	Well Logging and Formation Evaluation	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
28	PETE 304	Well Completion and Stimulation	3	6	PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
29	PETE 400	Capstone Design Project I	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above) AND PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
30	PETE 401	Production Enhancement	3	6	PETE 307 Production Engineering (6146) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
31	PETE 501	Foundations of Petroleum Engineering	3	6				Petroleum Engineering			
32	PETE 502	Petroleum Geology	3	6				Petroleum Engineering			
33	PETE 503	Fluid Flow Through Porous Media	3	6				Petroleum Engineering			
34	PETE 504	Advanced Formation Evaluation	3	6				Petroleum Engineering			
35	PETE 505	Advanced Drilling Engineering	3	6				Petroleum Engineering			
36	PETE 509	Advanced Well Testing and Evaluation	3	6				Petroleum Engineering			
37	PETE 600	Thesis I	6	12				Petroleum Engineering			
38	PETE 601	Petroleum Data Analytics	3	6				Petroleum Engineering			
39	PETE 602	Research Seminar	3	6				Petroleum Engineering			

40	PETE 802	Fluid Flow Through Porous Media	4	8				Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
41	PETE 805	Special Topics in Petroleum Engineering: Data Analytics	4	8				Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
42	PETE 890	Thesis Research	0	0				Petroleum Engineering			
<b>School of Mining and Geosciences</b>											
43	GEOL 201	Mineralogy	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
44	GEOL 202	Geologic Maps and Cross-Sections	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS		
45	GEOL 301	Igneous and metamorphic petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
46	GEOL 302	Thermodynamics and Geochemistry	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

47	GEOL 303	Structural Geology and Tectonics	3	6	(GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)) AND GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
48	GEOL 305	Geology of ore deposits	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above) OR GEOL 201 Mineralogy (5122) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
49	GEOL 310	Field Geology 2	3	6	GEOL 303 Structural Geology and Tectonics (5874) (D and above) OR GEOL 301 Igneous and metamorphic petrology (5886) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
50	GEOL 401	Petroleum Geology and Geochemistry	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
51	GEOL 402	Water Resource Management	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
52	GEOL 404	Research Project I	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
53	SMG 100	Introduction to Natural Resources Extraction	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

54	SMG 710	Research Methods and Statistics	3	6				Mining Engineering, Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
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