

**Course Requirements and Registration Priorities  
School of Mining and Geosciences, Spring 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)			SEDS, SMG, SSH, SoM			
<b>Mining Engineering</b>											
2	MINE 201	Mineral Processing	3	6				SMG	SEDS	SSH, SoM	
3	MINE 306	Underground Mining Systems and Design	3	6	MINE 302 Geomechanics (5878) (D and above) AND MINE 405 Mine Ventilation (5879) (D and above)			SMG	SEDS	SSH, SoM	
4	MINE 307	Surface Mining System and Design	3	6	MINE 302 Geomechanics (5878) (D and above)			SMG	SEDS	SSH, SoM	
5	MINE 308	Mine Planning	3	6				SMG	SEDS	SSH, SoM	
6	MINE 309	Sustainability and Mining Environment	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (D and above)			SMG	SEDS	SSH, SoM	
7	MINE 310	Rock Breakage	3	6	MINE 302 Geomechanics (5878) (D and above)			SMG	SEDS	SSH, SoM	
8	MINE 507	Rock Excavation Methods	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

9	MINE 508	Advanced Rock Mechanics	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
10	MINE 509	Advanced Surface Mine Design	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
11	MINE 510	Advanced Underground Mine Design	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
12	MINE 691	Thesis II	15	30	MINE 690 Thesis I (4531) (P)			Mining Engineering			
13	MINE 702	Current Research Literature	4	8				Mining Engineering			

14	MINE 703	Advanced Mining Systems	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
15	MINE 803	Advanced Geometallurgy	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
16	MINE 806	Advanced Numerical Methods	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Petroleum Engineering, Robotics Engineering, Science, Engineering and Technology		
17	MINE 890-0	Thesis Research	0	0				Mining Engineering			
<b>Petroleum Engineering</b>											
18	PETE 202	Transport Phenomena	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above) OR CHEM 101 General Chemistry I (113) (C- and above) OR CHEM 101L General Chemistry I lab (179) (C- and above)			Petroleum Engineering	SEDS		
19	PETE 203	Drilling Engineering with Laboratories	4	8	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above)			Petroleum Engineering	SEDS		
20	PETE 204	Reservoir Rock and Fluid Properties with Lab	4	8	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			Petroleum Engineering	SEDS		
21	PETE 305	Well Test Analysis	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		

22	PETE 306	Reservoir Engineering II	3	6	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above) OR PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		
23	PETE 307	Production Engineering	3	6	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above) OR PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		
24	PETE 405	Enhanced Oil Recovery	3	6	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (D and above)			Petroleum Engineering	SEDS		
25	PETE 506	Advanced Reservoir Simulation	3	6				1 year Gr SMG Petroleum Engineering			
26	PETE 507	Advanced Reservoir Engineering	3	6				1 year Gr SMG Petroleum Engineering			
27	PETE 508	Advanced Production Engineering	3	6				1 year Gr SMG Petroleum Engineering			
28	PETE 600	Thesis I	6	12				2 year Gr SMG Petroleum Engineering			
29	PETE 606	Advanced Enhanced Oil Recovery	3	6				Petroleum Engineering			
30	PETE 613	Unconventional resources drilling	3	6				Petroleum Engineering			
31	PETE 614	Introduction to Geospatial, Earth Observation and Surveying Technologies for Onshore and Marine Petroleum and Mining Industry	3	6				Petroleum Engineering			
32	PETE 702	Current Research Literature	4	8				Petroleum Engineering			
33	PETE 703	Advanced Reservoir Engineering	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
34	PETE 801	Advanced Reservoir Simulation	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
35	PETE 803	Advanced Enhanced Oil Recovery	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
36	PETE 890	Thesis Research	0	0				Petroleum Engineering			

37	PETE 899	Special topics in Petroleum Engineering: Unconventional Resources Drilling	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
<b>School of Mining and Geosciences</b>											
38	GEOL 101	Fundamentals of Geology	3	6				1 year UG SMG	SMG	SEDS, SSH, SoM	
39	GEOL 204	Sedimentology and stratigraphy	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)			SMG			
40	GEOL 205	Paleontology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG			
41	GEOL 301	Sedimentary petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)	GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)		SMG			
42	GEOL 306	Geodynamics	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG			
43	GEOL 307	Geographic Information Systems	3	6				SMG			
44	GEOL 308	Environmental Geochemistry	3	6				SMG			
45	GEOL 309	Hydrogeology	3	6				SMG			
46	SMG 100	Introduction to Natural Resources Extraction	3	6				SMG	SEDS	SSH, SoM	
47	SMG 520	Research Methods	3	6				1 year Gr SMG Mining Engineering, 1 year Gr SMG Petroleum Engineering			