

**Michigan Technological University****Minor in Mineral Processing**

Program Code: CMMP, Academic Year 2020-21

Department of Chemical Engineering

Total Credits Required: 18

**Required Mineral Processing and Mineralogy Courses: 7 credits**

Course	Credits
CM 2200 Intro to Minerals & Materials Processing (3)	
CM 3830 Mineral Processing and Extraction Lab (1) <i>Prereqs: CM2110(C) or CM2200(C)</i>	
GE 2300 Mineral Science (3) <i>Prereqs: CH1000 or CH1112 or (CH1150 and CH1151)</i>	

**Thermodynamics Courses: select one course, 4 credits**

Course	Credits
CM 3230 Thermodynamics for Chem Eng (4) <i>Prereqs: CH3510 and MA3160 and (MA3520(C) or MA3521(C) or MA3530(C) or MA3560(C))</i>	
ENG 3200 Thermo/Fluid Mechanics (4) <i>Prereqs: MA2160 and CH1112 or (CH1150 and CH1151) and PH2100 and ENG1102</i>	
MEEM 3201 Intro Fluid Mechanics & Heat Transfer (4) <i>Prereqs: MEEM2201 and MEEM2911(C) and (MA3520 or MA3521 or MA3530 or MA3560)</i>	
MSE 3100 Materials Processing I (4) <i>Prereqs: MSE2100 and MA2160</i>	

**Elective Courses: select remaining 7 credits**

Course	Credits
CM 3825 Sampling, Statistics, and Instrumentation (2) <i>Prereqs: none</i>	
CM 4020 Undergrad Research in Mineral Processing Engineering (1-3) <i>Prereqs: none</i>	
CM 4505 Particle Technology (3) <i>Prereqs: none</i>	
CM/MSE 4740 Hydrometallurgy/Pyrometallurgy (4) <i>Prereqs: CH1122 or (CH1160 and CH1161)</i>	
ENT XXXX Enterprise Project Work (1-3) <i>Topic must be approved by minor academic advisor</i>	
GE 3400 Drilling and Blasting (3) <i>Prereqs: GE2020 and PH2100</i>	
GE 4360 Material Handling (4) <i>Prereqs: PH2100</i>	
GE/EC 4630 Mineral Industry Economics (3) <i>Prereqs: EC2001 and UN1015 and (UN1025 or 3000-level Mod. Language)</i>	
MSE 3120 Materials Characterization I (4) <i>Prereqs: MSE2100 and MSE2110</i>	