

Michigan Technological University**Minor in Mineral Processing**

Program Code CMMP, Academic Year 2021-22

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 <i>Prereqs: none</i>	3
CM 3830 Mineral Processing and Extraction Lab <i>Prereqs: CM2110(C) or CM2200(C)</i>	1
GE 2300 Mineral Science <i>Prereqs: CH1000 or CH1112 or (CH1150 and CH1151)</i>	3

Thermodynamics Courses: Select one course for 4 credits

Course	Credits
CM 3230 Thermodynamics for Chem Eng <i>Prereqs: CM2110 and MA2160 and PH2100</i>	4
ENG 3200 Thermo/Fluid Mechanics <i>Prereqs: MA2160 and CH1112 or (CH1150 and CH1151) and PH2100 and ENG1102</i>	4
MEEM 3201 Intro Fluid Mechanics & Heat Transfer <i>Prereqs: MEEM2201 and MEEM2911(C) and (MA3520 or MA3521 or MA3530 or MA3560)</i>	4
MSE 3100 Materials Processing I <i>Prereqs: MSE2100 and MA2160</i>	4

Elective Courses: Select remaining 7 credits

Course	Credits
CM 3825 Sampling, Statistics, and Instrumentation <i>Prereqs: none</i>	2
CM 4020 Undergrad Research in Mineral Processing Engineering <i>Prereqs: none</i>	1-3
CM 4505 Particle Technology <i>Prereqs: none</i>	3
CM 4510 Interfacial Engineering <i>Prereqs: CH3510</i>	3
CM/MSE 4740 Hydrometallurgy/Pyrometallurgy <i>Prereqs: CH1122 or (CH1160 and CH1161)</i>	4
EC 4630 Mineral Industry Economics <i>Prereqs: EC2001 and UN1015 and (UN1025 or 3000-level Mod. Language)</i>	3
ENT XXXX Enterprise Project Work <i>Topic must be approved by minor academic advisor</i>	1-3
GE 3400 Drilling and Blasting <i>Prereqs: GE2020 and PH2100</i>	3
GE 4360 Bulk Materials Dynamics & Engineering <i>Prereqs: PH2100 and GE2320</i>	4
MSE 3121 Materials Characterization I <i>Prereqs: MSE2100 and MSE2110</i>	3
MSE 3122 Materials Characterization 1 Laboratory <i>Prereqs: MSE2100 and MSE2110 and MSE3121(C)</i>	1