Michigan Technological University  
Minor in Mineral Processing  
Program Code CMMP, Academic Year 2023-24  
Department of Chemical Engineering  
Total Credits Required: 18

**Required Mineral Processing and Mineralogy Courses: 7 credits**
- CM 2200 Intro to Minerals & Materials (3)  **Prereqs: none**
- CM 3830 Mineral Processing and Extraction Lab (1)  **Prereqs: CM2110(C) or CM2200(C)**
- GE 2300 Mineral Science (3)  **Prereqs: CH1000 or CH1112 or (CH1150 and CH1151)**

**Thermodynamics Courses: 1 course for 4 credits**
- CM 3230 Thermodynamics for Chem Engineering (4)  **Prereqs: CM2110 and MA2160 and PH2100**
- CEE 3200 Thermo/Fluid Mechanics (4)  **Prereqs: MA2160 and CH1112 or (CH1150 and CH1151) and PH2100 and ENG1102**
- MEEM 3201 Intro Fluid Mechanics & Heat Transfer (4)  **Prereqs: MEEM2201 and MEEM2911 and MA3160**
- MSE 3100 Materials Processing I (4)  **Prereqs: (MY2100 or MSE2100 or BE2800) and MA2160**

**Elective Courses: select remaining 7 credits**
- CM 3825 Sampling, Statistics, and Instrumentation (2)  **Prereqs: none**
- CM 4020 Undergrad Research in Mineral Processing Engineering (1-3)  **Prereqs: none**
- CM 4505 Particle Technology (3)  **Prereqs: none**
- CM 4510 Interfacial Engineering (3)  **Prereqs: CH3510**
- CM/MSE 4740 Hydrometallurgy/Pyrometallurgy (4)  **Prereqs: CH1122 or (CH1160 and CH1161)**
- EC 4630 Mineral Industry Economics (3)  **Prereqs: EC2001 and UN1015 and (UN1025 or 3000-level Mod. Language)**
- ENT XXXX Enterprise Project Work (1-3)  **Topic must be approved by minor academic advisor**
- GE 3400 Drilling and Blasting (3)  **Prereqs: GE2020 and PH2100**
- GE 4360 Bulk Materials Dynamics & Engineering (4)  **Prereqs: PH2100 and GE2320 and ENG2120**
- MSE 3120 Materials Characterization I (4)  **Prereqs: MSE2110 or MY2110**