

Michigan Technological University**Minor in Polymer Science and Engineering**

Program Code: ECMM, Academic Year 2020-21

Department of Chemical Engineering

Total Credits Required: 18

Introduction to Polymers Course: select one course, 3 credits

Course	Credits
BE 4300 Polymeric Biomaterials (3) <i>Prereqs: BE3800</i>	
CM/CH 4610 Introduction to Polymer Science (3) <i>Prereqs: CH1122 or (CH1160 and CH1161)</i>	
MSE 4110 Introduction to Polymer Engineering (3) <i>Prereq: MSE2100</i>	

Chemistry or Engineering Courses: select one set of classes, 3 to 6 credits

Course	Credits
BE 3550 Fluid Mechanics (4) <i>Prereqs: CH1150 and ENG1102 and MA2160 and PH2100</i>	
CH 2410 Organic Chemistry I (3) <i>Prereqs: CH1122 or (CH1160 and CH1161)</i> and CH 2420 Organic Chemistry II (3) <i>Prereqs: CH2410</i>	
CM 3110 Transport/Unit Operations I (3) <i>Prereqs: CM2120 and (MA3520 or MA3521 or MA3530 or MA3560) and MA3160 and PH2100</i>	
ENG 3200 Thermodynamics/Fluid Mech (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 and (MA3520 or MA3521 or MA3530 or MA3560)</i>	
MSE 3110 Materials Processing II (4) <i>Prereqs: MSE2110 and MSE3100 and (MA3520 or MA3521 or MA3530 or MA3560)</i>	

Elective Courses: select remaining 9 to 12 credits

Course	Credits
BE 3300 Biomechanics I: Statics and Dynamics (3) <i>Prereqs: BE2400 and (MA2321 or MA2320 or MA2330) and (MA3521 or MA3520 or MA3530) and BL2010</i> or MEEM 2150 Mechanics of Materials (3) <i>Prereq: MEEM 2110</i>	
BE 4335 Smart Polymers (3) <i>Prereqs: BE3350 and BE3800</i>	
CH/CM 4620 Polymer Chemistry (3) <i>Prereqs: CH2420</i>	
CH 4710 Biomolecular Chemistry I (3) <i>Prereqs: CH2420</i>	
CM 4060 UG Research in Polymer Engg (1-6) <i>Prereqs: none</i>	
CM/CH 4631 Polymer Sci Lab (2) <i>Prereqs: CH4610(C) or CM4610(C) or BE4300(C) or MY4600(C)</i>	
CM 4650 Polymer Rheology (3) <i>Prereqs: (CM3110 or MEEM3210 or ENG3200 or MSE3100 or CE3600) and (MA3520 or MA3521 or MA3530 or MA3560)</i>	
CM 4655 Polymer Rheology Lab (1) <i>Prereqs: CM4610(C) or CH4610(C) or CM4650(C) or BE4300(C) or MY4600(C)</i>	
ENG 4510 Sustainable Futures I (3) <i>Polymer-related term project required. Topic must be approved by minor advisor.</i>	
ENT XXXX Enterprise Project Work (1-3) <i>Topic must be approved by minor academic advisor</i>	
MEEM 4170 Failure of Materials in Mech (3) <i>Prereq: MEEM3501 or MEEM3400</i>	
MEEM 4635 Design with Plastics (3) <i>Prereqs: MSE2100 and MEEM2150 and (MEEM3210 and MEEM3230(C) or CM3110)</i>	
MSE 4430 Composite Materials (3) <i>Prereqs: MSE2100</i>	
XX xxxx Undergraduate Research (1-6) <i>Topic must be approved by minor academic advisor</i>	