

Michigan Technological University
Minor in Polymer Science and Engineering
Program Code ECMM, Academic Year 2022-23
Department of Chemical Engineering
Total Credits Required: 18

Introduction to Polymers Course: select one course for 3 credits

- BE 4300 Polymeric Biomaterials (3) *Prereqs: BE3800*
- CM/CH 4610 Introduction to Polymer Science (3) *Prereqs: CH1122 or (CH1160 and CH1161)*
- MSE 4110 Introduction to Polymer Engineering (3) *Prereq: (MSE2100 or MY2100 or BE2800) and CH1160*

Chemistry or Engineering Courses: select one set for 3 to 6 credits

- BE 3550 Fluid Mechanics (4) *Prereqs: CH1150 and ENG1102 and MA2160 and PH2100*
- CH 2410 Organic Chemistry I (3) *Prereqs: CH1122 or (CH1160 and CH1161), and*
 - CH 2420 Organic Chemistry II (3) *Prereqs: CH2410*
- CM 3110 Transport and Unit Operations I (3) *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 3110 Materials Processing II (4) *Prereqs: MSE2110 and MSE3100 and (MA3520 or MA3521 or MA3530 or MA3560)*

Elective Courses: select remaining 9 to 12 credits

- BE 3300 Biomechanics I: Statics and Dynamics (3) *Prereqs: BE2400 and (MA2321 or MA2320 or MA2330) and (MA3521 or MA3520 or MA3530) and BL2010, or*
 - MEEM 2150 Mechanics of Materials (3) *Prereq: MEEM 2110*
- BE 4335 Smart Polymers (3) *Prereqs: BE3350 and BE3800*
- CH/CM 4620 Polymer Chemistry (3) *Prereqs: CH2420 or CH2440*
- CH 4710 Biomolecular Chemistry I (3) *Prereqs: CH2420 or CH2440*
- CM 4060 UG Research in Polymer Engineering (1-6) *Prereqs: none*
- CM 4650 Polymer Rheology (3) *Prereqs: (CM3110 or MEEM3210 or ENG3200 or MSE3100 or CE3600 or BE3550) and (MA3520 or MA3521 or MA3530 or MA3560)*
- ENG 4515 Introduction to Sustainability and Resilience (3) *Prereqs: none, Polymer-related term project required. Topic must be approved by minor advisor.*
- ENT XXXX Enterprise Project Work (1-3) *Topic must be approved by minor academic advisor*
- MEEM 4170 Failure of Materials in Mech (3) *Prereq: MEEM3501 or MEEM3400*
- MEEM 4635 Design with Plastics (3) *Prereqs: (MSE2100 or MY2100) and MEEM2150 and (MEEM3201(C) or CM3110)*
- MSE 4430 Composite Materials (3) *Prereqs: MSE2100 or MY2100 or BE2800*
- Undergraduate Research (1-6) *Topic must be approved by minor academic advisor*