

**Michigan Technological University****Minor in Manufacturing Systems**

Program Code EMSM, Academic Year 2021-22

Department of Manufacturing and Mechanical Engineering Technology

Total Credits Required: 18

**Required Courses: 13 credits**

<b>Course</b>	<b>Credits</b>
MET 3500 Manufacturing Processes	4
MET 4510 Lean Manufacturing and Production Planning	3
MET 4550 Computer Aided Manufacturing	3
MET 4780 Advanced Manufacturing	3

**Elective Courses: 5 credits**

<b>Course</b>	<b>Credits</b>
EET 3373 Introduction to Programmable Controllers	3
EET 4144 Real-Time Robotics Systems	4
EET 4147 Industrial Robotic Vision Systems and Advanced Teach Pendant Programming	4
EET 4373 Advanced Programmable Controllers	4
MET 4210 Applied Quality Techniques	3
MET 4355 Industrial Systems Simulation	3
MET 4585 Facilities Layout and Safety Design	3

Courses listed in this minor have the following prerequisites (shown in parentheses). Concurrency is indicated by the letter C: EET3373 (EET1411 or (EET2120 and EET2141) or EET2411 or PH2230 or EE2110 or EE3010 or EE2112), EET4144 (EET1411 or EET2220 or PH2230 or EE2110 or EE3010), EET4147 (EET4144), EET4373 (EET3373), MET3500 ((ENG1100 or ENG1101 or ENG1102) and MSE2100 and MET2153), MET4210 (MA2720(C) or MA3710(C)), MET4550 (MET2153 and MET2400), MET4780 (MEEM2500 or MET3500)