Michigan Technological University

Minor in Sustainable Biomaterials

Program Code FSBM, Academic Year 2021-22

College of Forest Resources and Environmental Science

Total Credits Required: 18

Required Courses: 6 credits

Course	Credits
FW 3097 Forest Biomaterials *Prereqs: none*	3
ENG 4515 Intro to Sustainability and Resilience *Prereqs: none*	3

Core Elective Course: Choose one

Course	Credits
CEE 4233 Structural Timber Design *Prereqs: CEE3202*	3
EC 4640 Natural Resource Economics *Prereqs: (EC2001 or EC3002 or FW4080) and UN1015 and UN1025*	3
FW 1035 Wood Anatomy and Properties *Prereqs: none*	4
SS 3313 Sustainability Science, Policy, and Assessment *Prereqs: UN1015 and UN1025*	3

Elective Courses: Choose 9 credits not already completed

Course	Credits
ART 2190 Art and Nature *Prereqs: none*	3
CEE 4233 Structural Timber Design *Prereqs: CEE3202*	3
CEE 4506 Application of Sustainability Principles to Engineering Practice *Prereqs: CEE3501 or CEE3503*	3
CEE 4993 Engineering with Developing Communities *Prereqs: (ENG2120 or MEEM2150) and (CEE3620)*	2
CH 3540 Biophysical Chemistry *Prereqs: (BL1020 or BL1040) and CH1122 or (CH1160 and CH1161) and MA2160 and PH2200*	3
CH 3541 Biophysical Chemistry Laboratory *Prereqs: (CH3540)*	2
CH/CM 4610 Introduction to Polymer Science *Prereqs: CH1122 or (CH1160 and CH1161)*	3
CM 3979 Alternative Energy Technologies and Processes *Prereqs: CH1112 or (CH1150 and CH1151) and (MA1160 or MA1161*	1
CM 4080 Undergraduate Research in Biofuels Engineering Prereqs*: none*	1 to 3
CMG 3250 Structural Analysis and Design *Prereqs: CMG 2120 or MET 2120*	3
CMG 4800 Sustainable Construction *Must have Junior or Senior standing*	3
EC/GE 4620 Energy Economics *Prereqs: EC2001 and UN1015 and UN1025*	3
EC 4640 Natural Resource Economics *Prereqs: (EC2001 or EC3002 or FW4080) and UN1015 and UN1025*	3
EC 4650 Environmental Economics *Prereqs: (EC2001 or EC3002) and UN1015 and UN1025*	3
ENG 3505 Modeling Laboratory for Sustainable Systems *Prereqs: ENG1505 and ENg2505 and ENG4510(c)*	1
ENG 4505 Systems Analysis, Modeling, and Design *Prereqs: ENG3505 and ENG4510*	3
FW 3010 Practice of Silviculture *Prereqs: FW 2010 and FW205*	4
FW 3098 Adding Value to Biomaterials *Prereqs: none*	2
FW 3110 Natural Resource Policy *Prereqs: none*	3
FW 3116 Ethnobotany *Prereqs: UN1015 and (UN1025 or Modern Language - 3000 level or higher)*	3
FW 3150 Timber Harvesting *Prereqs: FW2051*	2
FW 3765 Maple Syrup Management and Culture *Prereqs: UN1015 and UN1025*	1
FW 4080 Forest Economics & Finance *Prereqs: none*	3
MSE 4777 Distributed Additive Manufacturing Open-Source 3-D Printing *Must be enrolled in the College of Engineering and must have Junior or Senior standing*	3
SS 3300 Environmental Problems *Prereqs: UN1015 and UN1025*	3
SS 3313 Sustainability Science, Policy, and Assessment *Prereqs: UN1015 and UN1025*	3
SS 3630 Environmental Policy and Politics *Prereqs: UN1015 and UN1025*	3
SS 4390 Seminar in Sustainability Issues *Prereqs: UN1015 and UN1025*	3