

Michigan Technological University

Minor in Sustainable Biomaterials

Program Code FSBM, Academic Year 2023-24

College of Forest Resources and Environmental Science

Total Credits Required: 18

This minor is not open to students majoring in Sustainable Bioproducts.

Required Course: 6 credits

- FW 3097 Forest Biomaterials (3) *Prereqs: none*
- ENG 4515 Introduction to Sustainability and Resilience (3) *Prereqs: none*

Core Elective Course: Choose one

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

Elective Courses: Choose 9 credits, not already completed

- ART 2190 Art and Nature (3) *Prereqs: none*
- CEE 4233 Structural Timber Design (3) *Prereqs: CEE3202*
- CEE 4506 Application of Sustainability Principles to Engineering Practice (3) *Prereqs: CEE3501 or CEE3503*
- CEE 4993 Engineering with Developing Communities (2) *Prereqs: CEE 3200*
- CH 3540 Biophysical Chemistry (3) *Prereqs: (BL1020 or BL1040) and CH1122 or (CH1160 and CH1161) and MA2160 and PH2200*
- CH 3541 Biophysical Chemistry Laboratory (2) *Prereqs: (CH3540)*
- CH/CM 4610 Introduction to Polymer Science (3) *Prereqs: CH1122 or (CH1160 and CH1161)*
- CM 3979 Alternative Energy Technologies and Processes (1) *Prereqs: CH1112 or (CH1150 and CH1151) and (MA1160 or MA1161)*
- CM 4080 Undergraduate Research in Biofuels Engineering (1-3) *Prereqs: none*
- CMG 3250 Structural Analysis and Design (3) *Prereqs: CMG 2120 or MET 2120*
- CMG 4800 Sustainable Construction (3) *Must have Junior or Senior standing*
- EC/GE 4620 Energy Economics (3) *Prereqs: EC2001 and UN1015 and UN1025*
- EC 4640 Natural Resource Economics (3) *Prereqs: (EC2001 or EC3002 or FW4080) and UN1015 and UN1025*
- EC 4650 Environmental Economics (3) *Prereqs: (EC2001 or EC3002) and UN1015 and UN1025*
- ENG 3505 Modeling Laboratory for Sustainable Systems (1) *Prereqs: ENG1505 and ENg2505 and ENG4510(c)*
- ENG 4505 Systems Analysis, Modeling, and Design (3) *Prereqs: ENG3505 and ENG4510*
- FW 3010 Practice of Silviculture (4) *Prereqs: FW 2010 and FW2051*
- FW 3098 Adding Value to Biomaterials (2) *Prereqs: none*
- FW 3110 Natural Resource Policy (3) *Prereqs: none*
- FW 3116 Ethnobotany (3) *Prereqs: UN1015 and UN1025*
- FW 3150 Timber Harvesting (2) *Prereqs: FW2051*
- FW 3765 Maple Syrup Management and Culture (1) *Prereqs: UN1015 and UN1025*
- FW 4080 Forest Economics & Finance (3) *Prereqs: none*
- MSE 4777 Open-Source 3-D Printing (3) *Prereqs: none*
- SS 3300 Environmental Problems (3) *Prereqs: UN1015 and UN1025*
- SS 3313 Sustainability Science, Policy, and Assessment (3) *Prereqs: UN1015 and UN1025*
- SS 3630 Environmental Policy and Politics (3) *Prereqs: UN1015 and UN1025*
- SS 4390 Seminar in Sustainability Issues (3) *Prereqs: UN1015 and UN1025*