

**2020-21 Applied Ecology & Env Science (Biotechnology) Course Plan College of Forest Resources & Environmental Science-Michigan Tech**

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Total Credits (128 + 3 co-curriculars)
<b>First Year Fall</b>	FW2010 Vegetation of North America (4)	FW2051 Field Techniques (2)	BL1400 Principles of Biology (3)	BL1410 Principles of Biology Lab (1) Co-req: BL1400	UN1015 Composition (3)	HASS Gen Ed Requirement (3) See list		16
<b>First Year Spring</b>	MA1135 Calculus for Life Sciences (4) Prereq: MA1031 or MA1032	CH1150 University Chemistry Lecture (3) Coreq: MA1031 or MA1032 or MA1135	CH1151 University Chemistry Lab (1) Coreq: CH1150	CH1153 University Chemistry Recitation (1) Coreq: CH1150	FW1050 Natural Resources Professional (2)	HASS Gen Ed Requirement (3) See list	UN1025 Global Issues (3)	17
<b>Second Year Fall</b>	FW3020 Forest Ecology (3) Coreq: FW2010 and FW2051	BL2100 Principles of Biochemistry (3) Prereq: BL1400 & 1410, CH1150 & CH1151	MA2720 Statistical Methods (4) Prereq: MA1030 or MA1032	Critical and Creative Thinking Gen Ed (3) Requirement See list	HASS Gen Ed Requirement (3) See list	Co-curricular (1) See list		17
<b>Second Year Spring</b>	FW3110 Natural Resource Policy (3)	FW3200 Biometrics and Data Analysis (4) Prereq: FW2051 and MA2720	FW3540 Introduction to Geographic Information Systems (4) Coreq: MA2720	FW3075 Intro to Biotechnology (3)	Social Responsibility and Ethical Reasoning Gen Ed Requirement (3) See list			17
<b>Third Year Fall (Courses are taken as a block)</b>	FW3012 Survey of Silviculture (2) Prereq: FW2010 and FW2051	FW3800 Insect Ecology (2)	FW3170 Land Measurements/GPS (1) Co-req: FW3190 Prereq: FW3540	FW3190 Multi-Resource Assessment (3) Prereq: FW2051, FW3020, FW3200 & MA2720	FW3600 Wildlife Habitat (3)	FW3840 Forest Health (3)	FW3180 Geomorphology, Landscapes & Ecosystems (2)	16
<b>Third Year Spring</b>	FW3410 Conservation Biology (3)	FW3320 Forest Genetics and Genomics (3)	FW4120 Tree Physiology (3)	HASS Gen Ed Requirement (3) See list	Free Elective (3)	Co-curricular (1) See list		16
<b>Fourth Year Fall</b>	FW4800 Communication for Natural Resources (2) Prereq: FW3190	FW4811 Integrated Resources Data Collection (2) Prereq: FW3190	FW3330 Soil Science (4) Prereq: CH1150 & Ch1151	BL3300 Introduction to Genomics (3) Prereq: FW3320	Free elective (6)			17
<b>Fourth Year Spring</b>	FW4830 Integrated Natural Resource Assessment (2) Prereq: FW3190	FW4370 Forest and Landscape Hydrology (3)	FW4128 Conservation Genetics (3) BL1400 & BL1410	Free elective (6)	Co-curricular (1) See list			15

**2020-21 Applied Ecology & Env Science (Communicating NR) Course Plan**
**College of Forest Resources & Environmental Science-Michigan Tech**

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Total Credits (128 + 3 co-curriculars)
<b>First Year Fall</b>	FW2010 Vegetation of North America (4)	FW2051 Field Techniques (2)	BL1400 Principles of Biology Lecture (3)	BL1410 Principles of Biology Lab (1) Co-req:1400	UN1015 Composition (3)	HASS Gen Ed Requirement (3) See list		16
<b>First Year Spring</b>	MA1135 Calculus for Life Sciences (4) Prereq: MA1031 or MA1032	CH1150 University Chemistry Lecture (3) Coreq: MA1031 or MA1032 or MA1135	CH1151 University Chemistry Lab (1) Coreq: CH1150	FW1050 Natural Resources Professional (2)	HASS Gen Ed Requirement (3) See list	UN1025 Global Issues (3)		16
<b>Second Year Fall</b>	FW3020 Forest Ecology (3) Coreq: FW2010 and FW2051	FW3330 Soil Science (4) Prereq: CH1150 & CH1151	MA2720 Statistical Methods (4) Prereq: MA1030 or MA1032	Critical and Creative Thinking Gen Ed (3) Requirement See list	Free Elective (3)	Co-curricular (1) See list		18
<b>Second Year Spring</b>	FW3110 Natural Resource Policy (3)	FW3200 Biometrics and Data Analysis (4) Prereq: FW2051 and MA2720	FW3540 Introduction to Geographic Information Systems (4) Coreq: MA2720	ED3510 Communicating Science (3) Prereq: UN1015 and UN1025	Social Responsibility and Ethical Reasoning Gen Ed Requirement (3) See list			17
<b>Third Year Fall (Courses are taken as a block)</b>	FW3012 Survey of Silviculture (2) Prereq: FW2010 and FW2051	FW3800 Insect Ecology (2)	FW3170 Land Measurements/GPS (1) Co-req: FW3190 Prereq: FW3540	FW3190 Multi-Resource Assessment (3) Prereq: FW2051, FW3020, FW3200 & MA2720	FW3600 Wildlife Habitat (3)	FW3840 Forest Health (3)	FW3180 Geomorphology, Landscapes & Ecosystems (2)	16
<b>Third Year Spring</b>	FW3410 Conservation Biology (3)	ACC2000 Accounting Principles 1 (3)	HASS Gen Ed Requirement (3) See list	Free elective (7)	Co-curricular (1) See list			17
<b>Fourth Year Fall</b>	FW4800 Communication for Natural Resources (2) Prereq: FW3190	FW4811 Integrated Resources Data Collection (2) Prereq: FW3190	FW3760 Human Dimensions of Natural Resources (3)	MGT2000 Team Dynamics and Decision Making (3)	HASS Gen Ed Requirement (3) See list	Free Electives (3)		16
<b>Fourth Year Spring</b>	FW4830 Integrated Natural Resource Assessment (2) Prereq: FW3190	FW4370 Forest and Landscape Hydrology (3)	Directed Elective (3) List below	Free elective (6)	Co-curricular (1) See list			15

**Directed Electives** Choose one course from below:

Course #	Course title & credits	Prerequisite
HU2840	Interpersonal Communication (3)	
HU3694	Grant Writing (3)	UN1015 & UN1025
HU3832	Adv Digital Presentation (3)	UN1015 & UN1025
HU3871	New Media Theory (3)	UN1015 & UN1025
HU4625	Risk Communication (3)	UN1015 & UN1025
HU4628	Usability and Instructional Writing	HU3120, UN1015 & UN1025

**2020-21 Applied Ecology & Env Science (Plant Eco & Wetlands) Course Plan College of Forest Resources & Environmental Science-Michigan Tech**

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Total Credits (128 + 3 co-curriculars)
<b>First Year Fall</b>	FW2010 Vegetation of North America (4)	FW2051 Field Techniques (2)	BL1400 Principles of Biology Lecture (3)	BL1410 Principles of Biology Lab (1) Co-req: BL1400	UN1015 Composition (3)	HASS Gen Ed Requirement (3) See list		16
<b>First Year Spring</b>	MA1135 Calculus for Life Sciences (4) Prereq: MA1031 or MA1032	CH1150 University Chemistry Lecture (3) Coreq: MA1031 or MA1032 or MA1135	CH1151 University Chemistry Lab (1) Coreq: CH1150	FW1050 Natural Resources Professional (2)	HASS Gen Ed Requirement (3) See list	UN1025 Global Issues (3)		16
<b>Second Year Fall</b>	FW3020 Forest Ecology (3) Coreq: FW2010 and FW2051	FW3330 Soil Science (4) Prereq: CH1150 & CH1151	MA2720 Statistical Methods (4) Prereq: MA1030 or MA1032	Critical and Creative Thinking Gen Ed (3) Requirement See list	Free Elective (3)	Co-curricular (1) See list		18
<b>Second Year Spring</b>	FW3110 Natural Resource Policy (3)	FW3200 Biometrics and Data Analysis (4) Prereq: FW2051 and MA2720	FW3540 Introduction to Geographic Information Systems (4) Coreq: MA2720	Directed Elective (3) List below	Social Responsibility and Ethical Reasoning Gen Ed Requirement (3) See list			17
<b>Third Year Fall (Courses are taken as a block)</b>	FW3012 Survey of Silviculture (2) Prereq: FW2010 and FW2051	FW3800 Insect Ecology (2)	FW3170 Land Measurements/GPS (1) Co-req: FW3190 Prereq: FW3540	FW3190 Multi-Resource Assessment (3) Prereq: FW2051, FW3020, FW3200 & MA2720	FW3600 Wildlife Habitat (3)	FW3840 Forest Health (3)	FW3180 Geomorphology, Landscapes & Ecosystems (2)	16
<b>Third Year Spring</b>	FW3410 Conservation Biology (3)	FW4380 Landscape Ecology and Planning (3)	HASS Gen Ed Requirement (3) See list	HASS Gen Ed Requirement (3) See list	Free Elective (3)	Co-curricular (1) See list		16
<b>Fourth Year Fall</b>	FW4220 Wetlands (4)	FW4800 Communication for Natural Resources (2) Prereq: FW3190	FW4811 Integrated Resources Data Collection (2) Prereq: FW3190	Directed Elective (3) List below	Free Elective (6)			17
<b>Fourth Year Spring</b>	FW4830 Integrated Natural Resource Assessment (2) Prereq: FW3190	FW4370 Forest and Landscape Hydrology (3)	Directed Elective (3) List below	Free elective (6)	Co-curricular (1) See list			15

**Directed Electives Choose at least 9 credits**

Course #	Course Title & Credits	Semester
BL2160	Botany (4)	Spring
BL3400	Principles of Ecology (4) Prereq: BL1400 & 1410	Fall
FW3075	Plant Biotechnology (3)	Spring
FW3320	Forest Genetics and Genomics (3)	Spring
FW4120	Tree Physiology (3)	Spring
FW5115	Restoration Ecology (3)	Spring-alt even years