CONSERVATION BIOLOGY SPECIALIZATION
Effective Fall 2017
[Prerequisites are listed in brackets]

Communications
Take one or more of the following:
___ AFEE 2421 Professional Communication for Agriculture, Food, and the Environment; (3), Fall/Spring
___ COMM 1101 Introduction to Public Speaking; (3), (CIV), Fall/Spring
___ WRIT 3562W Technical and Professional Writing; (4) [WRIT 1301, or WRIT 1401, or instructor consent], Jr/Sr, Fall/Spring

Policy, Human Behavior, & Planning
Select one of the following:
___ ESPM 3202W Envt. Conflict Mgmt, Leadership, and Planning; (3) (Jr/Sr), Spring
___ ESPM 3245 Sustainable Land Use Planning and Policy; (3), (ENV), Fall
___ FNRM 3101 Park and Protected Area Tourism; (3), Fall: odd year

Select two of the following
___ ESPM 3011W Ethics in Natural Resources; (3), (CIV) Fall/Spring
___ ESPM 3241W Natural Resource & Env. Policy; (3), (SOC, CIV), Spring
___ ESPM 3271 Environmental Policy, Law & Human Behavior; (3), (SOC, CIV), Fall
___ FW 3925 Human Dimensions of Fisheries and Wildlife Management; (3), Spring
___ ESPM 3261 Economics and Natural Resources Management; (4), (SOC, ENV)
   Or APEC 3611W Environmental and Natural Resource Economics; (3), (ENV), Spring
___ GCC 3010 Grand Challenge: The Global Climate Challenge: Creating an Empowered Movement for Change; (3), (CIV), Spring
   Or GCC 5010 Grand Challenge: The Global Climate Challenge: Creating an Empowered Movement for Change; (3), (CIV), Spring

Organismal Biology
Select one of the following:
___ EEB 4129 or EEB 4839 Mammalogy; (4), [BIOL 2012], Fall
___ EEB 4134 or EEB 4844 Ornithology; (4) [BIOL 2012], Spring
___ FNRM 1101 Dendrology; Identifying Forest Trees and Shrubs; (3), Fall
___ FW 4101 Herpetology; (4) [BIOL 1001 or 2012], Spring: odd years
___ FW 2003 Introduction to Marine Biology; (3) [BIOL 1001, or BIOL 1009, or instructor consent], Spring
___ FW 4136 Ichthyology; (4) [BIOL 2012], Fall
___ FW 4401 Fish Physiology and Behavior; (3) [FW 4136, BIOL 2012, CHEM 1061 (3)], Fall: even years
___ ENT 5021 Insect Biodiversity and Evaluation; (4), Fall
___ ENT 5361 Aquatic Insects; Instructor Consent; (4), Spring
___ PMB 4321 Minnesota Flora; (3) [BIOL 1001 or 1009], Fall: even years
___ PMB 4511 Flowering Plant Diversity; (3) [BIOL 1001 or 1009], Spring: odd years
**Ecosystem Ecology**

Select one of the following:

- **FNRM 3204 Landscape Ecology and Management**; (3) [ecology course], Fall
- **FNRM 3104 Forest Ecology**; (4) [basic biology course], Fall
- **FNRM 3203 Forest Fire and Disturbance Ecology**; (3), Spring
- **ESPM 3575 Wetlands**; (3), Spring
- **EEB 5601 Limnology**; (3) Fall
- **EEB 4609W Ecosystem Ecology**; (3), [EEB 3407], Fall
- **FW 5603W Habitats and Regulation of Wildlife**; (3), Fall
- **GCC 5008 Grand Challenge: Policy and Science of Global Environmental Change**; (3), Spring

**Conservation Biology: all courses are required**

- **BIOL 2022 General Botany**; (3), Fall/Spring
- **FNRM 3131 Geographical Information Systems for Natural Resources**; (4), Fall/Spring
- **FW 4102 Principles of Conservation Biology**; (3) [BIOL 1001 or BIOL 1009], (ENV), Spring
- **FW 5051 Analysis of Populations**; (4) [statistics course, ecology course], Sr or grad student, Spring
  
  Or **FW 5601 Fisheries Population Analysis**; (3), Fall Not offered in 2017-18

**Management and Restoration**

Select one course from the following:

- **ESPM 3101 Conservation of Plant Biodiversity**; (3), Fall
- **ESPM 3251 Natural Resources in Sustainable International Development**; (3), (GP), Fall
- **ESPM 4601 Environmental Pollution**; (3) [SOIL 2125, CHEM 1061 and 1062 or equiv or instructor consent], Fall
- **ESPM 5071 Ecological Restoration**; (4) [ecology course, and plant science or botany], Fall
- **FNRM 3411 Managing Forest Ecosystems: Silviculture**; (3), Fall
- **FW 4103 Principles of Wildlife Management**; (3), [BIOL 1001 or 1009], Fall
- **FW 4107 Principles of Fisheries Science and Management**; (3), Spring
- **EEB 3603 Science, Protection, and Management of Aquatic Environments**; (3), Spring

**Additional Course**

Must select one:

- Students must select at least one additional course from Organismal Biology, Ecosystem Ecology, or Management and Restoration.