

# ENVIRONMENTAL AND NATURAL RESOURCES

## Bachelor of Science

### CONSERVATION BIOLOGY CONCENTRATION

#### Freshman Year

##### First Semester

- 3 - BIOL 103 General Biology I
- 1 - BIOL 105 General Biology Lab. I
- 4 - CH 105 Chemistry in Context I<sup>1</sup>
- 1 - E N R 101 Intro. to Env. & Natural Res. I
- 3 - MTHSC 102 Intro. to Math. Analysis
- 3 - Oral Communication Requirement<sup>1</sup>

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<sup>1</sup>Students planning to take Org. Chem. should sub. CH 101 & 102 and must satisfy the Gen. Ed. Sci. & Tech. in Soc. Req. through another course.

<sup>2</sup>AG ED 200, CP SC 120, or other course approved by advisor.

##### Second Semester

- 3 - BIOL 104 General Biology II
- 1 - BIOL 106 General Biology Lab. II
- 4 - CH 106 Chemistry in Context II<sup>1</sup>
- 3 - ENGL 103 Accelerated Composition
- 1 - F N R 102 FNR Freshman Portfolio
- 3 - Computer Science Requirement<sup>2</sup>

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#### Sophomore Year

##### First Semester

- 3 - AP EC 257 Nat. Res., Env. & Econ.
- 4 - BIOSC 320 Field Botany *or*
  - 2 - FOR 205 Dendrology *and*
  - 3 - FOR 221 Forest Biology
- 3 - EX ST 301 Introductory Statistics
- 4 - CSENV 202 Soils<sup>9</sup>

14-15

##### Second Semester

- 3 - Arts and Humanities (Literature) Req.<sup>1</sup>
- 3 - GEN 300 Fundamental Genetics
- 3 - W F B 313 Cons. Biology
- 3 - Physical Environment Requirement<sup>2</sup>
- 3 - Taxonomy/Habitat Requirement<sup>3</sup>

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#### Junior Year

##### First Semester

- 3 - BIOSC 335 Evolutionary Biology
- 3 - Arts and Humanities (Non-Lit.) Req.<sup>1</sup>
- 3 - Ecology Requirement<sup>4</sup>
- 3 - Physiology Requirement<sup>5</sup>
- 3 - Taxonomy/Habitat Requirement<sup>3</sup>

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##### Second Semester

- 3 - ENGL 314 Technical Writing
- 3 - E N R 302 Natural Res. Measurements
- 3 - Ecology Requirement<sup>4</sup>
- 3 - Natural Resource Economics Req.<sup>6</sup>
- 3 - Taxonomy/Habitat Requirement<sup>3</sup>

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#### Senior Year

##### First Semester

- 3 - E N R 413 Restoration Ecology<sup>10</sup>
- 3 - FOR 434 GIS for Landscape Planning
- 3 - Conservation Policy/Law Requirement<sup>7</sup>
- 3 - Internship or Directed Research<sup>8</sup>
- 3 - Taxonomy/Habitat Requirement<sup>3</sup>

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##### Second Semester

- 3 - E N R 450 Conservation Issues
- 1 - FOR 498 Senior Portfolio *or*
  - 1 - W F B 498 Senior Portfolio
- 3 - Social Science Requirement<sup>1</sup>
- 6 - Taxonomy/Habitat Requirement<sup>3</sup>
- 3 - Elective

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120–121 Total Semester Hours

<sup>1</sup>See Gen. Ed. Req. Three of these credit hours must also satisfy the Cross-Cultural Awareness Req.

<sup>2</sup>GEOG 106, GEOL 101, or PHYS 240

<sup>3</sup>AG M 301, BIOSC 302/306, 303/307, 304/308, 305/309, 320, 406/407, 410/411, 442, 464, 468, 472, 477, CSENV 404, ENT (BIOSC) 301, (BIOEC, W F B) 469, FOR 251, 406, GEOL 112, 210, 403, MICRO 403, W F B 418, 440, or 462. At least four of the courses must be lab. or courses with a req.lab. Component.

<sup>4</sup>BIOSC 441, 442, 443, 446, or 470

<sup>5</sup>AVS 301, BIOSC 401/402, 458, 475, or (AVS) 480

<sup>6</sup>AP EC 433, 475, C R D (AP EC) 357, or FOR 304

<sup>7</sup>E N R 429, 450, or W F B 430

<sup>8</sup>See advisor.

<sup>9</sup>May sub. FNR 204 in Fall for this class.

<sup>10</sup>Taught during Maymester at this time.

# ENVIRONMENTAL AND NATURAL RESOURCES

## Bachelor of Science

### NATURAL RESOURCES MANAGEMENT CONCENTRATION

#### Freshman Year

##### First Semester

- 3 - BIOL 103 General Biology I
- 1 - BIOL 105 General Biology Lab. I
- 4 - CH 105 Chemistry in Context I<sup>1</sup>
- 1 - E N R 101 Intro. to Env. & Natural Res. I
- 3 - MTHSC 102 Intro. to Math. Analysis
- 3 - Oral Communication Requirement<sup>1</sup>

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<sup>1</sup>Students planning to take Org. Chem. should sub. CH 101 & 102 and must satisfy the Gen. Ed. Sci. & Tech. in Soc. Req. through another course.

<sup>2</sup>AG ED 200, CP SC 120, or other course approved by advisor.

##### Second Semester

- 3 - BIOL 104 General Biology II
- 1 - BIOL 106 General Biology Lab. II
- 4 - CH 106 Chemistry in Context II<sup>1</sup>
- 3 - ENGL 103 Accelerated Composition
- 1 - F N R 102 FNR Freshman Portfolio
- 3 - Computer Science Requirement<sup>2</sup>

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#### Sophomore Year

##### First Semester

- 3 - AP EC 257 Nat. Res. Env., & Econ.
- 4 - CSENV 202 Soils<sup>4</sup>
- 2 - FOR 205 Dendrology
- 3 - FOR 221 Forest Biology
- 3 - Arts and Humanities (Literature) Req.<sup>1</sup>

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##### Second Semester

- 3 - FOR 206 Forest Ecology
- 3 - W F B 313 Cons. Biology
- 3 - Arts and Humanities (Non-Lit.) Req.<sup>1</sup>
- 3 - Elective
- 3 - Social Science Requirement<sup>1</sup>

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#### Junior Year

##### First Semester

- 4 - BIOSC 320 Field Botany *or*
  - 3 - BIOSC 406 Intro. Plant Tax. *and*
  - 1 - BIOSC 407 Plant Taxonomy Lab.
- 3 - E N R 429 Env. Law and Policy *or*
  - 3 - FOR 400 Public Rel. in Nat. Res.
- 3 - FOR 434 GIS for Landscape Planning
- 5 - Minor Requirement<sup>2</sup>

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##### Second Semester

- 3 - C R D 357 Nat. Res. Econ.
- 3 - E N R 302 Nat. Res. Measurements
- 3 - GEOL 101 Physical Geology
- 1 - GEOL 103 Physical Geology Lab.
- 3 - W F B 350 Princ. of Fish & Wildlife Biol.
- 3 - Minor Requirement<sup>2</sup>

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#### Senior Year

##### First Semester

- 3 - FOR 416 Forest Policy and Admin.
- 3 - W F B 418 Fishery Conservation
- 3 - ENGL 314 Technical Writing
- 3 - Cons. Colloquium or Intern. (FNR 490)<sup>3</sup>
- 4 - Minor Requirement<sup>2</sup>

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##### Second Semester

- 3 - W F B 462 Wetland Wildlife Biology
- 3 - E N R 450 Conservation Issues
- 3 - EX ST 301 Introductory Statistics
- 2 - FOR 406 Forested Watershed Mgmt.
- 1 - FOR 498 Senior Portfolio *or*
  - 1 - W F B 498 Senior Portfolio
- 3 - Minor Requirement<sup>2</sup>

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122 Total Semester Hours

<sup>1</sup>See General Education Req. Three of these credit hours must also satisfy the Cross-Cultural Awareness Req.

<sup>2</sup>A minor is req. & must be selected from the following: Biochem; Biol. Sci.; Chem.; Comm. Rec., Sport, & Camp Mgmt.; Crop & Soil Env. Sci.; Env. Sci. & Pol.; For, Res. Mgmt.; Geol.; Hort.; Legal Studies; Microbiol.; Nat. Res. Econ.; Nonprofit Leadership; Park & Protected Area Mgmt.; Therapeutic Rec.; Travel & Tourism; Urban For.; Wildlife & Fisheries Biol.

<sup>3</sup>See advisor.

<sup>4</sup>May sub. FNR 204 in fall for this class.

# ENVIRONMENTAL AND NATURAL RESOURCES

## Bachelor of Science

### NATURAL RESOURCE AND ECONOMIC POLICY CONCENTRATION

#### Freshman Year

##### First Semester

- 3 - BIOL 103 General Biology I
- 1 - BIOL 105 General Biology Lab. I
- 4 - CH 105 Chemistry in Context I<sup>1</sup>
- 1 - E N R 101 Intro. to Env. & Natural Res. I
- 3 - MTHSC 102 Intro. to Math. Analysis
- 3 - Oral Communication Requirement<sup>1</sup>

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<sup>1</sup>Students planning to take Org. Chem. should sub. CH 101 & 102 and must satisfy the Gen. Ed. Sci. & Tech. in Soc. Req. through another course.

<sup>2</sup>AG ED 200, CP SC 120, or other course approved by advisor.

##### Second Semester

- 3 - BIOL 104 General Biology II
- 1 - BIOL 106 General Biology Lab. II
- 4 - CH 106 Chemistry in Context II<sup>1</sup>
- 3 - ENGL 103 Accelerated Composition
- 1 - F N R 102 FNR Freshman Portfolio
- 3 - Computer Science Requirement<sup>2</sup>

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#### Sophomore Year

##### First Semester

- 3 - APEC 257 Nat. Res., Env., & Econ.
- 3 - PO SC 101 American National Government *or*  
3 - PO SC 102 Intro. to International Rel.
- 3 - Ecology Requirement<sup>1</sup> *or*  
3 - Minor Requirement
- 3 - Geography Requirement<sup>2</sup>
- 3 - Advanced Writing Requirement<sup>3</sup>

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##### Second Semester

- 3 - C R D 357 Natural Res. Economics
- 3 - ECON 212 Principles of Macroeconomics
- 3 - EX ST 301 Introductory Statistics
- 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>

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#### Junior Year

##### First Semester

- 3 - E N R 429 Environmental Law and Policy
- 3 - ECON 314 Intermediate Microeconomics
- 3 - FOR 434 GIS for Landscape Planning
- 3 - Elective
- 3 - Applied Economics Requirement<sup>4</sup>

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##### Second Semester

- 3 - APEC 457 Nat. Res. Econ. Theory & Policy
- 3 - ECON 319 Environmental Economics
- 3 - W F B 313 Conservation Biology *or*  
3 - Minor Requirement
- 3 - Ecology Requirement II<sup>5</sup> *or*  
3 - Minor Requirement
- 3 - Macroeconomics Requirement<sup>6</sup>

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#### Senior Year

##### First Semester

- 3 - CRD 491 Intern, Agribus. & Comm. & Rural  
Dev. *or*  
3 - Minor Requirement
- 3 - EX ST 462 Statistics Applied to Economics
- 9 - Applied Economics Requirement<sup>4</sup> *or*  
6 - Applied Economics Requirement<sup>4</sup> *and*  
3 - Minor Requirement

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##### Second Semester

- 3 - E N R 450 Conservation Issues
- 6 - Applied Economics Requirement<sup>4</sup>
- 3 - Community Development Requirement<sup>7</sup>
- 4 - Elective *or*  
3 - Minor Requirement *and*  
1 - Elective

16

121 Total Semester Hours

<sup>1</sup>BIOSC 441, CSENV 202, EN SP 200, FOR 206, 315, WFB 300, 350, 412, or 416

<sup>2</sup>GEOG 101, 103, or 106

<sup>3</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>4</sup>AP EC 313, 352, 402, 409, 413, 433, 452, 456, 458, 475, 490, C R D (AP EC) 411, (APEC) 412, or (APEC) 491

<sup>5</sup>Select from remaining courses in footnote 1 or BIOSC

302/306,303/307,304/308,305/309,320,406/407,410/411,464,468,472,477,CSENV 404,ENT (BIOSC) 301,(BIOSC,WFB) 469,FOR 205,251,415,GEOL 300,MICRO 403,WFB 418,430,440,450.

<sup>6</sup>ECON 302, 310 or 315

<sup>7</sup>CRD 335 or 336

### **WFB Approved Requirements**

WFB 306 Introduction to Wildlife Conservation 2(2,0)

WFB 307 Hunting and Wildlife Management 1(1,0)

WFB 414, 614 Wildlife Nutritional Ecology 3(3,0)

WFB 418 Fishery Conservation 3(3,0)

WFB 430, 630 Wildlife Conservation Policy 3(3,0)

WFB 444, 644 Wildlife Damage Management 3(2,3)

WFB 450, 650 Aquaculture 3(3,0)

WFB 460, 660 Warmwater Fish Diseases 2(2,0)

WFB (ENT) 469, H469, 669 Aquatic Insects 3(1,6)

only 3 credits WFB 490 Field Training in Aquaculture, Fisheries, and Wildlife 6(0,18)

WFB 493 Selected Topics 1-4(0-4,0-12) [3 cr "approved topic"]

WFB 499 Wildlife Biology and Fisheries Seminar 1(1,0) [if taken a second time]

APEC 475 Wildlife Economics and Policy 3(3,0)

AGM 301 Soil and Water Conservation 3(2,3)

BIOSC 302, H302 Invertebrate Biology 3(3,0)

BIOSC 306 Invertebrate Biology Laboratory 1(0,3)

BIOSC 307 Vertebrate Biology Laboratory 1(0,3)

BIOSC 410, 610 Limnology 3(3,0)

BIOSC 411, H411, 611 Limnological Analyses 2(1,2)

BIOSC 417, 617 Marine Biology 3(3,0)

BIOSC 442, H442, 642 Biogeography 3(3,0)

BIOSC 443, 643 Aquatic Ecology 3(3,0)

BIOSC 475, H475 675 Comparative Physiology 3(3,0)

BIOSC 476, H476, 676 Comparative Physiology Laboratory 2(1,2)

BIOSC 464, 664 Mammalogy 3(2,3)

BIOSC 468, 668 Herpetology 3(2,3)

BIOSC 470, H470, 670 Animal Behavior 3(3,0)

BIOSC 471, 671 Animal Behavior Laboratory 1(0,3)

BIOSC 472, 672 Ornithology 4(3,3)

BIOSC 477, 677 Ichthyology 3(2,3)

BIOSC 486 Natural History 3(3,0)

CRD 357 Natural Resources Economics 3(3,0)

ENR (BIOSC) 413 Restoration Ecology 3(3,0)  
ENR 429 Environmental Law 3(3,0)  
ENR 450, 650 Conservation Issues 3(3,0)  
ENT 300 Environmental Entomology 3(3,0)  
ENT (WFB) 469, H469, 669 Aquatic Insects 3(1,6)  
FNR 466, 666 Stream Ecology  
FOR 400, 600 Public Relations in Natural Resources 3(3,0)  
FOR 406 Forested Watershed Management 2(2,0)  
FOR 415, 615 Forest Wildlife Management 3(2,3)  
FOR 433, 633 GPS Applications 3(2,3)  
FOR 434, 634 Geographic Information Systems for Landscape Planning 3(2,3)  
Students considering "AFS" Certification which requires 15 hrs of Physical Sciences  
GEOL 101 Physical Geology (3,0) and GEOL 103 Physical Geol Lab 1(0,2)  
or Physics 200 Introductory Physics 4 cr (3,2)  
**"PAL" Policy and Law Approved Requirements<sup>1</sup>**  
APEC 475 Wildlife Economics and Policy 3(3,0)  
CRD 357 Natural Resources Economics 3(3,0)  
ENR 429 Environmental Law 3(3,0)  
ENR 450, 650 Conservation Issues 3(3,0)  
FOR 400, 600 Public Relations in Natural Resources 3(3,0)  
WFB 430, 630 Wildlife Conservation Policy 3(3,0)  
<sup>1</sup> (as long as not used to fill another requirement in curriculum)