

# Warnell School of Forestry and Natural Resources

## Professional Program Curriculum

### Fisheries and Wildlife Major Program of Study

Course ID	Course Title	Hours
FANR 3000-3000L	Field Orientation, Measurements, and Sampling in Forestry and Natural Resources	4
FANR 3200-3200L or ECOL(BIOL) 3500-3500L or approved ECOL substitute	Ecology of Natural Resources Ecology any approved ECOL course numbered 3000 or above	4 4 ?
FANR 3800-3800L	Spatial Analysis of Natural Resources	3
FANR 4500 <b>or</b> FANR 4990	Senior Project or Senior Thesis	4
WILD (FISH) 3000	Introduction to Fish and Wildlife Management	2
WILD (ECOL) 3580-3580L	Vertebrate Natural History	4
<b>Area of Emphasis and Restricted Electives</b> (choose Aquatic Sciences, Pre-Vet Wildlife Sciences, or Wildlife Sciences—see following page)		<b>39</b>
<b>Professional Hours</b>		<b>60</b>
<b>Total with Regents Core</b>		<b>120</b>

#### Additional Requirement:

Professional Experience Requirement    Students must take one course marked with a <sup>P</sup> in the curriculum.

## Professional Program Curriculum (continued)

### Fisheries and Wildlife Major Areas of Emphasis

<b>Aquatic Sciences Area of Emphasis</b>		
Course ID	Course Title	Hours
<b>Required Courses:</b>		<b>20</b>
CRSS (FANR) 3060-3060L	Soils and Hydrology	4
FISH 4200-4200L	Aquatic Biology	4
FISH 4300-4300L	Environmental Biology of Fishes	4
FISH 4500-4500L	Fish Physiology	4
FISH 5360-5360L	Fisheries Management	4
Wildlife Sciences Requirement	Students must take one course marked with a <sup>W</sup> in the curriculum.	
<b>Restricted Electives: choose from the categories below</b>		<b>19*</b>
<b>Habitat and Ecosystem Ecology and Management (select one course; 3 hours required)</b>		
ECOL 3520	Ecological Applications	3
ECOL 4010	Ecosystem Ecology	3
FISH 4310-4310L	Limnology	4
FISH 4550-4550L <sup>P</sup>	Conservation Aquaculture	4
FISH 4600	Ecotoxicology	3
FISH 4650L <sup>P</sup>	Georgia Fishes Field Study	4
WASR 4400-4400L	Introduction to Wetlands	3
WILD 4100-4100L <sup>W</sup>	Principles of Wildlife Habitat Management	3
WILD 5350-5350L <sup>W</sup>	Wetland Management for Wildlife	3
WILD 5200 <sup>W P</sup>	International Wildlife Management in South Africa	6
	<i>Students taking WILD 5200 may use 3 hours towards this elective and 3 hours towards the Population Ecology and Management Elective.</i>	
or	other advisor-approved course	3+
<b>Organismal Biology and Ecology (select two courses; 6 hours required)</b>		
BIOL 3700 or BIOL 3720L	Animal Behavior or Field Animal Behavior	3
ECOL 3220 <sup>W</sup>	Biology and Conservation of Marine Mammals	4
ECOL 4050-4050L	Ichthyology	4
ECOL 4070-4070L	Invertebrate Zoology	4
ENTO 4000-4000L	General Entomology	4
FISH 4650L <sup>P</sup>	Georgia Fishes Field Study	4
GENE 3000	Evolutionary Biology	4
WILD 4040-4040L <sup>W</sup>	Herpetology	4
WILD 4050-4050L <sup>W</sup>	Mammalogy	4
WILD 4060-4060L <sup>W</sup>	Ornithology	4
WILD 4575 <sup>W P</sup>	Conservation Medicine and Biology	6
	<i>Students taking WILD 4575 may use 3 hours towards this elective and 3 hours towards the Population Ecology and Management Elective.</i>	
WILD 5100 <sup>W</sup>	Principles and Management of Wildlife Diseases	3
or	other advisor-approved course	3+

*(requirements continued on the following page)*

**Population Ecology and Management (select one course; 3 hours required)**

ECOL 3220 <sup>W</sup>	Biology and Conservation of Marine Mammals	4
ECOL 4000	Population and Community Ecology	3
FANR 4350	Conservation Genetics	3
FISH 4550-4550L <sup>P</sup>	Conservation Aquaculture	4
FISH 4600	Ecotoxicology	3
GENE 3000	Evolutionary Biology	4
WILD 4500 <sup>W</sup>	Nongame and Endangered Species Management	3
WILD 4575 <sup>W P</sup>	Conservation Medicine and Biology	6
	<i>Students taking WILD 4575 may use 3 hours towards this elective and 3 hours towards the Organismal Biology and Ecology Elective.</i>	
WILD 4900-4900L <sup>W</sup>	Wildlife Damage Management	3
WILD 5100 <sup>W</sup>	Principles and Management of Wildlife Diseases	3
WILD 5200 <sup>W P</sup>	International Wildlife Management in South Africa	6
	<i>Students taking WILD 5200 may use 3 hours towards this elective and 3 hours towards the Habitat and Ecosystem Ecology and Mgmt. Elective.</i>	
WILD 5700-5700L	Applied Population Dynamics	3
or	other advisor-approved course	3+

**Policy and Decision-Making Elective (select one course; 2 hours required)**If FANR 4500 is taken:

FANR 4800	Renewable Resources Policy	2
FISH 4520-4520L	Conservation Decision-Making	3
WILD 4500 <sup>W</sup>	Nongame and Endangered Species Management	3

If FANR 4600 is taken:

FISH 4520-4520L	Conservation Decision-Making	3
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**Free Elective (select one to two courses, 5 hours required; excess credit from other restricted electives may count here)**

FISH 3000+, including	any 3000-level or above FISH course	3+
FISH 3900 <sup>P**</sup> ,	Fisheries Internship ( <i>only 3 hours may count towards graduation</i> )	1-3
or	any advisor-approved course	3+

\* Total hours for Area of Emphasis and Restricted Electives must equal 39.

\*\* 2+ hours of FISH 3900 are required to satisfy the Professional Experience Requirement.

## Professional Program Curriculum (continued)

### Fisheries and Wildlife Major Areas of Emphasis

<b>Wildlife Sciences Area of Emphasis</b>		
Course ID	Course Title	Hours
<b>Required Courses:</b>		<b>17</b>
CRSS (FANR) 3060-3060L	Soils and Hydrology	4
(FANR 3300-3300D and FANR 3400-3400D)	Economics of Renewable Resources Society and Natural Resources	2 2
FORS 3010-3010L	Dendrology	3
WILD 4100-4100L	Principles of Habitat Management for Wildlife	3
WILD 4700-4700L	Techniques in Wildlife Population Management	3
Aquatic Sciences Requirement	Students must take one course marked with an <sup>A</sup> in the curriculum.	
<b>Restricted Electives: choose from the categories below</b>		<b>22*</b>
<b>Habitat and Ecosystem Ecology and Management: Elective (select one course; 2 hours required)</b>		
ECOL 3520	Ecological Applications	3
ECOL 4010	Ecosystem Ecology	3
ECOL(FANR) 4220	Foundations of Restoration Ecology	3
FISH 4200-4200L <sup>A</sup>	Aquatic Biology ( <i>lab optional</i> )	4
FISH 4310-4310L	Limnology	4
FORS 4010-4010L	Silviculture	4
FORS 4210	Forest Health and Protection	3
FORS 5600	Wildland Fire	3
FORS 5610 <sup>P</sup>	Prescribed Fire in the Forest Ecosystem	2
WASR 4400-4400L	Introduction to Wetlands	3
WILD 4100-4100L	Principles of Habitat Management for Wildlife	3
WILD 5350-5350L	Wetland Management for Wildlife	3
WILD 5200 <sup>P</sup>	International Wildlife Management in South Africa	6
	<i>Students taking WILD 5200 may use 3 hours towards elective and 3 hours towards Population Ecology, Conservation, and Management: Elective #2.</i>	
WILD 5330	Conserving Wildlife in Agricultural Landscapes	3
or	other advisor-approved course	3+
<b>Organismal Biology and Ecology: Elective #1 (select one course; 4 hours required)</b>		
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4060-4060L	Ornithology	4
<b>Organismal Biology and Ecology: Elective #2 (select one course; 3 hours required)</b>		
BIOL 3700 or BIOL 3720L	Animal Behavior <i>or</i> Field Animal Behavior	3
ECOL 3220	Biology and Conservation of Marine Mammals	4
ECOL 4240-4240L	Physiological Ecology	4
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4060-4060L	Ornithology	4
WILD 4400	Wildlife Physiology and Nutrition	3
WILD 5100	Principles and Management of Wildlife Diseases	3

*(requirements continued on the following page)*

**Organismal Biology and Ecology: Elective #3 (select one course; 3 hours required)**

BIOL 3700 or BIOL 3720L	Animal Behavior or Field Animal Behavior	3
ECOL 3220	Biology and Conservation of Marine Mammals	4
ECOL 4050-4050L <sup>A</sup>	Ichthyology	4
ECOL 4070-4070L	Invertebrate Zoology	4
ECOL 4240-4240L	Physiological Ecology	4
ENTO 4000-4000L	Entomology	4
FISH 4200-4200L <sup>A</sup>	Aquatic Biology ( <i>lab optional</i> )	4
FISH 4500 <sup>A</sup>	Fish Physiology ( <i>lab optional</i> )	3
FISH 4600	Ecotoxicology	3
FISH 4650L <sup>A P</sup>	Georgia Fishes Field Study	4
GENE 3000	Evolutionary Biology	4
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4060-4060L	Ornithology	4
WILD 4300-4300L <sup>A</sup>	Environmental Biology of Fishes ( <i>lab optional</i> )	4
WILD 4400	Wildlife Physiology and Nutrition	3
WILD 4575 <sup>P</sup>	Conservation Medicine & Biology	6
	<i>Students taking WILD 4575 may use 3 hours towards this and 3 hours towards Population Ecology, Conservation, and Management: Elective #2.</i>	
WILD 5100	Principles and Management of Wildlife Diseases	3
or	other advisor-approved course(s)	3+ ea.

**Population Ecology, Conservation, and Management: Elective #1 (select one course; 3 hours required)**

ECOL 4000	Population and Community Ecology	3
WILD 5700-5700L	Applied Population Dynamics	3

**Population Ecology, Conservation, and Management: Elective #2 (select one course; 2 hours required)**

ECOL 3220	Biology and Conservation of Marine Mammals	4
ECOL 4000	Population and Community Ecology	3
FANR 4350	Conservation Genetics	3
FISH 4550-4550L	Conservation Aquaculture	4
FISH 5360 <sup>A</sup>	Fisheries Management ( <i>lecture only</i> )	3
GENE 3000	Evolutionary Biology	4
WILD 4500	Nongame and Endangered Species Management	3
WILD 4575 <sup>P</sup>	Conservation Medicine & Biology	6
	<i>Students taking WILD 4575 may use 3 hours towards this elective and 3 hours towards Organismal Biology and Ecology: Elective #2.</i>	
WILD 4600 <sup>P</sup>	Field Methods in Wildlife Health, Management, and Research	2
WILD 4650-4650L <sup>P</sup>	Field and Molecular Techniques in Wildlife Research and Management	4
WILD 4900-4900L	Wildlife Damage Management	3
WILD 5100	Principles and Management of Wildlife Diseases	3
WILD 5200 <sup>P</sup>	International Wildlife Management in South Africa	6
	<i>Students taking WILD 5200 may use 3 hours towards this elective and 3 hours towards the Habitat and Ecosystem Ecology and Mgmt. Elective.</i>	
WILD 5330-5330L	Conserving Wildlife in Agricultural Landscapes	3
WILD 5700-5700L	Applied Population Dynamics	3
or	other advisor-approved course	3+

(requirements continued on the following page)

**Policy and Decision-Making Elective (select one course; 2 hours required)**If FANR 4500 is taken:

FANR 4800	Renewable Resources Policy	2
FISH 4520-4520L	Conservation Decision-Making	3
WILD 4500 <sup>W</sup>	Nongame and Endangered Species Management	3

If FANR 4600 is taken:

FISH 4520-4520L	Conservation Decision-Making	3
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**Additional Requirements (select one course; 3 hours required)***Excess credit from courses used to satisfy other restricted elective categories may be used here.*

FANR 4202-4202D <sup>P</sup>	People, Economics, and Nature in a Global Context <i>Students who take this are exempt from FANR 3300 &amp; 3400; students who take FANR 3300 or 3400 cannot take this course.</i>	4
FANR 4271 <sup>P</sup>	Field Studies in Natural Resources	3-6
FANR 4272 <sup>P</sup>	Antarctica: The Fragile Continent	3-12
FANR 4273 <sup>P</sup>	Field Studies in Sustainable Development	3-9
FANR 4770H	The Business of Environmental Law	3
FANR 4810	Natural Resources Law for Managers and Administrators	4
FANR 5680	Economic Perspectives on Natural Resource Issues	3
PRTM 5900	Ecotourism and Sustainable Development	3
WILD 3900 <sup>P**</sup>	Wildlife Internship ( <i>no more than 3 hours may count towards graduation</i> )	1-3
WILD 4280 <sup>P</sup>	Field Study in Natural History [ <i>approved for students entering Fall 2013 &amp; later</i> ]	3
or	other advisor-approved course	3+

\* Total hours for Area of Emphasis and Restricted Electives must equal 39.

\*\* 2+ hours of WILD 3900 are required to satisfy the Professional Experience Requirement.

## Professional Program Curriculum (continued)

### Fisheries and Wildlife Major Areas of Emphasis

<b>Pre-Vet / Wildlife Sciences Area of Emphasis</b>		
Course ID	Course Title	Hours
<b>Required Courses:</b>		<b>20</b>
BCMB 3100	Biochemistry	4
(FANR 3300-3300D and FANR 3400-3400D)	Economics of Renewable Resources Society and Natural Resources	2 2
FORS 3010-3010L	Dendrology	3
WILD 4100-4100L	Principles of Habitat Management for Wildlife	3
WILD 4700-4700L	Techniques in Wildlife Population Management	3
WILD 5100	Wildlife Disease Ecology and Management	3
<b>Restricted Electives: choose from the categories below</b>		<b>19*</b>
<b>Organismal Biology and Ecology: Elective #1 (select one course; 4 hours required)</b>		
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4060-4060L	Ornithology	4
<b>Organismal Biology and Ecology: Elective #2 (select one course; 3 hours required)</b>		
BIOL 3700 or BIOL 3720L	Animal Behavior <i>or</i> Field Animal Behavior	3
ECOL 3220	Biology and Conservation of Marine Mammals	4
ECOL 4240-4240L	Physiological Ecology	4
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4060-4060L	Ornithology	4
WILD 4400	Wildlife Physiology and Nutrition	3
WILD 4575 <sup>P</sup>	Conservation Medicine and Biology <i>Students taking WILD 4575 may use 3 hours towards this elective and 3 hours towards the Population Ecology and Management Elective #2.</i>	6
<b>Population Ecology and Management: Elective #1 (select one course; 3 hours required)</b>		
FANR 4350	Conservation Genetics	3
WILD 5330-5330L	Conserving Wildlife in Agricultural Landscapes	3
<i>(requirements continued on the following page)</i>		

<b>Population Ecology and Management: Elective #2 (select one course; 2 hours required)</b>		
ECOL 3220	Biology and Conservation of Marine Mammals	4
ECOL 4000	Population and Community Ecology	3
FANR 4350	Conservation Genetics	3
GENE 3000	Evolutionary Biology	4
WILD 4500	Nongame and Endangered Species Management	3
WILD 4600 <sup>P</sup>	Field Methods in Wildlife Health, Management, and Research	2
WILD 4650-4650L <sup>P</sup>	Field and Molecular Techniques in Wildlife Research and Management	4
WILD 4900-4900L	Wildlife Damage Management	3
WILD 5330-5330L	Conserving Wildlife in Agricultural Landscapes	3
WILD 4575 <sup>P</sup>	Conservation Medicine and Biology	6
	<i>Students completing WILD 4575 may use 3 hours towards this elective and 3 hours towards Organismal Biology and Ecology: Elective #2</i>	
WILD 5200 <sup>P</sup>	International Wildlife Management in South Africa	6

<b>Additional Veterinary Elective (select one course; 3 hours required)</b>		
FANR 4350	Conservation Genetics	3
WILD 4040-4040L	Herpetology	4
WILD 4050-4050L	Mammalogy	4
WILD 4400	Wildlife Physiology and Nutrition	3
WILD 5330-5330L	Conserving Wildlife in Agricultural Landscapes	3
or	other advisor-approved course	3+

**Policy and Decision-Making Elective (select one course; 2 hours required)**

If FANR 4500 is taken:

FANR 4800	Renewable Resources Policy	2
FISH 4520-4520L	Conservation Decision-Making	3
WILD 4500 <sup>w</sup>	Nongame and Endangered Species Management	3

If FANR 4600 is taken:

FISH 4520-4520L	Conservation Decision-Making	3
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**Free Elective (select one course; 2 hours required; excess credit from other restricted electives may count here)**

any advisor-approved course	2+
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**\* Total hours for Area of Emphasis and Restricted Electives must equal 39.**

**NOTE:** CHEM 2211 and CHEM 2211L, CHEM 2212 and CHEM 2212L, PHYS 1111-1111L, and PHYS 1112-1112L are required for entrance into Veterinary School.