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| For Academic Affairs and Research Use Only | |
| Proposal Number: | SM15 |
| CIP Code: |  |
| Degree Code: |  |

**Course Deletion Proposal Form**

**[ X ] Undergraduate Curriculum Council**

**[ ] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| |  |  | | --- | --- | | Virginie Rolland | 4 Aug 2022 |   **Department Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **COPE Chair (if applicable)** |
| |  |  | | --- | --- | | Stephen J. Mullin | 8/4/2022 |   **Department Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Head of Unit (if applicable)** |
| |  |  | | --- | --- | | John Hershberger 8/22/2022 | Enter date |   **College Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Undergraduate Curriculum Council Chair** |
| |  |  | | --- | --- | | Lynn Boyd | 8/24/2022 |   **College Dean** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (if applicable)** | |  |  | | --- | --- | | Alan Utter | 9/12/2022 |   **Vice Chancellor for Academic Affairs** |

1. **Course Title, Prefix and Number**

Wild Flowers of Arkansas Laboratory – BIO 3511

1. **Contact Person** (Name, Email Address, Phone Number)

SJ Mullin, [smullin@astate.edu](mailto:smullin@astate.edu), 870-972-3082

1. **Justification**

Companion lab for BIO 3501. This course hasn’t been offered in over 5 years. Previously taught in Summer semesters, but enrollment never met minimum threshold established by Provost’s office.

1. **Last semester course will be offered**

N/A

1. No **Does this course appear in your curriculum? (if yes, and this deletion changes the curriculum, a Program Modification Form is required)**

Yes, but as elective option only for the BS-WFC degree, wildlife emphasis. No curriculum change.

1. Yes **Is this course dual-listed (undergraduate/graduate)?**

No

1. No **Is this course cross-listed with a course in another department?**

If yes, which course(s)?

No

1. No **Is there currently a course listed in the Bulletin or Banner which is a one-to-one equivalent to this course (please check with the Registrar’s Office if unsure)?**

If yes, which course?

No.

**Bulletin Changes**

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| --- |
| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.** |

Highlighted in yellow are the changes directly relevant to this proposal. Highlighted in blue are the changes for the proposals that are submitted along with this one.

CURRENT VERSION:

|  |  |
| --- | --- |
| **Biology** | |
|  | •  [BIO 403V - Special Problems in Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3966) **Sem. Hrs:** **Variable** |
|  | •  [BIO 404V - Special Topics in Biological Sciences](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3967) **Sem. Hrs:** **Variable** |
|  | •  [BIO 1013 - Making Connections Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3914) **Sem. Hrs:** **3** |
|  | •  [BIO 1023 - Biological Inquiry](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3915) **Sem. Hrs:** **3** |
|  | •  [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3916) **Sem. Hrs:** **1** |
|  | •  [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3917) **Sem. Hrs:** **3** |
|  | •  [BIO 1501 - Biology of Plants Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3918) **Sem. Hrs:** **1** |
|  | •  [BIO 1503 - Biology of Plants](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3919) **Sem. Hrs:** **3** |
|  | •  [BIO 2011 - Biology of the Cell Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3920) **Sem. Hrs:** **1** |
|  | •  [BIO 2013 - Biology of the Cell](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3921) **Sem. Hrs:** **3** |
|  | •  [BIO 2042 - Biotechnology in Global Society](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3922) **Sem. Hrs:** **2** |
|  | •  [BIO 2101 - Microbiology for Nursing and Allied Health Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3923) **Sem. Hrs:** **1** |
|  | •  [BIO 2103 - Microbiology for Nursing and Allied Health](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3924) **Sem. Hrs:** **3** |
|  | •  [BIO 2201 - Human Anatomy and Physiology I Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3925) **Sem. Hrs:** **1** |
|  | •  [BIO 2203 - Human Anatomy and Physiology I](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3926) **Sem. Hrs:** **3** |
|  | •  [BIO 2221 - Human Anatomy and Physiology II Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3927) **Sem. Hrs:** **1** |
|  | •  [BIO 2223 - Human Anatomy and Physiology II](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3928) **Sem. Hrs:** **3** |
|  | •  [BIO 3011 - Genetics Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3929) **Sem. Hrs:** **1** |
|  | •  [BIO 3013 - Genetics](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3930) **Sem. Hrs:** **3** |
|  | •  [BIO 3023 - Principles of Ecology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3931) **Sem. Hrs:** **3** |
|  | •  [BIO 3051 - Try Out the Classroom](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3933) **Sem. Hrs:** **1** |
|  | •  [BIO 3201 - Introduction to Medical and Dental Practices](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3934) **Sem. Hrs:** **1** |
|  | •  [BIO 3203 - Pathophysiology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3935) **Sem. Hrs:** **3** |
|  | •  [BIO 3211 - Techniques for Medical Exam Test Taking](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3936) **Sem. Hrs:** **1** |
|  | •  [BIO 3221 - Human Structure and Function I Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3937) **Sem. Hrs:** **1** |
|  | •  [BIO 3223 - Human Structure and Function I](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3938) **Sem. Hrs:** **3** |
|  | •  [BIO 3231 - Human Structure and Function II Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3939) **Sem. Hrs:** **1** |
|  | •  [BIO 3233 - Human Structure and Function II](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3940) **Sem. Hrs:** **3** |
|  | •  [BIO 3241 - Physical Diagnosis](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3941) **Sem. Hrs:** **1** |
|  | •  [BIO 3251 - Introduction to Pathology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3942) **Sem. Hrs:** **1** |
|  | •  [BIO 3261 - Health Coaching I](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3943) **Sem. Hrs:** **1** |
|  | •  [BIO 3271 - Health Coaching II](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3944) **Sem. Hrs:** **1** |
|  | •  [BIO 3301 - General Entomology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3945) **Sem. Hrs:** **1** |
|  | •  [BIO 3303 - General Entomology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3947) **Sem. Hrs:** **3** |
|  | •  [BIO 3311 - Economic Entomology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3948) **Sem. Hrs:** **1** |
|  | •  [BIO 3313 - Economic Entomology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3950) **Sem. Hrs:** **3** |
|  | •  [BIO 3322 - Invertebrate Zoology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3951) **Sem. Hrs:** **2** |
|  | •  [BIO 3332 - Invertebrate Zoology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3952) **Sem. Hrs:** **2** |
|  | •  [BIO 3501 - Wild Flowers of Arkansas](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3953) **Sem. Hrs:** **1** |
|  | •  [BIO 3511 - Wild Flowers of Arkansas Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3954) **Sem. Hrs:** **1** |
|  | •  [BIO 3541 - Plant Pathology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3955) **Sem. Hrs:** **1** |
|  | •  [BIO 3542 - Plant Pathology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3956) **Sem. Hrs:** **2** |
|  | •  [BIO 3553 - Economic Botany](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3957) **Sem. Hrs:** **3** |
|  | •  [BIO 3673 - Human Dimensions of Natural Resources](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3958) **Sem. Hrs:** **3** |
|  | •  [BIO 4011 - Microtechnique](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3961) **Sem. Hrs:** **1** |
|  | •  [BIO 4012 - Microtechnique Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3962) **Sem. Hrs:** **2** |
|  | •  [BIO 4013 - Population Genetics](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3963) **Sem. Hrs:** **3** |
|  | •  [BIO 4021 - Biological Seminar](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3964) **Sem. Hrs:** **1** |
|  | •  [BIO 4033 - Bioinformatics and Applications](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3965) **Sem. Hrs:** **3** |
|  | •  [BIO 4043 - Biometry](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=16194) **Sem. Hrs:** **3** |
|  | •  [BIO 4053 - Applications in Biotechnology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3968) **Sem. Hrs:** **3** |
|  | •  [BIO 4063 - Biosafety and Ethics in Research](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3969) **Sem. Hrs:** **3** |
|  | •  [BIO 4083 - Evolution](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3932) **Sem. Hrs:** **3** |
|  | •  [BIO 4103 - Virology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3970) **Sem. Hrs:** **3** |
|  | •  [BIO 4104 - Microbiology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3971) **Sem. Hrs:** **4** |
|  | •  [BIO 4111 - Immunology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3972) **Sem. Hrs:** **1** |
|  | •  [BIO 4113 - Immunology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3973) **Sem. Hrs:** **3** |
|  | •  [BIO 4123 - Cell Signaling](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3974) **Sem. Hrs:** **3** |
|  | •  [BIO 4131 - Cell Biology Lab](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3975) **Sem. Hrs:** **1** |
|  | •  [BIO 4133 - Cell Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3976) **Sem. Hrs:** **3** |
|  | •  [BIO 4143 - Pharmacology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3977) **Sem. Hrs:** **3** |
|  | •  [BIO 4153 - Laboratory in BioTechniques I](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3978) **Sem. Hrs:** **3** |
|  | •  [BIO 4163 - Laboratory in BioTechniques II](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3979) **Sem. Hrs:** **3** |
|  | •  [BIO 4173 - Molecular Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3980) **Sem. Hrs:** **3** |
|  | •  [BIO 4201 - Issues in Human Ecology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3981) **Sem. Hrs:** **1** |
|  | •  [BIO 4202 - Issues in Human Ecology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3982) **Sem. Hrs:** **2** |
|  | •  [BIO 4213 - Human Genetics](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3983) **Sem. Hrs:** **3** |
|  | •  [BIO 4301 - Aquatic Entomology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3984) **Sem. Hrs:** **1** |
|  | •  [BIO 4302 - Aquatic Entomology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3985) **Sem. Hrs:** **2** |
|  | •  [BIO 4311 - Fisheries Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3986) **Sem. Hrs:** **1** |
|  | •  [BIO 4312 - Fisheries Biology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3987) **Sem. Hrs:** **2** |
|  | •  [BIO 4324 - Comparative Vertebrate Anatomy](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=16190) **Sem. Hrs:** **4** |
|  | •  [BIO 4332 - Animal Histology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3988) **Sem. Hrs:** **2** |
|  | •  [BIO 4333 - Marine Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3989) **Sem. Hrs:** **3** |
|  | •  [BIO 4341 - Animal Embryology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3990) **Sem. Hrs:** **1** |
|  | •  [BIO 4342 - Animal Histology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3991) **Sem. Hrs:** **2** |
|  | •  [BIO 4343 - Animal Embryology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3992) **Sem. Hrs:** **3** |
|  | •  [BIO 4354 - Mammalogy](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3993) **Sem. Hrs:** **4** |
|  | •  [BIO 4362 - Applied Aquaculture](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3995) **Sem. Hrs:** **2** |
|  | •  [BIO 4371 - Animal Ecology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3997) **Sem. Hrs:** **1** |
|  | •  [BIO 4372 - Applied Fisheries](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3998) **Sem. Hrs:** **2** |
|  | •  [BIO 4373 - Animal Ecology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3999) **Sem. Hrs:** **3** |
|  | •  [BIO 4383 - Vertebrate Endocrinology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4000) **Sem. Hrs:** **3** |
|  | •  [BIO 4384 - Parasitology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4001) **Sem. Hrs:** **4** |
|  | •  [BIO 4401 - Ichthyology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4002) **Sem. Hrs:** **1** |
|  | •  [BIO 4402 - Ichthyology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4003) **Sem. Hrs:** **2** |
|  | •  [BIO 4413 - Wildlife Program Internship](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4005) **Sem. Hrs:** **3** |
|  | •  [BIO 4421 - Ornithology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4006) **Sem. Hrs:** **1** |
|  | •  [BIO 4423 - Ornithology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4007) **Sem. Hrs:** **3** |
|  | •  [BIO 4433 - Field Experience in Marine Environments](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4008) **Sem. Hrs:** **3** |
|  | •  [BIO 4441 - Comparative Animal Physiology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4009) **Sem. Hrs:** **1** |
|  | •  [BIO 4443 - Comparative Animal Physiology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4010) **Sem. Hrs:** **3** |
|  | •  [BIO 4454 - Herpetology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=16191) **Sem. Hrs:** **4** |
|  | •  [BIO 4513 - Plant Physiology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4013) **Sem. Hrs:** **3** |
|  | •  [BIO 4521 - Wetland Plant Ecology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4014) **Sem. Hrs:** **1** |
|  | •  [BIO 4522 - Wetland Plant Ecology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4015) **Sem. Hrs:** **2** |
|  | •  [BIO 4541 - Mycology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4016) **Sem. Hrs:** **1** |
|  | •  [BIO 4542 - Mycology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4017) **Sem. Hrs:** **2** |
|  | •  [BIO 4551 - Medical Mycology Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4018) **Sem. Hrs:** **1** |
|  | •  [BIO 4552 - Medical Mycology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=4019) **Sem. Hrs:** **2** |

REVISED VERSION:

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| --- | --- |
| **Biology** | |
|  | •  [BIO 403V - Special Problems in Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3966) **Sem. Hrs:** **Variable** |
|  | •  [BIO 404V - Special Topics in Biological Sciences](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3967) **Sem. Hrs:** **Variable** |
|  | •  [BIO 1013 - Making Connections Biology](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3914) **Sem. Hrs:** **3** |
|  | •  [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3916) **Sem. Hrs:** **1** |
|  | •  [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3917) **Sem. Hrs:** **3** |
|  | •  [BIO 1501 - Biology of Plants Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3918) **Sem. Hrs:** **1** |
|  | •  [BIO 1503 - Biology of Plants](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3919) **Sem. Hrs:** **3** |
|  | •  [BIO 2011 - Biology of the Cell Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3920) **Sem. Hrs:** **1** |
|  | •  [BIO 2013 - Biology of the Cell](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3921) **Sem. Hrs:** **3** |
|  | •  [BIO 2042 - Biotechnology in Global Society](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3922) **Sem. Hrs:** **2** |
|  | •  [BIO 2101 - Microbiology for Nursing and Allied Health Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3923) **Sem. Hrs:** **1** |
|  | •  [BIO 2103 - Microbiology for Nursing and Allied Health](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3924) **Sem. Hrs:** **3** |
|  | •  [BIO 2201 - Human Anatomy and Physiology I Laboratory](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3925) **Sem. Hrs:** **1** |
|  | •  [BIO 2203 - Human Anatomy and Physiology I](https://catalog.astate.edu/preview_course_nopop.php?catoid=3&coid=3926) **Sem. Hrs:** **3** |
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Hrs:** **3** (Required Departmental Gen. Ed. Option)  LANGUAGE REQUIREMENT: A student must complete the foreign language requirements before being considered a Major in Wildlife, Fisheries and Conservation Major. (Refer to Department of Biological Sciences [*Foreign Language Requirement*](https://catalog.astate.edu/preview_entity.php?catoid=3&ent_oid=145#foreign-language-requirement)). MAJOR REQUIREMENTS: See emphasis area below. EMPHASIS AREA (WILDLIFE):  * [AGST 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. 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Hrs:** **1** * [BIO 4663 - Wildlife Management Investigational Techniques](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4661 - Wildlife Management Investigational Techniques Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4704 - Plant Systematics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [CHEM 1023 - General Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [CHEM 1021 - General Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [GEOL 1003 - Environmental Geology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [GEOL 1001 - Environmental Geology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * ***OR*** * [PSSC 2813 - Soils](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [PSSC 2811 - Soils Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [MATH 2194 - Survey of Calculus](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * ***OR*** * [MATH 2204 - Calculus I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [STAT 3233 - Applied Statistics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * ***OR*** * [BIO 4043 - Biometry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3**  Select two of the following:  * [BIO 3673 - Human Dimensions of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4613 - Conservation Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [POSC 4633 - Environmental Law and Administration](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3**  Select two of the following:  * [BIO 4354 - Mammalogy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4454 - Herpetology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4423 - Ornithology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** ***AND*** * [BIO 4421 - Ornithology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1**  Botany elective:  * [BIO 3501 - Wild Flowers of Arkansas](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** **AND** * [BIO 3511 - Wild Flowers of Arkansas Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3542 - Plant Pathology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 3541 - Plant Pathology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3553 - Economic Botany](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4513 - Plant Physiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4522 - Wetland Plant Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4521 - Wetland Plant Ecology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4542 - Mycology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4541 - Mycology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4552 - Medical Mycology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4551 - Medical Mycology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4714 - Dendrology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * Other courses approved by advisor  Communication elective:  * [ENG 3063 - Writing For STEM](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * See advisor for acceptable substitutions.  Zoology electives: An individual course cannot be used as both a required course and an elective.   * [BIO 3303 - General Entomology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 3301 - General Entomology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3313 - Economic Entomology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 3311 - Economic Entomology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3322 - Invertebrate Zoology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 3332 - Invertebrate Zoology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4324 - Comparative Vertebrate Anatomy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4332 - Animal Histology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4342 - Animal Histology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4333 - Marine Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4343 - Animal Embryology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4341 - Animal Embryology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4354 - Mammalogy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4362 - Applied Aquaculture](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4372 - Applied Fisheries](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4423 - Ornithology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4421 - Ornithology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4433 - Field Experience in Marine Environments](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4443 - Comparative Animal Physiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4441 - Comparative Animal Physiology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4454 - Herpetology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4**  Sub-total: 81TOTAL REQUIRED HOURS: 120 |

Revised version:

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| |  | | --- | | Wildlife, Fisheries and Conservation, Emphasis in Wildlife, BS | |  |   Return to {$returnto_text} Return to: [Catalog Search](https://catalog.astate.edu/search_advanced.php?catoid=3)  A complete 8-semester degree plan is available at <https://www.astate.edu/info/academics/degrees/> |
| UNIVERSITY REQUIREMENTS: See [University General Requirements for Baccalaureate degrees](https://catalog.astate.edu/content.php?catoid=3&navoid=67#university-general-requirements-for-all-baccalaureate-degrees) FIRST YEAR MAKING CONNECTIONS COURSE:  * [BIO 1013 - Making Connections Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3**  GENERAL EDUCATION REQUIREMENTS: See [General Education Curriculum for Baccalaureate degrees](https://catalog.astate.edu/preview_program.php?catoid=3&poid=447) **Sem. Hrs: 36** Students with this major must take the following:  * [MATH 1054 - Precalculus Mathematics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** or MATH course that requires [*MATH 1023*](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search#tt6313) as a prerequisite * [CHEM 1013 - General Chemistry I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [CHEM 1011 - General Chemistry I Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 2013 - Biology of the Cell](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 2011 - Biology of the Cell Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [COMS 1203 - Oral Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** (Required Departmental Gen. Ed. Option)  LANGUAGE REQUIREMENT: A student must complete the foreign language requirements before being considered a Major in Wildlife, Fisheries and Conservation Major. (Refer to Department of Biological Sciences [*Foreign Language Requirement*](https://catalog.astate.edu/preview_entity.php?catoid=3&ent_oid=145#foreign-language-requirement)). MAJOR REQUIREMENTS: See emphasis area below. EMPHASIS AREA (WILDLIFE):  * [AGST 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 1503 - Biology of Plants](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 1501 - Biology of Plants Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3013 - Genetics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 3011 - Genetics Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3023 - Principles of Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4021 - Biological Seminar](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4311 - Fisheries Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** **AND** * [BIO 4312 - Fisheries Biology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * ***OR*** * [BIO 4402 - Ichthyology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4401 - Ichthyology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * ***OR*** * [BIO 4603 - Limnology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4601 - Limnology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4373 - Animal Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4371 - Animal Ecology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4413 - Wildlife Program Internship](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * ***OR*** * [BIO 403V - Special Problems in Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **Variable** * [BIO 4653 - Wildlife Management](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4651 - Wildlife Management Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4663 - Wildlife Management Investigational Techniques](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4661 - Wildlife Management Investigational Techniques Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4704 - Plant Systematics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [CHEM 1023 - General Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [CHEM 1021 - General Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [GEOL 1003 - Environmental Geology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [GEOL 1001 - Environmental Geology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * ***OR*** * [PSSC 2813 - Soils](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [PSSC 2811 - Soils Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [MATH 2194 - Survey of Calculus](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * ***OR*** * [MATH 2204 - Calculus I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [STAT 3233 - Applied Statistics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * ***OR*** * [BIO 4043 - Biometry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3**  Select two of the following:  * [BIO 3673 - Human Dimensions of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4613 - Conservation Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [POSC 4633 - Environmental Law and Administration](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3**  Select two of the following:  * [BIO 4354 - Mammalogy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4454 - Herpetology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4423 - Ornithology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** ***AND*** * [BIO 4421 - Ornithology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1**  Botany elective:  * [BIO 3542 - Plant Pathology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 3541 - Plant Pathology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3553 - Economic Botany](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4513 - Plant Physiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4522 - Wetland Plant Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4521 - Wetland Plant Ecology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4542 - Mycology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4541 - Mycology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4552 - Medical Mycology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4551 - Medical Mycology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4714 - Dendrology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * Other courses approved by advisor  Communication elective:  * [ENG 3063 - Writing For STEM](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * See advisor for acceptable substitutions.  Zoology electives: An individual course cannot be used as both a required course and an elective.   * [BIO 3303 - General Entomology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 3301 - General Entomology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3313 - Economic Entomology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 3311 - Economic Entomology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 3322 - Invertebrate Zoology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 3332 - Invertebrate Zoology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4324 - Comparative Vertebrate Anatomy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4332 - Animal Histology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** **AND** * [BIO 4342 - Animal Histology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4333 - Marine Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4343 - Animal Embryology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4341 - Animal Embryology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4354 - Mammalogy](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4** * [BIO 4362 - Applied Aquaculture](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4372 - Applied Fisheries](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **2** * [BIO 4423 - Ornithology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4421 - Ornithology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4433 - Field Experience in Marine Environments](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** * [BIO 4443 - Comparative Animal Physiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **3** **AND** * [BIO 4441 - Comparative Animal Physiology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **1** * [BIO 4454 - Herpetology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=705&hl=%22bio+3501%22&returnto=search) **Sem. Hrs:** **4**  Sub-total: 81TOTAL REQUIRED HOURS: 120 |