Code # SM31 (2015)

 **New Emphasis, Concentration or Option Proposal Form**

[x]  **Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

[ ]  **Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to pheath@astate.edu

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Department Chair:**  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**General Education Committee Chair (If applicable)**   |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Vice Chancellor for Academic Affairs** |

**i. Proposed Program Title**

Emphasis in Fisheries; BS Wildlife Fisheries and Conservation

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

Dr. Thomas Risch, trisch@astate.edu, 972-3082

**iii. Proposed Starting Date**

8/16/2016

**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. Follow the following guidelines for indicating necessary changes.** **\*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.** - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)- New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font). - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)*You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.* *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

**Major in Wildlife, Fisheries and Conservation**

Bachelor of Science

Emphasis in Fisheries

A complete 8-semester degree plan is available at http://registrar.astate.edu/.

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| **University Requirements:**  |
| See University General Requirements for Baccalaureate degrees (p. 41)  |
| First Year Making Connections Course:  | Sem. Hrs.  |
| BIO 1013, Making Connections - Biology  | 3  |
| General Education Requirements:  | Sem. Hrs.  |
| See General Education Curriculum for Baccalaureate degrees (p. 83) Students with this major must take the following: MATH 1054, Precalculus Mathematics or MATH course that requires MATH 1023 as a prerequisite CHEM 1013 AND 1011, General Chemistry I and Laboratory BIO 2013 AND 2011, Biology of the Cell and Laboratory COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)  | 36  |
| Language Requirement:  | Sem. Hrs.  |
| A student must complete the foreign language requirements before being considered a Wildlife Ecol­ogy and Management Major. (Refer to p. 353 for foreign language requirements).  |
| Major Requirements:  | Sem. Hrs.  |
| AGST 3543, Fundamentals of GIS/GPS  | 3  |
| BIO 1303 AND 1301, Biology of Animals and Laboratory  | 4  |
| BIO 1503 AND 1501, Biology of Plants and Laboratory  | 4  |
| BIO 3013 AND 3311, Genetics and Laboratory  | 4  |
| BIO 3023, Principles of Ecology  | 3  |
| BIO 3033 Evolution OR BIO 4333 Marine Biology | 3  |
| Choose Two of the FollowingBIO 3673 Human Dimensions of Natural ResourcesBIO 4613 Conservation BiologyPOSC 4533 Environmental Law and Administration | 6 |
| BIO 4021 Biology Seminar | 1 |
| BIO 4301 Aquatic Entomology AND BIO 4302 Aquatic Entomology Laboratory | 3 |
| BIO 4312 Fisheries Biology AND BIO 4311 Fisheries Biology Lab | 3 |
| BIO 4362 Applied Aquaculture OR BIO 4372 Applied Fisheries  | 2 |
| BIO 4402 Ichthyology AND BIO 4401 Ichthyology Lab | 3 |
| BIO 4443 Fisheries Program Internship | 3 |
| BIO 4603 Limnology AND BIO 4601 Limnology Lab | 4 |
| CHEM 1023 General Chemistry II AND CHEM 1021 General Chemistry II Lab | 4 |
| MATH 2194 Survey of Calculus OR MATH 2204 Calculus I  | 4 |
| PHYS 2054 General Physics I | 4 |
| PHYS 2064 General Physics II | 4 |
| STAT 3233 Applied Statistics I | 3 |
| ElectivesAt least 3 credits must be Botany electives and at least 3 credits must be Zoology electives. | 16 |
| Subtotal | 81 |
| Total required hours | 120 |

**EMPHASIS ASSESSMENT**

**University Goals**

1. Please indicate the university-level student learning outcomes for which this new emphasis will contribute. Check all that apply.

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| 1. [x] Global Awareness
 | 1. [x] Thinking Critically
 | 1. [x] Information Literacy
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**Emphasis Goals**

2. Justification for the introduction of the new emphasis. Must include:

1. Academic rationale (how will this emphasis fit into the mission established by the department for the curriculum?)
The new Fisheries Emphasis area of the Wildlife, Fisheries, and Conservation major fulfills the mission of our department by providing the foundational knowledge to think critically in a particular content area of science and conservation, while simultaneously providing career training by fulfilling coursework requirements for Associate Fisheries Professional certification from the American Fisheries Society.
2. List emphasis goals (faculty or curricular goals, specific to the emphasis.)

The primary goal of this emphasis area is to meet the following student learning objectives:

1. Students will be able to (SWBAT) discuss interactions with organisms and their environment.
2. SWBAT evaluate impact of current or proposed natural resource conservation strategies.
3. SWBAT utilize best practices for wildlife and fisheries management.
4. SWBAT communicate physical components of the environment upon which life depends.
5. SWBAT examine genetic mechanisms and explain their principles.
6. SWBAT demonstrate broad taxonomic knowledge of plant and vertebrate animal groups.
7. SWBAT investigate animal behaviors and food sources.
8. The current major, without emphasis areas, was attempting to serve too many student populations with a single degree. One of the major goals of this degree program and emphasis area is to provide the coursework foundation that allows graduates to apply for Associate Fisheries Professional certification from the American Fisheries Society. Without emphasis areas, it is too difficult to meet the differences in criteria for the professional certifications in this field. Therefore, the emphasis areas are necessary for this program.

d. Student population served.

undergraduate students

**Emphasis Student Learning Outcomes**

3. Please fill out the following table to develop a continuous improvement assessment process for this emphasis.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

***Note: Best practices suggest an emphasis would have 1 to 3 outcomes.***

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| **Outcome 1** | Students will be able to (SWBAT) discuss interactions with organisms and their environment. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Students will also make a scientific poster and give a presentation related to organisms and their environment in their capstone course BIO 4021 Biological Seminar. |
| Which courses are responsible for this outcome? | BIO 1303 and 1301 Biology of Animals and Lab, BIO 1503 and 1501 Biology of Plants and Lab, BIO 3023 Principles of Ecology, BIO 4373 and 4371 Animal Ecology and Lab, BIO 4021 Biological Seminar. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee will be responsible for providing the surveys to graduates and reporting the results. The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructor of BIO 4021 will report presentation outcomes to the DBSAC. |

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| **Outcome 2** | SWBAT evaluate impact of current or proposed natural resource conservation strategies. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Also, alumni will be surveyed 2-5 years after graduation to determine if the degree program prepared them for their careers in natural resource conservation. Students also will answer questions related to natural resource conservation strategies on exams in the courses listed below. |
| Which courses are responsible for this outcome? | BIO 4413 Wildlife Program Internship, BIO 4653 and 4651 Wildlife Management and Lab, BIO 3673 Human Dimensions of Natural Resources, BIO 4613 Conservation Biology. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructors of BIO 4653, BIO 4651, BIO 3673, and BIO 4613 will report outcomes to the DBSAC. |

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| **Outcome 3** | SWBAT utilize best practices for wildlife and fisheries management. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Also, alumni will be surveyed 2-5 years after graduation to determine if the degree program prepared them for their careers in natural resource conservation. Students also will answer questions related to natural resource conservation strategies on exams in the courses listed below. |
| Which courses are responsible for this outcome? | BIO 4653 and 4651 Wildlife Management and Lab, BIO 4663 and 4661 Wildlife Management Investigative Techniques and Lab, BIO 4312 and 4311 Fisheries Biology and Lab, BIO 3673 Human Dimensions of Natural Resources, BIO 4613 Conservation Biology. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructors of BIO 4653, BIO 4651, BIO 4663, BIO 4661, BIO 4312, BIO 4311, BIO 3673, and BIO 4613 will report outcomes to the DBSAC. |

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| **Outcome 4** | SWBAT communicate physical components of the environment upon which life depends. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Students will also make a scientific poster and give a presentation related to the dependency of organisms upon their physical environment in their capstone course BIO 4021 Biological Seminar. |
| Which courses are responsible for this outcome? | BIO 1303 and 1301 Biology of Animals and Lab, BIO 1503 and 1501 Biology of Plants and Lab, BIO 3023 Principles of Ecology, BIO 4373 and 4371 Animal Ecology and Lab, BIO 4603 and BIO 4601 Limnology and Lab, GEOL 1003 and 1001 Environmental Geology and Lab, PSSC 2813 and 2811 Soils and Lab, BIO 4021 Biological Seminar. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructor of BIO 4021 will report presentation outcomes to the DBSAC. |

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| **Outcome 5** | SWBAT examine genetic mechanisms and explain their principles. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Students also will answer questions related to natural resource conservation strategies on exams in the courses listed below. |
| Which courses are responsible for this outcome? | BIO 1303 and 1301 Biology of Animals and Lab, BIO 1503 and 1501 Biology of Plants and Lab, BIOL 2013 and 2011 Biology of the Cell and Lab, BIO 3013 and 3011 Genetics and Lab. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructors of BIO 3013 and 3011 will report outcomes to the DBSAC. |

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| **Outcome 6** | SWBAT demonstrate broad taxonomic knowledge of plant and vertebrate animal groups. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Also, alumni will be surveyed 2-5 years after graduation to determine if the degree program prepared them for their careers in natural resource conservation. Students also will answer questions related to natural resource conservation strategies on exams in the courses listed below. |
| Which courses are responsible for this outcome? | BIO 4704 Plant Systematics, BIO 4402 and 4401 Ichthyology and Lab, BIO 4352 and 4351 Mammalogy and Lab, BIO 4412 and 4411 Herpetology and Lab, BIO 4423 and 4421 Ornithology and Lab |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructors of BIO 4704, BIO 4402, BIO 4401, BIO 4352, BIO 4351, BIO 4412, BIO 4411, BIO 4423, and BIO 4421 will report outcomes to the DBSAC. |

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| **Outcome 7** | SWBAT investigate animal behaviors and food sources. |
| Assessment Procedure Criterion | Graduating students will be provided a survey with relevant questions regarding this student-learning outcome. Also, alumni will be surveyed 2-5 years after graduation to determine if the degree program prepared them for their careers in natural resource conservation. Students also will answer questions related to natural resource conservation strategies on exams in the courses listed below. |
| Which courses are responsible for this outcome? | BIO 4373 and 4371 Animal Ecology and Lab, BIO 4704 Plant Systematics, BIO 4312 and 4311 Fisheries Biology and Lab. |
| Assessment Timetable | After three years of data accumulation, we will analyze data for graduating student surveys to determine if our learning outcomes are being met. |
| Who is responsible for assessing and reporting on the results? | The Department of Biological Sciences Assessment Committee (DBSAC) will be responsible for providing the surveys to graduates and reporting the results. The instructors of BIO 4373, BIO 4371, BIO 4704, BIO 4312, and BIO 4311 will report outcomes to the DBSAC. |

*Please repeat as necessary.*

LETTER OF NOTIFICATION – 3

NEW OPTION, EMPHASIS or CONCENTRATION

(Maximum 18 semester credit hours of theory courses and 6 credit hours of practicum courses)

1. Institution submitting request: Arkansas State University-Jonesboro

1. Contact person/title: Dr. Thomas Risch / Department Chair
2. Phone number/e-mail address: 870-972-3333
3. Proposed effective date: August 16, 2016
4. Title of existing degree program: BS Wildlife Ecology & Management

 (Indicate if the degree listed above is approved for distance delivery)

1. CIP Code: 03.0601
2. Degree Code: 03
3. Proposed name of new option/concentration/emphasis: BS Wildlife, Fisheries & Conservation—Fisheries Emphasis
4. Reason for proposed action: In education toward becoming a conservation professional, students need the ability to emphasize in conservation of terrestrial or aquatic systems for their coursework. This emphasis area will allow students to take more in-depth courses related to fisheries biology and conservation, preparing them for careers in aquatic conservation management and research.
5. New option/emphasis/concentration objective: The objective of the new emphasis area is to offer students a prescribed degree plan that allows them to obtain a general, well-rounded degree in conservation, while also emphasizing specifically in fisheries biology and aquatic conservation.
6. Provide the following:
	1. Curriculum outline - List of courses in new option/concentration/emphasis – Underline required courses (see attached spreadsheet)
	2. Provide degree plan that includes new option/emphasis/concentration (see attached Word Document)
	3. Total semester credit hours required for option/emphasis/concentration 15

 (Option range: 9–24 semester credit hours)

* 1. New courses and new course descriptions

BIO 4443 FISHERIES PROGRAM INTERNSHIP— Participation in a professional fisheries educational, management or research program activity. Internship is arranged by the student and may be a volunteer or paid position. Entails a minimum of 160 work hours. Special course fees may apply. Must be approved by advisor or chair. Fall, Spring, Summer.

* 1. Goals and objectives of program option: The objective of the new emphasis area is to offer students a prescribed degree plan that allows them to obtain a general, well-rounded degree in conservation, while also emphasizing specifically in fisheries biology and aquatic conservation.
	2. Expected student learning outcomes: Students will learn to become biologists, people who ask questions and test hypotheses about life. More specifically, students will learn the needs for and successful mechanisms of conserving biodiversity and natural resources in an ever-changing world. In the particular emphasis area, students will learn diversity of fishes and management of aquatic systems and fish species.
	3. Documentation that program option meets employer needs: This emphasis area meets the requirements for the Associate Fisheries Professional certification from the American Fisheries Society.
	4. Student demand (projected enrollment) for program option: 30 students
	5. Name of institutions offering similar program or program option and the institution(s) used as a model to develop the proposed program option: Arkansas Tech University has a similar major, although they offer fewer courses with an aquatic / fisheries emphasis. The University of Arkansas at Pine Bluff has a Center of Excellence for Aquaculture and Fisheries where students can earn a BS in Fisheries Biology. We modeled our program after requirements for Associate Fisheries Professional certification from the American Fisheries Society.
1. Institutional curriculum committee review/approval date: 2025
2. Will the new option/emphasis/concentration be offered via distance delivery? If yes, indicate mode of distance delivery: No
3. Explain in detail the distance delivery methods/procedures to be used: N/A
4. Specify the amount of additional costs required for program implementation, the source of funds, and how funds will be used. This option will utilize an Endowed Professorship for teaching and research shared between Arkansas State University-Mountain Home and Arkansas State University-Jonesboro. In order to provide more regular offerings of fisheries courses, additional adjunct support will be required. $80,000/yr for salary and fringes.
5. Provide additional program information if requested by ADHE staff.

President/Chancellor Approval Date:

Board of Trustees Notification Date:

Chief Academic Officer Date: