

ADDENDUM TO AGENDA
UNIVERSITY COMMITTEE ON COURSES AND CURRICULA
April 27, 2017

1. Welcome
2. Approval of Minutes
3. Course proposals by college/school

FOREST RESOURCES

Modification	FO 8443	International Forest Resources and Trade
--------------	-------------------------	--

4. Degree proposals by college/school

FOREST RESOURCES

Modification	BS	Wildlife, Fisheries and Aquaculture
--------------	----	-------------------------------------

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the *Guide and Format for Curriculum Proposals* published by the UCCC. Both cover sheet and proposal should be submitted, along with all required copies, to UCCC, Garner Hall, Room 279, Mail Stop 9702.

College: College of Forest Resources

Department: Wildlife, Fisheries & Aquaculture

Contact Person: Leslie Burger

Mail Stop: 9690

E-mail: Leslie.Burger@msstate.edu

Nature of Change: Modification

Date Initiated: 4/11/2017 Effective Date: January 2018

Degree to be offered at: Starkville campus

Current Degree Program Name:

Major: Wildlife, Fisheries and Aquaculture

Concentration:

New Degree Program Name:

Major:

Concentration:

Summary of Proposed Changes:

The proposed modifications to the Wildlife, Fisheries and Aquaculture degree include: additional course options to meet major core requirements; an increase from 36 to 38 credit hours in the major core; a concentration name change from Human-Wildlife Conflicts to Human-Wildlife Interactions; an aquatics required elective to broaden professional opportunities and meet career demands; greater course selection to meet concentration-specific objectives; additional approved professional electives to accommodate personal interest, career goals and professional requirements.

Approved:

Date:

Andy Karl
Department Head

4/18/17

Robert Grobe
Chair, College or School Curriculum Committee

04/18/2017

Chris A. Munn
Dean of College or School

04/18/17

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

☐ IHL Action Required

☐ SACS Letter Sent

1. CURRENT CATALOG DESCRIPTION

Department of Wildlife, Fisheries and Aquaculture

Major Advisor: Dr. Leslie Burger

Office: 259 Thompson Hall

Sustainable management of the diverse wildlife and fisheries resources by private and public sectors requires knowledgeable and technically competent people. The Department of Wildlife, Fisheries and Aquaculture offers a major in Wildlife, Fisheries and Aquaculture designed to provide students with a curriculum that has foundations in biology, ecology, natural resources management, social sciences, mathematics, and other contemporary educational needs for natural resources professionals. Six concentrations are available to students: wildlife, fisheries and aquaculture science, conservation law enforcement, wildlife veterinary medicine, wildlife pre-veterinary medicine, wildlife agriculture conservation, and human-wildlife conflicts. The curriculum will prepare students for employment in natural resource professions within private, federal, or state wildlife, fisheries, or aquaculture sectors. Additionally, the curriculum ensures that students are eligible for employment upon graduation, as well as providing the academic background required for further post-graduate studies.

Students may proceed towards a DVM degree by taking the concentration entitled the wildlife pre-veterinary program. Students, upon completing the course work outlined in the wildlife pre-veterinary program, may apply for admission into the College of Veterinary Medicine. Alternatively, students accepted into the early entry veterinary program, upon completing the wildlife pre-veterinary program satisfactorily, may be admitted into the College of Veterinary Medicine. There also is an opportunity to pursue, with an additional year, a M.S. degree in Veterinary or Wildlife Science. Upon successful completion of course requirements, the student will graduate with a B.S. degree in Wildlife, Fisheries and Aquaculture, pre-veterinary concentration at the end of the fourth year, and a DVM at the end of the seventh year.

Course work in all concentrations enables students to fulfill the coursework requirements necessary to become Certified Associate Wildlife Biologists by The Wildlife Society. The Wildlife, Fisheries and Aquaculture Science concentration exceeds requirements for certification by the American Fisheries Society as an Associate Fisheries Scientist.

The Wildlife, Fisheries and Aquaculture Major is designed for completion within four years, but some students may not complete the program in that time because of course scheduling or other constraints. Transfer students are encouraged to begin course work at MSU by the end of their sophomore year to enable graduation in four years. Transfer students should be aware that course work taken elsewhere may not necessarily be accepted toward a degree in Wildlife, Fisheries and Aquaculture. Only course work determined by the Wildlife, Fisheries and Aquaculture Department to be equivalent to required course work will be accepted. Additionally, no course work will be considered for acceptance unless a grade of C or better has been earned. Correspondence courses will not be accepted toward the Wildlife, Fisheries and Aquaculture degree. Transfer students with a grade point average less than or equal to 2.0 may not be admitted automatically into the Wildlife, Fisheries and Aquaculture major. Permission to

enroll depends on specific circumstances and the requirements of the Wildlife, Fisheries and Aquaculture major. In addition to University and College requirements, students must attain a minimum grade of C in certain courses listed in the CFR Undergraduate Handbook. Students in the Wildlife Pre-veterinary program, interested in pursuing the Veterinary Medicine program, must meet all admission requirements by the College of Veterinary Medicine.

Proposed Catalog Description

Department of Wildlife, Fisheries and Aquaculture

Major Advisor: Andy Kouba, Department Head; Leslie Burger, Undergraduate Coordinator

Office: A205 Thompson Hall; 259 Thompson Hall

Sustainable management of wildlife and fisheries resources by private and public sectors requires knowledgeable and technically competent people. The Department of Wildlife, Fisheries and Aquaculture offers a major in Wildlife, Fisheries and Aquaculture (WFA) designed to provide students with a foundational curriculum grounded on biology, ecology, habitat and population management, social sciences, mathematics, and other contemporary educational needs for natural resources professionals. Six concentrations are available to students: wildlife, fisheries and aquaculture science; conservation law enforcement; wildlife veterinary medicine; wildlife pre-veterinary 3+1; wildlife-agriculture conservation; and human-wildlife interactions. The curriculum will prepare students for employment in natural resource professions within private, federal, or state wildlife, fisheries or aquaculture sectors. Additionally, the curriculum ensures students are academically prepared for post-graduate studies.

Students seeking veterinary school may choose between the wildlife pre-veterinary 3+1 or the wildlife veterinary medicine curricula programs. The wildlife veterinary medicine concentration allows students to fulfill the academic requirements for entrance into veterinary school while completing a baccalaureate program. The pre-veterinary 3+1 concentration is an integrated program that allows students to pursue a baccalaureate degree for 3 years and then, if accepted, matriculate into the MSU College of Veterinary Medicine where they must successfully complete the first year in the Veterinary Medicine curriculum to fulfill the remaining credit hours for the undergraduate degree.

A student may use their curriculum coursework to fulfill the coursework requirements necessary to become a Certified Associate Wildlife Biologist by The Wildlife Society and/or an Associate Fisheries Scientist by the American Fisheries Society.

The Wildlife, Fisheries and Aquaculture Major is designed for completion within four years, but some students may not complete the program in that time because of course scheduling or other constraints. Transfer students are encouraged to contact the College of Forest Resources Student Support Services after completing their freshman year to get assistance in course planning that will enable graduation from MSU in four years. Transfer students should be aware that coursework taken elsewhere may not necessarily be accepted toward a degree in Wildlife, Fisheries and Aquaculture. Only coursework determined by the Wildlife, Fisheries and Aquaculture Department to be equivalent to required course

work will be accepted. Additionally, no coursework will be considered for acceptance unless a grade of C or better has been earned. Correspondence courses will not be accepted. Transfer students with a grade point average less than or equal to 2.0 may not be admitted automatically into the WFA major. In addition to University and College requirements, students must attain a minimum grade of C in the WFA Major Core courses. Students interested in pursuing the Veterinary Medicine program must meet all admission requirements by the College of Veterinary Medicine.

CURRICULUM OUTLINE

DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT degree description Degree: Bachelor of Science Major: Wildlife, Fisheries & Aquaculture Concentration: Wildlife, Fisheries & Aquaculture Science; Wildlife Pre-Veterinary <i>Medicine</i> ; Wildlife Veterinary Medicine; Wildlife Agriculture; Human Wildlife <i>Conflicts</i>	PROPOSED degree description Degree: Bachelor of Science Major: Wildlife, Fisheries & Aquaculture Concentration: Wildlife, Fisheries & Aquaculture Science; Wildlife Pre-Veterinary 3+1 ; Wildlife Veterinary Medicine; Wildlife-Agriculture Conservation ; Human-Wildlife Interactions
Sustainable management of <i>the diverse</i> wildlife and fisheries resources by private and public sectors requires knowledgeable and technically competent people. The Department of Wildlife, Fisheries and Aquaculture offers a major in Wildlife, Fisheries and Aquaculture designed to provide students with a curriculum <i>that has foundations in</i> biology, ecology, <i>natural resources</i> management, social sciences, mathematics, and other contemporary educational needs for natural resources professionals. Six concentrations are available to students: wildlife, fisheries and aquaculture science, conservation law enforcement, wildlife veterinary medicine, wildlife pre-veterinary medicine, wildlife agriculture conservation, and human-wildlife <i>conflicts</i> . The curriculum will prepare students for employment in natural resource professions within private, federal, or state wildlife, fisheries, or aquaculture sectors. Additionally, the curriculum ensures <i>that</i> students are <i>eligible for employment upon graduation, as well as providing the academic background</i> required for <i>further</i> post-graduate studies. Students may proceed towards a DVM degree by taking the concentration entitled the wildlife pre-veterinary program. Students, <i>upon completing the course work outlined in the wildlife pre-veterinary program</i> , may apply for admission into the College of Veterinary Medicine. <i>Alternatively, students accepted into the early entry veterinary program,</i>	Sustainable management of wildlife and fisheries resources by private and public sectors requires knowledgeable and technically competent people. The Department of Wildlife, Fisheries and Aquaculture offers a major in Wildlife, Fisheries and Aquaculture (WFA) designed to provide students with a foundational curriculum grounded on biology, ecology, habitat and population management, social sciences, mathematics, and other contemporary educational needs for natural resources professionals. Six concentrations are available to students: wildlife, fisheries and aquaculture science; conservation law enforcement; wildlife veterinary medicine; wildlife pre-veterinary 3+1; wildlife-agriculture conservation; and human-wildlife interactions . The curriculum will prepare students for employment in natural resource professions within private, federal, or state wildlife, fisheries, or aquaculture sectors. Additionally, the curriculum ensures students are academically prepared for post-graduate studies. Students seeking veterinary school may choose between the wildlife pre-veterinary 3+1 or the wildlife veterinary medicine curricula programs. The wildlife veterinary medicine concentration allows students to fulfill the academic requirements for entrance into veterinary school while completing a baccalaureate program. The pre-veterinary 3+1 concentration is an integrated

upon completing the wildlife pre-veterinary program satisfactorily, may be admitted into the College of Veterinary Medicine. There also is an opportunity to pursue, with an additional year, a M.S. degree in Veterinary or Wildlife Science. Upon successful completion of course requirements, the student will graduate with a B.S. degree in Wildlife, Fisheries and Aquaculture, pre-veterinary concentration at the end of the fourth year, and a DVM at the end of the seventh year.

Course work in all concentrations enables students to fulfill the coursework requirements necessary to become Certified Associate Wildlife Biologists by The Wildlife Society. The Wildlife, Fisheries and Aquaculture Science concentration exceeds requirements for certification by the American Fisheries Society as an Associate Fisheries Scientist.

The Wildlife, Fisheries and Aquaculture Major is designed for completion within four years, but some students may not complete the program in that time because of course scheduling or other constraints. Transfer students are encouraged to begin coursework at MSU by the end of their sophomore year to enable graduation in four years. Transfer students should be aware that course work taken elsewhere may not necessarily be accepted toward a degree in Wildlife, Fisheries and Aquaculture. Only course work determined by the Wildlife, Fisheries and Aquaculture Department to be equivalent to required course work will be accepted. Additionally, no course work will be considered for acceptance unless a grade of C or better has been earned. Correspondence courses will not be accepted toward the Wildlife, Fisheries and Aquaculture degree. Transfer students with a grade point average less than or equal to 2.0 may not be admitted automatically into the Wildlife, Fisheries and Aquaculture major. Permission to enroll depends on specific circumstances and the requirements of the Wildlife, Fisheries and Aquaculture major. In addition to University and College requirements, students must attain a minimum grade of C in certain courses listed in the CFR Undergraduate Handbook. Students in the Wildlife Pre-veterinary program, interested in pursuing the Veterinary Medicine program, must meet all admission requirements by the College of Veterinary Medicine.

Conservation Law Enforcement Concentration (CLE)

Advisor: Dr. Kevin M. Hunt
Room 205A Thompson Hall

program that allows students to pursue a baccalaureate degree for 3 years and then, if accepted, matriculate into the MSU College of Veterinary Medicine where they must successfully complete the first year in the Veterinary Medicine curriculum to fulfill the remaining credit hours for the undergraduate degree.

A student may use their curriculum coursework to fulfill the coursework requirements necessary to become a Certified Associate Wildlife Biologist by The Wildlife Society and/or an Associate Fisheries Scientist by the American Fisheries Society.

The Wildlife, Fisheries and Aquaculture Major is designed for completion within four years, but some students may not complete the program in that time because of course scheduling or other constraints. Transfer students are encouraged to **contact the College of Forest Resources Student Support Services after completing their freshman year to get assistance in course planning that will enable graduation from MSU in four years.** Transfer students should be aware that coursework taken elsewhere may not necessarily be accepted toward a degree in Wildlife, Fisheries and Aquaculture. Only course work determined by the Wildlife, Fisheries and Aquaculture Department to be equivalent to required coursework will be accepted. Additionally, no coursework will be considered for acceptance unless a grade of C or better has been earned. Correspondence courses will not be accepted. Transfer students with a grade point average less than or equal to 2.0 may not be admitted automatically into the WFA major. In addition to University and College requirements, students must attain a minimum grade of C in **WFA Major Core courses.** Students interested in pursuing the Veterinary Medicine program must meet all admission requirements by the College of Veterinary Medicine.

Conservation Law Enforcement Concentration (CLE)

Advisor: Dr. Kevin M. Hunt
Room 1203 Sustainable Bioproducts Bldg. 1

This concentration is designed for undergraduate students who wish to seek employment immediately following receipt of a B.S. degree and *wish* to obtain positions related to natural resource law enforcement (e.g., conservation officers, park rangers) or wildlife managers (not biologists). Students may, upon graduation within this concentration, continue on to graduate school in the human dimensions-law enforcement or wildlife arenas. *Starting salaries, on average, would be less than with a M.S. degree.*

Wildlife, Fisheries and Aquaculture Science Concentration (WLFS)

Advisor: Dr. Leslie Burger
Room 259 Thompson Hall

This concentration is designed for undergraduate students who wish to pursue one or more advanced degrees (M.S., Ph.D.), as it prepares students for graduate school. Employment following this B.S. program is possible, but competition for jobs may be keen. This concentration is intended for serious, academically strong students, who maintain an A-B grade record (GPA 3.0), which is the minimum required for admittance into graduate schools.

Wildlife Pre-Veterinary Concentration (PVSF)

Advisor: Dr. Peter Allen
Room 261 Thompson Hall

This integrated curriculum allows the students to pursue a 3 + 1 undergraduate degree program in Wildlife, Fisheries, and Aquaculture for three years and then, if accepted, matriculate into the Veterinary Medicine program in College of Veterinary Medicine. *Successful graduates of this program are qualified to apply for Certified Associate Wildlife Biologist with The Wildlife Society as well as being qualified to practice veterinary medicine.*

Note: Mississippi State requires a minimum of 124 hours for the undergraduate degree. Therefore, to qualify for the B.S. degree in Wildlife, Fisheries, and Aquaculture, a student MUST complete the three years of the listed undergraduate course work (114 hours) in the wildlife pre-veterinary program AND also successfully complete the first year in the Veterinary Medicine curriculum.

This concentration is designed for undergraduate students who wish to seek employment immediately following receipt of a B.S. degree and to obtain positions related to natural resource law enforcement (e.g., conservation officers, park rangers) or wildlife managers (not biologists). Students may, upon graduation within this concentration, continue on to graduate school in the human dimensions, law enforcement or wildlife arenas.

Wildlife, Fisheries and Aquaculture Science Concentration (WLFS)

Advisor: Dr. Leslie Burger
Room 259 Thompson Hall

This concentration is designed for undergraduate students who wish to pursue one or more advanced degrees (M.S., Ph.D.), as it prepares students for graduate school. Employment following this B.S. program is possible, but competition for jobs may be keen. This concentration is intended for serious, academically strong students who maintain an A-B grade record (GPA 3.0), which is the minimum required for admittance into **most** graduate schools.

Wildlife Pre-Veterinary 3+1 Concentration (PVSF)

Advisor: Dr. Peter Allen
Room 261 Thompson Hall

This integrated curriculum allows the students to pursue a 3 + 1 undergraduate degree program in Wildlife, Fisheries, and Aquaculture for three years and then, if accepted, matriculate into the Veterinary Medicine program in College of Veterinary Medicine.

Note: Mississippi State requires a minimum of 124 hours for the undergraduate degree. Therefore, to qualify for the B.S. degree in Wildlife, Fisheries, and Aquaculture, a student MUST complete the three years of listed undergraduate course work in the wildlife pre-veterinary program AND also successfully complete the first year in the Veterinary Medicine curriculum.

Wildlife Veterinary Medicine Concentration (WFVM)

Advisor: Dr. Peter Allen
Room 261 Thompson Hall

This integrated curriculum allows the students to pursue a four-year undergraduate degree program in Wildlife, Fisheries, and Aquaculture and then, if accepted, matriculate into the Veterinary Medicine program in College of Veterinary Medicine. *Successful graduates of this program are qualified to apply for Certified Associate Wildlife Biologist or apply to graduate school in wildlife-related fields.*

Wildlife Agriculture Conservation (WLAC)

Advisors: Dr. Scott Rush
Room 231 Thompson Hall

This curriculum provides the educational background for students pursuing careers as wildlife biologists or conservationists in agricultural areas which require a strong background in both wildlife biology and agricultural science. Successful graduates of this program *are qualified to apply as Certified Associate Wildlife Biologists with The Wildlife Society, and will meet minimum educational requirements for NRCS conservationist positions.* Students completing this concentration may seek employment immediately following graduation. Students will be equally prepared to pursue one or more graduate degrees (M.S., Ph.D.) in wildlife biology and related natural resource fields.

Human-Wildlife Conflicts Concentration

Advisor: Dr. Jerrold Belant
Room 251 Thompson Hall

This curriculum provides the educational background for those students wishing to pursue a career as wildlife biologist with a strong background in *wildlife damage management to resolve human-wildlife conflicts. Successful graduates of this program are qualified to apply for Certified Associate Wildlife Biologist with The Wildlife Society.* Students completing this concentration may seek employment immediately following graduation; however, competition for positions may be intense. Students will be equally prepared to pursue one or more graduate degrees (M.S., Ph.D.) *in Human-Wildlife Conflicts or other areas of Wildlife Science.*

Wildlife Veterinary Medicine Concentration (WFVM)

Advisor: Dr. Peter Allen
Room 261 Thompson Hall

This integrated curriculum allows the students to pursue a four-year undergraduate degree program in Wildlife, Fisheries, and Aquaculture and then, if accepted, matriculate into the Veterinary Medicine program in College of Veterinary Medicine.

Wildlife Agriculture Conservation Concentration (WLAC)

Advisors: Dr. Scott Rush
Room 231 Thompson Hall

This curriculum provides the educational background for students pursuing careers as wildlife biologists or conservationists in agricultural areas which require a strong background in both wildlife biology and agricultural science. Successful graduates of this program will meet minimum educational requirements for NRCS conservationist positions. Students completing this concentration may seek employment immediately following graduation. Students will be equally prepared to pursue one or more graduate degrees (M.S., Ph.D.) in wildlife biology and related natural resource fields.

Human-Wildlife Conflicts Concentration

Advisor: Dr. **Raymond Iglay**
Room 271 Thompson Hall

This curriculum provides the educational background for those students wishing to pursue a career as wildlife biologist with a strong background in **addressing human-wildlife interactions, including conflict resolution.** Students completing this concentration may seek employment immediately following graduation; however, competition for positions may be intense. Students will be equally prepared to pursue one or more graduate degrees (M.S., Ph.D.).

CURRENT CURRICULUM OUTLINE		Required Hours	PROPOSED CURRICULUM OUTLINE		Required Hours
EN 1103 English Composition I or EN 1163 Accelerated Composition I		6	EN 1103 English Composition I or EN 1163 Accelerated Composition I		6
EN 1113 English Composition or EN 1173 Accelerated Composition II			EN 1113 English Composition or EN 1173 Accelerated Composition II		
MA 1613 <i>Calculus for Business and Life Sciences I</i> or MA 1713 <i>Calculus I</i>		3	See concentrations		6
ST 3123 <i>Introduction to Statistical Inference</i>		3			
BIO 1134 Biology I		4	BIO 1134 Biology I		4
BIO 1144 Biology II		4	BIO 1144 Biology II		4
see concentrations for additional requirements		1	see concentrations for additional requirements		1
Humanities - see General Education courses see concentrations		3 3	Humanities - PHI 1123 Introduction to Ethics (required for CLE) Any General Education course (1 for CLE; 2 for all other concentrations)		6
Fine Arts see General Education courses		3	Fine Arts Any General Education course		3
Social/Behavioral Sciences Choose one of the following: AEC 2713 <i>Introduction to Food and Resource Economics (for Ag. Con)</i> EC 2113 <i>Principles of Macroeconomics</i> EC 2123 <i>Principles of Microeconomics</i> See concentrations		3 3	Social/Behavioral Sciences PSY 1013 General Psychology (required for CLE) PHI 1123 Introduction to Ethics (required for CLE) WFA Social/Behavioral Sciences elective (all concentrations except CLE) Any General Education course (all concentrations except CLE)		 3 3 3 3
Major Core ²			Major Core ²		
WFA 1102 Wildlife & Fisheries Profession		2	WFA 1102 Wildlife & Fisheries Profession		2
WFA 3133 Applied Aquatic & Terrestrial Ecology		3	WFA 3133 Applied Aquatic & Terrestrial Ecology		3
WFA 4123 <i>Wildl. & Fish Biometrics</i>		3	WFA 4153 Principles of Wildlife Conservation and Management		3
WFA 4153 Principles of Wildlife Conservation and Management		3	WFA 4223 Wildlife Plant Identification		3
WFA 4223 Wildlife Plant Identification		3	WFA 4243 Wildlife Techniques		3
WFA 4243 Wildlife Techniques		3	WFA 4353 Fish & Wildlife Policy & Law Enforcement		3
WFA 4353 Fish & Wildlife Policy & Law Enforcement		3	WFA 4473 Wildlife & Fisheries Practices		3
WFA 4473 Wildlife & Fisheries Practices		3	Plant Elective¹		3
FO 2113 <i>Dendrology</i>		3	Zoology Elective ¹		3

<p>Zoology Elective¹</p> <p>Oral Communication Requirement:</p> <p>CO 1003 Fundamentals of Public Speaking</p> <p>Writing Requirement:</p> <p>AIS 3203 Professional Writing in Agriculture, Natural Resources, and Human Sciences</p> <p>or MGT 3213 Organizational Communications</p> <p>or BIO 3013 Professional Writing for Biologists</p> <p>¹ All electives chosen from a list approved by the Department of Wildlife, Fisheries & Aquaculture</p> <p>² Note: Pre-requisites and co-requisites are strictly enforced in the College of Forest Resources. It is the student's responsibility to be aware of pre-requisites and co-requisites are identified in the Course Description section of the Bulletin.</p>	<p>4</p> <p>3</p> <p>3</p>	<p>Oral Communication Requirement:</p> <p>Choose one:</p> <p>CO 1003 Fundamentals of Public Speaking OR</p> <p>CO 1013 Intro to Comm OR</p> <p>AELC 3333 Professional Presentations in Ag & Life Science</p> <p>Writing Elective¹</p> <p>Aquatics Elective¹</p> <p>WFA 4173 Fish Physiology (required for WLVM and PVSF concentrations)</p> <p>Natural Resources Policy Elective¹</p> <p>Total</p> <p>¹ All electives chosen from a list approved by the Department of Wildlife, Fisheries & Aquaculture</p> <p>² Note: Pre-requisites and co-requisites are strictly enforced in the College of Forest Resources. It is the student's responsibility to be aware of pre-requisites and co-requisites are identified in the Course Description section of the Bulletin.</p>	<p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>38</p>
<p>Choose one of the following concentrations:</p> <p>The Concentrations: The academic concentrations within the Wildlife, Fisheries, and Aquaculture Major are offered to enable students to develop an academic background that is suited to their professional career goals. Each concentration has been developed to supplement the core curriculum which provides the basis for the wildlife and fisheries science major, regardless of the area of expertise desired by the student.</p> <p><u>Conservation Law Enforcement Concentration (CLE)</u></p> <p>Advisor: Dr. Kevin M. Hunt</p> <p>Courses to be taken in addition to those of the core curriculum include:</p> <p>PHI 1123 Introduction to Ethics</p> <p>or PHI 3013 Business Ethics</p> <p>SO 1003 Introduction to Sociology</p>	<p>3</p> <p>3</p>	<p>Choose one of the following concentrations:</p> <p>The Concentrations: The academic concentrations within the Wildlife, Fisheries, and Aquaculture Major are offered to enable students to develop an academic background that is suited to their professional career goals. Each concentration has been developed to supplement the core curriculum which provides the basis for the wildlife and fisheries science major, regardless of the area of expertise desired by the student.</p> <p><u>Conservation Law Enforcement Concentration (CLE)</u></p> <p>Advisor: Dr. Kevin M. Hunt</p> <p>Courses to be taken in addition to those of the core curriculum include:</p> <p>BIO 3524 Bio of Verts</p> <p>CH 1043 Survey of Chemistry I</p> <p>or CH 1213 Chemistry I</p>	<p>4</p> <p>3</p>

PSY 1013 General Psychology	3	CH 1053 Survey of Chemistry II	3
CH 1043 Survey of Chemistry I	3	or CH 1223 Chemistry II	
CH 1053 Survey of Chemistry II	3	CRM 1003 Crime and Justice in America	3
CH 1051 Experimental Chemistry	1	MA 1313 College Algebra	3
PSS 3303 Soils	3	or MA 1613 Calculus for Business & Life Science	
PSS 3301 Soils Laboratory	1	PHI 1123 Introduction to Ethics	3
CRM 1003 Crime and Justice in America	3	PSY 1013 General Psychology	3
CRM 3123 Policing and Society	3	SO 1003 Introduction to Sociology	3
or SO 3123 Policing and Society		SO/CRM 3133 Deviant Behavior	3
SO 3313 Deviant Behavior	3	ST 2113 Introduction to Statistics	3
WFA 4253 Application of Spatial Technologies to Wildlife and Fisheries Management	3	or ST 3123 Introduction to Statistical Inference	
WFA 4313 Fisheries Management	3	CLE Elective	18
WFA 4463 Human Dimensions of Fish and Wildlife Management	3	Natural Resources Mgmt. Elective	20
WFA 4433 Mammalogy	3	Total Hours	124
WFA 4443 Ornithology	3		
Professional Elective ¹	6	¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture	
Zoology Elective ¹	4		
Natural Resources Mgmt Elective ¹	3		
Nutrition/Phys/ Anatomy Elective ¹	3		
Total Hours	124		
		<u>Wildlife, Fisheries and Aquaculture Science Concentration (WLFS)</u>	
		Advisor: Dr. Leslie Burger	
		Courses to be taken in addition to those of the core curriculum include:	
		BIO 3103 Genetics I	3
		CH 1043 Survey of Chemistry I	3
		or CH 1213 Chemistry I	
		CH 1053 Survey of Chemistry II	3
		or CH 1223 Chemistry II	
		MA 1613 Calc. for Bus. and Life Sci. or MA 1713 Calc. I	3
		PSS 3301 Soils Laboratory	3
		PSS 3303 Soils	1
		ST 2113 Introduction to Statistics	3
		or ST 3123 Introduction to Statistical Inference	
		WFA 4123 Wildlife & Fisheries Biometrics	3
		WFLS Professional Electives ¹	21
		Wildlife Biology Elective ¹	6
		Life Science Elective	4
		Computer Application Elective	3
		Total Hours	124

WFA 4183 Principles and Practices of Aquaculture Organismal course		¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture	
Organismal elective ¹	3		
Professional Electives ¹	18		
Nutrition/Phys/Anatomy Elective ¹	3		
Zoology elective ¹	4		
Total Hours	124	<u>Wildlife Pre-Veterinary 3+1 Concentration (PVSF)</u>	
¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture.		Advisor: Dr. Peter Allen	
<u>Wildlife Pre-Veterinary Concentration (PVSF)</u>		Note: Mississippi State requires a minimum of 124 hours for the undergraduate degree. Therefore, to qualify for the B.S. degree in Wildlife, Fisheries, and Aquaculture, a student MUST complete the three years of the above listed undergraduate course work (114 hours) in the wildlife pre-veterinary program AND also successfully complete the first year in the Veterinary Medicine curriculum.	
Advisor: Dr. Peter Allen		Courses to be taken in addition to those of the core curriculum include:	
Note: Mississippi State requires a minimum of 124 hours for the undergraduate degree. Therefore, to qualify for the B.S. degree in Wildlife, Fisheries, and Aquaculture, a student MUST complete the three years of the above listed undergraduate course work (114 hours) in the wildlife pre-veterinary program AND also successfully complete the first year in the Veterinary Medicine curriculum.		CH 1213 Chemistry I	3
		CH 1211 Investigations in Chem I	1
		CH 1223 Chemistry II	3
		CH 1221 Investigations in Chem II	1
		CH 4513 Organic Chemistry I	3
		CH 4511 Organic Chem Laboratory I	1
		CH 4523 Organic Chemistry II	3
		CH 4521 Organic Chem Lab II	1
		BCH 4013 Principles of Biochemistry	3
		BIO 3103 Genetics I	3
		BIO 3304 General Microbiology	4
		MA 1613 Calculus for Business and Life Sciences I	3
		or MA 1713 Calculus I	
		PH 1113 General Physics I	3
		PH 1123 General Physics II	3
		ST 2113 Introduction to Statistics	3
		or ST 3123 Introduction to Statistical Inference	
		WFA 4123 WF Biometrics	3
		WFA 4173 Fish Physiology	3
		WLVM Professional electives¹	3
		Wildlife Biology Electives¹	6
		Wildlife/Veterinary Internship	0
		Total Hours	115
Humanities Elective - see General Educ. courses	3		
Social Science Elective ¹	3		
CH 1213 Chemistry I	3		
CH 1211 Investigations in Chem I	1		
CH 1223 Chemistry II	3		
CH 1221 Investigations in Chem II	1		
CH 4513 Organic Chemistry I	3		
CH 4511 Organic Chem Laboratory I	1		
CH 4523 Organic Chemistry II	3		
CH 4521 Organic Chem Lab II	1		
BCH 4013 Principles of Biochemistry	3		
BIO 3103 Genetics I	3		
BIO 3304 General Microbiology	4		
BIO 4413 Immunology	3		
PH 1113 General Physics I	3		
PH 1123 General Physics II	3		
WFA 4433 Mammalogy	3		
WFA 4443 Ornithology	3		
Wildlife/Veterinary Internship			
Policy Elective ¹	3		
Zoology Elective ¹	4		

Total Hours	114	¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture.	
¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture.			
<u>Wildlife Veterinary Medicine Concentration (WFVM)</u>		<u>Wildlife Veterinary Medicine Concentration (WFVM)</u>	
Advisor: Dr. Peter Allen		Advisor: Dr. Peter Allen	
<i>Humanities Elective - see General Education Core</i>	3	BCH 4013 Principles of Biochemistry	3
<i>Social Science Elective ¹</i>	3	BIO 2103 Cell Biology	3
BIO 2103 Cell Biology	3	BIO 3103 Genetics I	3
BIO 3103 Genetics I	3	BIO 3304 General Microbiology	4
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1211 Investigations in Chem I	1	CH 1211 Investigations in Chem I	1
CH 1223 Chemistry II	3	CH 1223 Chemistry II	3
CH 1221 Investigations in Chem II	1	CH 1221 Investigations in Chem II	1
CH 4513 Organic Chemistry I	3	CH 4513 Organic Chemistry I	3
CH 4511 Organic Chem Laboratory I	1	CH 4511 Organic Chem Laboratory I	1
CH 4523 Organic Chemistry II	3	CH 4523 Organic Chemistry II	3
CH 4521 Organic Chem Lab II	1	CH 4521 Organic Chem Lab II	1
BCH 4013 Principles of Biochem	3	MA 1613 Calculus for Business and Life Sciences I	3
BIO 3304 General Microbiology	4	or MA 1713 Calculus I	
<i>BIO 4413 Immunology</i>	3	PH 1113 General Physics I	3
PH 1113 General Physics I	3	PH 1123 General Physics II	3
PH 1123 General Physics II	3	ST 2113 Introduction to Statistics or ST 3123 Introduction to Statistical Inference	3
<i>WFA 4263 Wildlife Diseases or WFA 4323 Wildlife Nutrition and Physiology</i>	3	WFA 4173 Fish Physiology	3
<i>WFA 4433 Mammalogy</i>	3	Wildlife Biology Elective¹	6
<i>WFA 4443 Ornithology</i>	3	Wildlife/Veterinary Internship	0
Wildlife/Veterinary Internship		WLVM Professional electives¹	12
Policy Elective ¹	3	Total Hours	124
<i>Zoology Elective ¹</i>	4	¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture.	
Total Hours	114 [an apparent typo]	Wildlife Agriculture Conservation	
¹ All electives are chosen from a list approved by the Department of Wildlife, Fisheries and Aquaculture.		<u>Wildlife-Agriculture Conservation Concentration (WLAC)</u>	
Wildlife Agriculture Conservation		Advisors: Dr. Scott Rush	
<u>Wildlife Agriculture Conservation (WLAC)</u>		Courses to be taken in addition to those of the core curriculum include:	
Advisors: Dr. Scott Rush		BIO 3103 Genetics I	3
Courses to be taken in addition to those of the core curriculum include:		CH 1043 Survey of Chemistry I or CH 1213 Chemistry I	3
<i>Humanities Elective - see General Educ. courses</i>	3	CH 1053 Survey of Chemistry II or CH 1223 Chemistry II	3

<i>WFA 4463 Human Dimensions of Fish and Wildlife Management</i>	3	WFA 4521 Advanced Topics in Human-Wildlife Conflicts II	1
WFA 4512 Advanced Topics in Human-Wildlife Conflicts	2	HWI Professional Electives¹	10
WFA 4521 Advanced Topics in Human-Wildlife Conflicts II	1	Life Science Electives¹	6
<i>Professional Electives¹</i>	7	Wildlife Biology Electives¹	6
<i>Nutrition/Phys/Anatomy Elective¹</i>	3	Computer Application Elective¹	3
Total Hours	124	Total Hours	124
¹ All electives are chosen from a list approved by the Department of Wildlife and Fisheries		¹ All electives are chosen from a list approved by the Department of Wildlife and Fisheries	

Appendix

Approved WFA Electives

Animal Science Electives

ADS 1113	Animal Science	3
ADS 3312	Livestock Mgmt Practices	3
ADS 4123	Animal Breeding	3
ADS 4223	Goat and Sheep Production	3
ADS 4323	Beef Cattle Science	3
ADS 4813	Dairy Farm Mgmt	3

Aquatics Electives

CVM 4134	Aquatic Animal Health Mgmt (WLVM/PVSF must choose this or WFA 4173)	4
GG 3613	Water Resources	3
GG 4523	Coastal Environments	3
WFA 4133	Fisheries Science	3
WFA 4173	Fish Physiology (WLVM/PVSF must choose this or CVM 4134)	3
WFA 4183	Prin & Practices of Aquaculture	3
WFA 4233	Limnology	3
WFA 4313	Fisheries Mgmt	3
WFA 4383	Wetlands Ecology	3

CLE Natural Resources Management Electives

AEC 2713	Intro to Ag Economics	3
BIO 2503	Environmental Quality	3
CH 1051	Experimental Chemistry	1
EPP 4154	General Entomology	4
EPP 4244	Aquatic Entomology	4
FO 3103	Computer App in Forest Resources	3
FO 3113	Forest Recreation Management	3
FO 3203	Forest fire	3
GR 2313	Maps and Remote Sensing	3
GR 3303	Survey of Geospatial Technologies	3
GR 4303	Introduction to GIS	3
GR 4313	Advanced GIS	3
GR 3113	Conservation of Natural Resources	3
PSS 3303	Soils	3
PSS 3301	Soils Lab	1
PSS 4333	Soil Cons & Land Use	3
WFA XXXX	Any WFA Course	

CLE Professional Electives

ACC 2013	Principles of Accounting	3
AN 3163	Maritime and Fishing Peoples	3
BCH 2013	Intro to Forensic Science	3
CO 3803	Principles of Public Relations	3
FO 4353	Natural Resources Law	3
PS 1013	Introduction to Public Policy	3
PS 4743	Environmental Policy	3
CRM 2003	Crime, Justice, and Inequality	3
CRM/SO 3103	Contemporary Issues Crim. Justice	3
CRM/SO 3113	Community Crime Prevention & Policy	3
CRM/SO 3123	Policing in Society	3
CRM/SO 3343	Gender, Crime, and Justice	3
CRM/SO 3503	Violence in the United States	3
CRM/SO 3353	Race, Crime, and Justice	3
CRM/SO 3363	Globalization and Crime	3
CRM/SO 3603	Criminological Theory	3
CRM/SO 4233	Juvenile Delinquency	3
CRM/SO 4523	Law and Society	3
EPP 4313	Forensic Entomology	3
GR 4203	Geography of North America	3
GR 4263	Geography of the South	3
MS 2523	Military Leadership	3
PSY 3623	Social Psychology	3
PSY 4353	Psychology and the Law	3
PSY 4373	Forensic Psychology	3
SO 2203	Cultural and Racial Minorities	3
SO 3003	Social Inequality	3
SO 4173	Environment and Society	3
FLS XXXX	Foreign Language Sequence	9

Computer Application Electives

AEC 1223	Computer Application for Ag & Life Sci	3
FO 3103	Computer App in Forest Resources	3
TKT 1273	Computer Applications	3
TKB 2122	Intro to Database Mgmt	3

Crop Science Elective

EPP 4113	Principles Plant Pathology	3
EPP 4263	Principles Insect Pest Mgmt	3

PSS 3133	Intro to Weed Science	3
PSS 4103	Forage and Pasture Crops	3
PSS 4133	Fiber and Oilseed Crops	3
PSS 4123	Grain Crops	3
PSS 4453	Vegetable Production	3
PSS 4633	Weed Biology	3

GIS electives

FO 4313	Spatial Tech in Nat Res Mgmt	3
GG 3303	Survey of Geospatial Tech	3
GR 2313	Maps and Remote Sensing	3
GR 4303	Principles of GIS	3
WFA 4253	App Spatial Tech in WF Mgmt	3

HWI professional electives

BIO 4233	Living with Global Change	3
CVM 4180	Emergency Preparedness Animal Hlth (3 credit max)	3
PHI 1123	Intro to Ethics	3
WFA 4463	Human Dim of F & W Mgmt	3
WFA XXXX	any WFA major core electives	

Life Science Electives

ADS 1113	Animal Science (WLAC only)	3
ADS 4114	Animal Nutrition	4
BIO 3303	Parasitology	3
BIO 3504	Comparative Anatomy	4
PO 4844	Avian Anatomy and Phys	4
VS 3014	Anatomy and Physiology	4
WFA 4173	Fish Physiology	3
WFA 4263	Wildlife Diseases	3
WFA 4323	Wildlife Nutrition & Physiology	3

Nat. Res. Policy Electives

FO 4343	Forest Admin & Organization	3
FO 4353	Natural Resource Law	3
FO 4413	Natural Resource Policy	3
PS 4743	Environmental Policy	3
WFA 4363	W & F Admin & Communication	3
WFA 4463	Human Dim of F & W Mgmt	3

Plant Electives

BIO 2113	Plant Biology	3
BIO 2213	Survey of Plant Kingdom	3
BIO 4203	Taxonomy of Spermatophytes	3
BIO 4213	Plant Ecology	3
FO 2113	Dendrology	3
PSS 3313	Weed Science	3

Wildlife Biology Electives

WFA 4423	Herpetology	3
WFA 4433	Mammalogy	3
WFA 4443	Ornithology	3

WFA Social Science electives

AEC 2713	Intro Food & Resource Economics	3
EC 2113	Principles of Macroeconomics	3
EC 2123	Principles of Microeconomics	3
EC 4043	Survey of Economics (senior standing)	3
GR 2103	Cultural Geography	3
PS 1113	American Government	3
PS1313	Intro to international Relations	3
SO 1003	Intro to Sociology	3

WLAC Professional Electives

ABE 4313	Bio Treat. Nonpt Source Pollution	3
AEC 1223	Computer Application for Ag & Life Sci	3
AEC 2713	Intro to Ag Economics	3
BIO 2503	Environmental Quality	3
BIO 4233	Living with Global Change	3
BIO 4603	Ethnobotany	3
EPP 4154	General Entomology	4
FO 2113	Dendrology	3
FO 3103	Computer App in Forest Resources	3
FO 3203	Forest Fire	3
FO 4123	Forest Ecology	3
FO 4223	Silviculture	3
FO 4221	Silviculture Lab	1
GG 3133	Introduction to Envir Geology	3
GG3613	Water Resources	3
GR 2313	Maps and Remote Sensing	3

GR 3113	Cons Natural Resources	3
GR 4313	Advanced GIS	3
PSS 4333	Soil Cons & Land Use	3
PSS 4373	Geospatial Agronomic Ag	3
PSS 4633	Weed Ecology	3
WFA 4000	Directed Individual Study (3 hrs max)	3
WFA 4183	Princ/Prac of Aquaculture	3
WFA 4273	Eco/Mgmt Human Wildlife Conflicts	3
WFA 4283	Human Wildlife Conflict Techniques	3
WFA 4373	Cons in Ag landscapes	3
WFA 4383	Wetlands Ecology	3
WFA 4613	Landscape Ecology	3
WFA 4484	Upland Avian Ecology	3
WFA XXX	any WFA major core electives	

WLFS Professional Electives

BIO 2503	Environmental Quality	3
BIO 3113	Marine Biology	3
BIO 3303	Parasitology	3
BIO 4113	Evolution	3
BIO 4143	Population Genetics	3
BIO 4233	Living with Global Change	3
BIO 4603	Ethnobotany	3
BIO 4703	Avian Diversity	3
CVM 4180	Emergency Preparedness Animal Hlth	3
	(3 credits max)	
EPP 4154	General Entomology	4
FO 3113	Forest Recreation Mgmt	3
FO 3203	Forest Fire	3
FO 4223	Silviculture	3
FO 4221	Silviculture Lab	1
FO 4313	Spatial Tech in Nat Res Mgmt	3
GG 4523	Coastal Environments	3
GR 3113	Conservation of Natural Resources	3
GR 4303	Principles of GIS	3
PHI 4143	Philosophy of Science	3
WFA 3000	internship (3 credits max)	3
WFA 4000	Directed Individual Study	3
	(3 credits max)	
WFA 4183	Princ/Prac of Aquaculture	3
WFA 4253	App Spatial Tech in WF	3
WFA 4273	Ecol/Mgmt Human Wildlife Conflicts	3

WFA 4283	Human Wildlife Conflict Techniques	3
WFA 4373	Cons in Ag landscapes	3
WFA 4383	Wetlands Ecology	3
WFA 4463	Human Dimensions of F & W Mgmt	3
WFA 4483	Seminar in Tropic Ecology	3
WFA 4484	Upland Avian Ecology	3
WFA 4394	Waterfowl Ecology	3
WFA 4494	Large Mammal Ecology & Mgmt	4
WFA 4613	Landscape Ecology	3
WFA 4623	Conservation Biology	3
WFA XXXX	any WFA major core electives	

WLVM Professional electives

ADS 4114	Animal Nutrition	4
BIO 3303	Parasitology	3
BIO 4413	Immunology	3
PO 4844	Avian Anatomy and Phys	4
WFA 4263	Wildlife Diseases	3
WFA 4323	Wildlife Nutrition & Physiology	3

Writing Electives

AELC 3203	Prof Writing Ag, Nat. Res. & Hum. Sci	3
CO 3343	Writing for the Media	3
EN 3313	Writing for the Workplace	3
MGT 3213	Organizational Communication	3

Zoology Electives

BIO 2103	Cell Biology (required for WLVM/PVSF)	3
BIO 3103	Genetics	3
BIO 3304	General Microbiology	4
BIO 3524	Biology of Vertebrates	4
EPP 2213	Intro to Insects	3
EPP 4154	General Entomology	4
EPP 4313	Forensic Entomology	3
WFA 4453	Ichthyology	3