



MISSISSIPPI STATE UNIVERSITY™
COLLEGE OF FOREST RESOURCES

2022-2023

UNDERGRADUATE HANDBOOK

SECTION I: GENERAL INFORMATION AND COLLEGE-WIDE POLICIES

Change of Major form in the new major's college. Transfer to a new major is subject to approval by the new college. Change of Majors are signed and processed by the CFR Office of Student Services in 129 Thompson Hall.

Students changing majors must meet the requirements listed in this handbook and in the MSU Bulletin that is current at the time they make the change.

To initiate a change of major or concentration within the CFR, a student must complete a Change of Major form and meet admission requirements for the chosen major to which he or she wishes to change. These forms are available in the Office of Student Services, Thompson Hall 129.

CLASS ATTENDANCE

A student assumes responsibility to attend class and complete assignments when he/she enrolls in a course. When absence from class is essential, the student is responsible to make arrangements satisfactory to the instructor with regard to work missed. These arrangements should be made prior to the absence when possible. Excused absences as identified by the university include: participation in an authorized university activity; death or major illness in the immediate family; illness of a dependent; participation in legal procedures; religious day; illness that is too severe or contagious to attend class; required military duties; and mandatory admission interviews for professional/graduate school. It is the student's responsibility to secure documentation. Medical documentation must contain the date and time the student had treatment. Based upon this, the instructor will decide whether makeup work will be allowed.

Absences become part of the student's file. Instructors may report absences to the Division of Student Affairs at any time they feel it appropriate to do so and are expected to report students with continued consecutive absences. Although instructors are asked to record absences, some place more emphasis on the number of absences permitted than others. Students should strive to attend all classes.

CLASSIFICATION OF STUDENTS

Mississippi State University classifies students according to the total hours passed as follows:

MSU student classification according to total hours passed:	
Seniors	90 + semester hours
Juniors	60–89 semester hours
Sophomores	30–59 semester hours
Freshmen	29 or less semester hours

All majors in the CFR have been designed for completion in four years, or eight semesters (plus one Summer Field Program for Forestry majors). However, students must be aware that failure to schedule and complete full loads (i.e., 15-16 credit hours or more

per semester) will result in extra semesters required to complete degree requirements. For example, a student scheduling 14 credit hours each semester will require 9 semesters; 12 hours will require 10 semesters.

Most CFR classes are offered once a year or every other year. Students should keep this in mind when planning their programs. Failure to enroll in a course, or a prerequisite/corequisite, the semester it is offered can delay graduation by a year.

COLLEGE LEVEL EXAM PROGRAM (CLEP)

CLEP credit can be applied per MSU policy. A list of MSU courses accepted by CLEP credit can be found in the MSU Bulletin. The number of CLEP hours that can be applied to a degree is limited to one quarter of the total number of hours required for a degree.

COMPUTER LABORATORIES

The CFR maintains three computer labs for use by CFR students. They are located in rooms 308 Thompson Hall Annex, 137 Thompson Hall, and in the Franklin Center Room 110. Maintenance costs prohibit use of the labs by students from other majors, unless approved by administration for special circumstances.

A CFR lab account is required to access the computer labs. Your lab account username will be set to your Net ID. A password change is forced upon first login. Passwords must be 8 characters or longer. Instructional material on changing passwords is available at www.its.cfr.msstate.edu/faq.asp. If you have problems logging in, please contact CFR IT Support at the CFR help desk: e-mail - helpdesk@cfr.msstate.edu, phone 325.2140 or stop by Room 139 Thompson Hall.

The a308 and 137 Thompson Hall computer labs are open except for scheduled class usage times. The Franklin Center computer lab is open Monday-Friday, 8:00 am to 5:00 p.m.

Students experiencing problems during the work day should contact their instructor who will determine if the problem is usage-related or computer-related. If the problem is computer-related, the student or instructor should contact CFR IT Support at the CFR help desk: e-mail - helpdesk@cfr.msstate.edu, phone 325.2140 or stop by Room 139 Thompson Hall.

Students experiencing problems in a CFR lab outside of the workday should send an e-mail to the CFR help desk: helpdesk@cfr.msstate.edu. It is important that the student also contact the class instructor the next workday to make sure the problem is not usage-related. The e-mail message to the CFR help desk should contain the student's first and last name, Net ID, course and instructor's name, software package being used when the problem occurred, a thorough explanation of the problem, and which lab, computer and/or printer was being used.

Other regulations that students must observe in the CFR computer laboratories include:

- Absolutely no software shall be installed on the lab computers without prior approval by the IT Staff. This includes software

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such as Yahoo Messenger, AOL instant messenger, games and shareware programs. Also, do not download music, pictures or movies to CFR computers. Sharing copyrighted music is illegal, and punishable under the Federal Digital Millennium Copyright Act. When you illegally share music it places you, as an individual as well as the University, in a seriously liable situation. Offenders will be reported to the proper authorities.

- Do not share your CFR lab account username and password. You are accountable for the security of your account.
- Students should log out of the computer before leaving the lab.
- Students must bring their own paper for use in the laser printers, staff will not provide paper. The paper must be laser printer quality, as any other kind of paper will damage the printers.
- Notices are posted on lab bulletin boards identifying times and days the labs will be inaccessible due to classes or CFR events.
- Files should be saved to a USB drive. Files are frequently erased from the lab computers.
- Discs and other storage devices/media brought into the lab must be scanned for viruses prior to each use. Suspected viruses should be reported immediately to the CFR help desk.
- Accessing sexually explicit material is strictly forbidden and will result in disciplinary action by the MSU Dean of Students.
- Food, drink or any form of tobacco is not allowed in the CFR computer laboratories.
- CFR computer labs may experience down times when problems arise. Such downtimes may affect individual lab computers and printers or entire labs and could last for indeterminate periods of time. CFR labs can experience heavy loads throughout the semester. It is the student's responsibility to plan for such occurrences; students are advised to not procrastinate on assignments.

Blatant disregard for the above regulations may result in suspension of computer privileges and/or other disciplinary actions from the MSU Dean of Students.

CONCURRENT ENROLLMENT

Concurrent enrollment (enrollment at MSU and elsewhere during the same semester) requires prior approval and the signatures of the student, advisor, and Coordinator of the Office of Student Services. Students may acquire a Transfer Request form on the CFR web site (see Transfer Credit).

COOPERATIVE EDUCATION

Cooperative Education (Co-op) is a unique learning opportunity that combines classroom training with practical experience to broaden a student's educational experience. Generally, a student will alternate between school semesters and work semesters. Students gain valuable on-the-job training while progressing academically through their degree programs. With successive work semesters, employers usually increase the student's work responsibilities and performance expectations. Work experienced through the Co-op program is rated highly by prospective

employers.

Students must complete a minimum of one year at MSU and establish at least a 2.50 GPA before entering the Cooperative Education program. However, most forestry employers prefer students who have completed the forestry Summer Field Program. Students are expected to complete a minimum of three work semesters. Students can transfer one semester of Co-op from a community college toward the three semesters required. Co-op credit hours are not used to satisfy degree requirements. Contact the Cooperative Education Office, 335 McCain Engineering Building, 662.325.3823, or visit: <https://www.coop.msstate.edu>.

CORE GPA COURSES, DEPARTMENT/MAJOR

The academic departments define their major and concentration courses. Refer to the respective CFR Department for specific policies regarding core courses (see Section II: Department-Specific Policies).

Transfer credits (see Transfer Credit) that are equivalent and are applied to the major and to the concentration core requirements, as defined by the department, are included in the department's core GPA.

COUNSELING AND TESTING SERVICES

The Counseling Center offers personal, group, family and career counseling to students regarding personal concerns, study skills, interpersonal skills, and career choices. The Center offers crisis intervention 24 hours a day, seven days a week. After hours, counselors may be reached by contacting the University Police. Counseling Center services are free and confidential. Counseling Center is located at 101 Lee Hall or students can call 662.325.2091 or visit: <https://www.msstate.edu/dept/cts> for an appointment.

COURSE LOAD

The normal load for an undergraduate student in a regular semester is 15–19 credit hours. For purposes of reporting a student as full-time to the Board of Trustees, Veterans Administration, Social Security or other similar agencies, an undergraduate student must be enrolled in at least twelve (12) semester hour at the time the report or certification is submitted. This applies to fall and spring semesters only.

Course load limits at Mississippi State University are noted below.

Additional information can be found in the undergraduate catalog.

- A student on academic probation should be limited by his or her academic advisor to an enrollment of 16 credit hours (including ensemble and academic support/developmental classes.)
- Students in good academic standing can take a total of up to 19 credit hours per semester without special permission. Requests to take 20 or 21 credit hours total must be approved at the level of Advisor, Department, and Dean. Requests

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to take 22 or more credit hours total must be approved at the levels of Advisor, Department, Dean, and Provost.

COURSE NUMBERING

All course numbers consist of four digits, of which the first (left) digit indicates the level of preparation required (1=Freshmen; 2=Sophomore; 3=Junior; 4=Senior) and the fourth (right) digit indicates the number of semester hours. For instance, WFA 4353 is a senior-level course worth 3 semester hours.

CURRICULUM/CATALOG LIFE

New students follow their major's curriculum (including course requirements, policies, and procedures) that is in place the year they first enroll at MSU provided they graduate within seven years. There is a seven year limit on the completion time for undergraduate students at MSU.

On-campus transfer students from MSU or from another major within the CFR are required, by MSU policy, to follow the curriculum in place the year the student changes to the new major. Students, in consultation with their faculty advisor, may move to a newer curriculum (including that year's policies and procedures in addition to the newer course requirements); but can not move to an older curriculum. Students wishing to move forward in curriculum years must process a Request to Change Curriculum Year Form in the CFR Office of Student Services, 129 Thompson Hall.

Curricula examples and CFR Undergraduate Handbooks are on the CFR web site. If a WFA student stops out (not continuously enrolled in back to back semesters) and returns to college within one year, the student may follow their original curriculum year. If the student returns after more than one year of absence, then the student must move forward to the newest curriculum. In conjunction with MSU policy, if a FO student interrupts his/her enrollment at MSU for two consecutive years or longer, the graduation requirements stated in the catalog under which the student resumes enrollment apply.

DIRECTED INDIVIDUAL STUDY

A Directed Individual Study (DIS) course provides an educational and professional experience that is equal to or greater than the equivalent rigor and hours of a regular class. Forms are available on the CFR web site. Once all appropriate signatures are secured, the student should submit the DIS form to the Coordinator in the CFR Office of Student Services.

The Office of Student Services will create the course in the registration system. After the course has been created, the student will register himself/herself in the course. Refer to the respective CFR Department for department-specific policies regarding applicability of Directed Individual Study (see Section II: Department-Specific Policies).

DISABILITIES, ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH

Students with disabilities must register with the MSU Student

Support Services office in order to receive academic accommodations. Current documentation verifying the disability must be on file in this office. Guidelines are detailed at www.msstate.edu/dept/audit/91130.html. Students are responsible for notifying instructors of their accommodation needs.

FINAL EXAMINATION POLICY

The first day of the exam schedule is Reading Day to allow students time to prepare for exams. No mandatory assignment, meeting, or event for a class should be scheduled on Reading Day. All exams shall be held as specified on the exam schedule (found on the Mississippi State University web site: www.msstate.edu). Classes meeting fewer than two hours a week and laboratories will have their exams at the last regular meeting of the class. Evening classes will have their exams at the regular meeting hour of the class during the examination period.

Students having more than two final exams in one day should contact all instructors to determine if one of the exams can be rescheduled. If no instructor is willing to reschedule a final exam, the student can contact the Office of the Provost to resolve the problem.

FIREARMS ON CAMPUS

The University prohibits the possession of any firearm, ammunition, any type of explosive, other weapon, firecracker, or the like on university-controlled property. Students found in possession of such may be suspended immediately pending a disciplinary hearing.

GEOSPATIAL AND REMOTE SENSING (GRS) MINOR

Technology revolutions have driven the expectations of remote sensing and geospatial technologies to an all-time high for a new generation of users across a vast number of disciplines. Advances in computational technologies, visualization products, and sensor technologies have led to the development of unprecedented capabilities in geospatial technologies, such as remote sensing and geographic information systems. With the plethora of remote sensing technologies, the industry is poised to develop operational remote sensing applications that fundamentally impact management of resources. Mississippi State University has developed broad, multi-disciplinary efforts in spatial technologies of many types, and is a leader among universities in education and outreach activities to prepare the next generation for utilizing these technologies. One of the primary limitations in the development of this industry is the need for a better-educated workforce that can understand and utilize the tools of these spatial technologies. Education in geospatial and remote sensing technologies is by nature multi-disciplinary; therefore, a minor program that crosses departmental and college boundaries has been developed to address these needs. This undergraduate minor can thus serve the needs of MSU students with diverse backgrounds from a variety of disciplines. Students may strategically assess which courses within their disciplinary academic program can be used for the minor, thus satisfying the needs of both and maximizing their

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DEPARTMENT OF FORESTRY ACADEMIC POLICIES AND PROCEDURES

to stimulate them to voluntarily participate and recognize the importance of participating. This recognition of being a student leader, and one who is active in extracurricular activities, is a worthy addition to student resumes. Interested students should see Dr. Stephen C. Grado, Room 357 Thompson Hall, 662-325-2792.

International students

International undergraduate students must demonstrate English proficiency to be admitted into the NREC program. NREC requires a TOEFL score of at least 550.

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FORESTRY MAJOR

The Forestry major is a science-based program leading to a Bachelor of Science degree in Forestry and consists of six concentrations: Environmental Conservation, Forest Business, Forest Management, Forest Products, Urban Forestry, and Wildlife Management. Concentrations are accredited by the Society of American Foresters (SAF). The Forest Products concentration is also accredited by the Society of Wood Science and Technology (SWST). By combining a general education with specialized professional courses, the curriculum is designed to produce graduates who have skills in interpersonal communications, written and oral communications, and cultural understanding. Graduates of the major are qualified to become a Registered Forester in Mississippi after successfully completing an examination for this purpose with the Board of Registration for Foresters (BORF) in Mississippi. Graduates are also qualified to become Society of American Forester Certified Foresters if successfully completing an exam.

Graduates are fully qualified as entry-level professionals and prepared for career advancement into positions of responsibility, while serving the current and future needs of society. The forestry major also prepares students for graduate school in any natural resource-related field.

FORESTRY CONCENTRATIONS

Students must complete a specified core curriculum and one of six concentrations within the major:

- Environmental Conservation
- Forest Business
- Forest Management
- Forest Products
- Urban Forestry
- Wildlife Management

Environmental Conservation

Today's forestry professionals strive to balance commodity production with environmental conservation. This concentration is designed for students interested in focusing on complex environmental issues in the realm of natural resource management. While being educated as foresters, students concentrate on contemporary environmental concerns within three emphasis areas: social, land, and science.

Forest Business

Students will select a business minor from the College of Business. 21 hours of Business/Forest Business electives are required to complete the Forestry/Business concentration. If the chosen minor has a course load less than 21 credit hours required by the minor, the student will enroll in forest business

electives to complete the 21 hours.

The College of Business offers a variety of minors to complement the forestry major. A current listing of available minors and their requirements can be found at www.business.msstate.edu/academics/minors.

Available minors: Real Estate*, Business Information Systems, Economics, Insurance, Finance*, Business Analytics*, Management, Marketing, Accounting*, Business Administration*, and Entrepreneurship*. (*Some minors will require additional prerequisites which will require more than 21 hours of coursework for the minor.)

Forest Management

Designed for students who intend to pursue professional careers in forest land and timber management and use in both the public and private sectors. Students may select from a wide range of electives to meet specific career objectives; for example, emphasis in areas such as business, communications, and geographical information systems in forestry and related sciences.

Forest Products

The use of wood as a material requires a fundamental understanding of wood properties, manufacturing processes, and the marketing of wood products. Students are prepared for positions in wood manufacturing, marketing, and research. Employers include lumber, pulp and paper mills, furniture manufacturers, and retail marketers of wood materials.

Urban Forestry

Addresses an emerging need for the management of trees in towns and cities, and the urban/wildland interface. Urban and community foresters manage trees along city streets, in municipal parks, private woodlots, and utility right-of-ways. Employers include federal, state, and municipal governments, private consultants, and industry.

Wildlife Management

Designed for students interested in careers that emphasize wildlife management within the context of multiple-use management of forest land. The concentration fulfills course requirements for certification as wildlife biologists by The Wildlife Society. Many graduates of this concentration undertake graduate studies in wildlife biology and related areas to qualify for entry-level positions as wildlife biologists.

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FORESTRY MAJOR GPA REQUIREMENTS

FO Major Required Courses

The following courses are required by all Forestry majors. A minimum grade of C is required in each course listed below:

- FO 1101 Forest Resources Survey
- FO 2113 Dendrology
- FO 2213 Forest Measurements
- FO 3012 Intro to Forest Communities
- FO 3015 Forest Description and Analysis
- FO 3103 Computer Appl for For Resources
- FO 4113 Fores Res Economics
- FO 4123 Forest Ecology
- FO 4213 Forest Biometrics
- FO 4221 Practice of Silviculture Lab
- FO 4223 Practice of Silviculture
- FO 4231 Intro to Wood Supply Systems
- FO 4233 Forest Op & Harvest
- FO 4313 Spatial Tech in Nat Res
- FO 4323 For Res Mgt
- FO 4413 Nat Res Policy
- FO 4423 Prof Practice
- WFA 3031 Intro to Wildlife & Fisheries Practices
- WFA 4153 Prin Wild Con & Man

A waiver to the C or better policy may be granted in cases in which there were extenuating circumstances.

An appeal of the C requirement for FO major required courses can only be initiated if a student earned a D in a core course. A grade of F can not be appealed. If a student wants to contest the C grade policy, the student must initiate the appeal with a signed letter to the Department Head explaining the reasons for the appeal. Include at the bottom of the letter a signature line for the instructor, student's advisor, and Department Head with a check box for each indicating agreement or disagreement. Once this letter is received, the Department Head will meet with the student, student's advisor, and instructor. Upon making a decision, the Department Head will notify the Office of Student Services, the student, student's advisor, and instructor of the decision. A copy of the letter and any other documentation will be kept on file in the Department Head's office and in the student's file in the Office of Student Services.

FO Major Requirements

- The computer requirement for FO majors is FO 3103. No exceptions are allowed.
- The survey course requirement is FO 1101. Students who change from the WFA major to the FO major and who have taken WFA 1102 may substitute this course for FO 1101.
- FO concentrations requiring a forestry law course must take FO 4353. Wildlife and Fisheries Policy and Law Enforcement (WFA 4353) cannot be substituted.

FO Summer Field Program

Before the junior year, Forestry students must complete a Summer Field Program. The Summer Field Program is a 9-week session comprised of four courses. The courses include: Introduction to Forest Communities (FO 3012), Forest Description and Analysis (FO 3015), Introduction to Wood Supply Systems (FO 4231), and Introduction to Wildlife and Fisheries Practices (WFA 3031). Prerequisites for this program are Dendrology (FO 2113), Forest Measurements (FO 2213), Statistics (ST 2113), and Soils (PSS 3303).

The Program is conducted on campus as well as on the John W. Starr Memorial Forest, Tombigbee National Forest, and Sam D. Hamilton Noxubee National Wildlife Refuge. In addition, the Introduction to Wood Supply Systems course frequents other nearby locations. Application information for the Summer Field Program can be found on the CFR website.

Forestry/Business Double Degree Program (for Forest Management concentration)

A five-year curriculum leading to a Bachelor of Science in the Forest Management concentration of the FO major and a Bachelor of Business Administration in the College of Business is available. Several business and forestry courses can be double counted toward the dual degree. Contact the CFR Office of Student Services for more information.

Transfer Students

Transfer students are encouraged to enter the Department of Forestry at MSU in the Spring semester of their sophomore year to complete their academic programs in the normal four-year period of study. Transfer students should be aware that course work taken elsewhere may not be accepted toward the degree. Only course work that is determined by the Department of Forestry to be equivalent to required course work will be accepted.

SECTION III: DEPARTMENT OF FORESTRY

NATURAL RESOURCE AND ENVIRONMENTAL CONSERVATION MAJOR

The Natural Resource and Environmental Conservation major objectives are to prepare its graduates for professional careers by: 1) providing the broader general education fundamentals of written and oral communication; mathematics; biological, social, and physical sciences; and humanities which are critical to the development and advancement of well-qualified professionals; 2) providing both the relevant domains of knowledge and their application to the solution of real-world problems and achievement of defined objectives, including in-depth coverage of ecology and biology; measurement and evaluation of natural resource environmental components, properties, and functioning; management of ecosystems; and legal, regulatory, policy, and economic aspects of ecosystem administration and management; 3) establishing awareness of historical and current issues and policies affecting ecosystem management and conservation; and 4) providing a variety of educational experiences including lectures, discussion, simulations, computer applications, individual and group projects in laboratories and field experiences, and a capstone course teaching students to conduct environmental impact assessments. The purpose of these experiences is to ensure that graduates of the program can knowledgeably develop, apply, facilitate, and/or execute natural resource and environmental management plans that adequately address matters of ownership/public goals and objectives, ecosystem health and sustainability, and the legal and regulatory environment.

The Major

The core curriculum of the Natural Resource and Environmental Conservation major is comprised of specifically selected and intentionally designed courses that provide students with a broad background in the science, technology, and the social aspects of natural resource and environmental science. In addition to general education and major core requirements, students will complete one of three concentrations: Natural Resource Law and Administration, Resource Conservation Science, or Natural Resource Technology.

NATURAL RESOURCE AND ENVIRONMENTAL CONSERVATION CONCENTRATIONS

Students must complete a specified core curriculum and one of three concentrations within the major:

- Natural Resource Law and Administration
- Natural Resource Technology
- Resource Conservation Science

Natural Resource Law and Administration

There are numerous laws, regulations, and policies affecting natural resource administration and management that have created a need for professionals with an understanding of the complex interactions between the science of managing natural resources and the laws, regulations, policies, and processes involved in their utilization and protection. This concentration will provide students with a background in the science of natural resource management as well as a foundation in the legal, regulatory, and administrative environment in which this management occurs. Students completing this program will be prepared for post-graduate studies in law, public policy administration, and a wide range of natural resource disciplines, as well as employment with private and public organizations and agencies.

Natural Resource Technology

Modern protocols for natural resource monitoring and management are highly dependent on utilization of spatial technologies such as remote sensing and geographic information systems (GIS). Spatial technologies and allied measurement and quantitative disciplines, combined with general knowledge needed for resource management, are essential in public- and private-sector natural resource professions. Students will also be amply prepared to continue with graduate studies in this area. This concentration is specifically designed to provide students with the fundamental background to meet the rapidly growing need for professionals who can collect, manage, and manipulate complex geospatial and ancillary data used in natural resource management.

Resource Conservation Science

There is a need for expertise in resource conservation that relies on a science-based education and an understanding of effective applications of this knowledge to solve problems in natural resource settings. This concentration promotes learning and skill sets in resource conservation and science that will meet this objective. Universities and employers are looking for natural resource professionals who have the necessary tools to be able to attend graduate school or become employed by private organizations, private industry, and state and federal agencies whose primary mission is environmental protection and resource conservation. This is particularly important since these organizations and agencies are under increasing demands to document and verify their activities in both protecting natural resources (i.e., aquatic and terrestrial) and assessing impacts on human, floral, and faunal populations relying on these environments.

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WILDLIFE, FISHERIES AND AQUACULTURE MAJOR

science. Successful graduates of this program will meet minimum education requirements for wildlife biologists and NRCS conservation positions. Students completing this concentration may seek employment immediately following graduation. Students will be prepared to pursue graduate degrees in wildlife biology and related natural resource fields

Wildlife, Fisheries, and Aquaculture Science — This concentration provides a solid foundation in natural resource science and management, as well as the flexibility to meet desired and unique career goals of students. Employment with this concentration after the B.S. is earned is possible, but competition is intense. This degree is intended for academically strong students who can maintain a 3.00 or higher GPA, which is the minimum GPA required for admittance into graduate programs. Students will be well-prepared to pursue graduate degree in wildlife and related natural resource fields.

Wildlife Veterinary Medicine — Integration of wildlife science and management and veterinary medicine has become important with current diverse uses of wildlife. As wildlife habitats dwindle and animal populations become more compressed, attention towards disease diagnosis and abatement must increase. Students that decide to complete their B.S. degree before applying to a veterinary college or students that decide to pursue other Wildlife, Fisheries and Aquaculture career paths, but are interested in having a strong background in basic veterinary medicine should pursue this concentration. This four year program will provide the foundation to pursue graduate studies that require a strong background in veterinary and related sciences.

SECTION V: DESCRIPTION OF CFR COURSES

Department of Sustainable Bioproducts

SBP 4153. BIOMASS PRODUCTS MANUFACTURING. (3) (Prerequisite: BIO 1134/BIO 1144/consent of instructor) Three hours lecture. Introduction to concepts of conversion of biomass covering subjects: physical properties of wood, product manufacturing, wood chemistry, composites/adhesives, and the use of organisms or isolated enzymes used to break down cellulose, lignin and hemicelluloses.

SBP 4213. DETERIORATION AND PRESERVATION OF BIOMATERIALS. (3) Two hours lecture. Three hours laboratory. (Prerequisite: SBP 1103 or Consent of Instructor). Thermal, biological, and mechanical agents of bioproducts deterioration; biological control; design considerations; preservatives, preservation systems; treatability; preservative effectiveness; standards, pollution control.

SBP 4243. SUSTAINABLE BIOPRODUCTS. (3) (Prerequisite: SBP 3123 or consent of instructor). Three hours lecture. Expanding students' knowledge of bioproducts, manufacturing principles and processes according to various industrial fields and insights into new approaches and methods in bioproducts industries.

SBP 4253. QUANTITATIVE METHODS IN SUSTAINABLE BIOPRODUCTS. (3) Three hours lectures. (Prerequisite: MA 1313 and MA 1323 or equivalent and SBP 2123). The study and practical application of quantitative techniques commonly used in industry to evaluate the net worth of raw materials, and the cause and effect on process variables.

SBP 4263. FURNITURE DESIGN AND FABRICATION. (3) (Prerequisite: SBP 3113 or consent of instructor). Two hours lecture. Three hours laboratory. Basic theories and principles of furniture strength design and manufacturing; mechanical properties of environmentally preferable materials; green and sustainable design of certifications; testing standards. Machines used, function and operation. Advanced manufacturing and quality control methods.

SBP 4313. BIOPRODUCTS AND THE ENVIRONMENT. (3) (Prerequisites: SBP 2012, 2123, and 3123 or consent of instructor). Three hours lecture. An introduction to environmental topics and laws, environmental impact, and control technologies associated with emissions from diverse sustainable bioproducts industries, including global and national issues.

SBP 4353. FOREST PRODUCTS MARKETING. (3) Three hour lecture. Marketing and business practices used by forest products companies trading in lumber, engineered wood products and furniture.

SBP 4443. CAPSTONE SUSTAINABLE BIOPRODUCTS. (3) (Prerequisite: consent of instructor). Integration of knowledge from courses and current issues involving team projects that explore manufacturing problems or product design, emphasizing LCA, social /global perspectives, and problem solving.

SBP 4450. UNDERGRADUATE RESEARCH IN SUSTAINABLE BIOPRODUCTS. (1-6) (Prerequisite: Senior Standing and consent of instructor). 1-6 Variable hour laboratory. This course is introduced to introduce senior level students to the concepts of independent and original research. (Course limited to two offerings).

SBP 4800. UNDERGRADUATE RESEARCH. Hours, credits and deliverables to be arranged. The purpose of this course is to provide a student with the opportunity to participate in research and/or creative project beyond the traditional undergraduate experience.

SBP 4990. SPECIAL TOPIC IN SUSTAINABLE BIOPRODUCTS. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

SECTION V: DESCRIPTION OF CFR COURSES

Department of Forestry

FO 1001. FIRST YEAR SEMINAR. (1) One hour lecture. First-year seminars explore a diverse array of topics that provide students with an opportunity to learn about a specific discipline from skilled faculty members

FO 1101. FOREST RESOURCES SURVEY. (1) One hour lecture. Survey of the professional resource manager's role and career opportunities in providing forest-based goods and services. Not open to Forest Resources majors with senior standing. Fall Only.

FO 2113. DENDROLOGY. (3) (Prerequisites: BIO 1144 or BIO 2113 or equivalent). Two hours lecture. Four hours laboratory. Introduction to the identification and systematic classification of trees and other woody plants. Field exercises to promote the recognition and identification of trees and other woody plants.

FO 2213. FOREST MEASUREMENTS. (3)(Prerequisite: ST 2113 or equivalent). Three hour lecture. Principles of measurement for standing and felled trees. Inventory and sampling theory for forested lands. Spring Only.

FO 2443. ESSENTIALS BIOTECHNOLOGY. (3) Three hours lecture. An introduction to principles and applications of biotechnology. (Same as CVM 2443).

FO 2990. SPECIAL TOPICS IN FORESTRY. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

FO 3003. INTERNSHIP IN FORESTRY. (3) (Prerequisite: Junior standing or consent of instructor). Professional work experience with firms or companies, non-governmental organizations, government agencies and other relevant entities.

FO 3012. INTRODUCTION TO FOREST COMMUNITIES. (2) (Prerequisites: PSS 3303, FO 2113). Field exercises to gain practical knowledge of soil-geology-ecology interrelationships through trips to various physiographic regions. Summer Only.

FO 3015. FOREST DESCRIPTION AND ANALYSIS. (5) (Prerequisite: FO 2213, ST 2113). Field and laboratory exercises to gain practical experience with forest and land measurement techniques and equipment. Mapping, inventory, and analysis of forested tracts. Summer Only.

FO 3103. COMPUTER APPLICATIONS FOR FOREST RESOURCES. (3) (Prerequisite: Three hours of courses in the College of Forest Resources or consent of instructor.) Two hour lecture and two hour laboratory. Application of microcomputer concepts in forest resources with emphasis in Forestry and general and professional software packages in professional settings. Practice and demonstration of general and professional software packages used in upper level courses and professional settings in Forest Resources. Spring Only.

FO 3113. FOREST RECREATION MANAGEMENT. (3) Three hour lecture. Studies of the management of forest resources for outdoor recreation. Fall Only.

FO 3203. FOREST FIRE. (3) Two hour lecture. Three hour laboratory. Basic aspects of fire history, fire behavior, fire weather, fire effects, and management of fire. Emphasis on the use of prescribed burning in forest management. Fall Only.

FO 3213. TREE PHYSIOLOGY. (3) (Prerequisites: BIO 1134 and BIO 1144 or equivalents). Three hours lecture. Physiological principles (photosynthesis, water relations and nutrient uptake) in the context of the unique physical attributes of trees including their large multi-dimensional crowns, long distance transport systems, woody stems and longevity. Spring Only.

FO 4000. DIRECTED INDIVIDUAL STUDY. Hours and credits to be arranged.

FO 4113/6113. FOREST RESOURCE ECONOMICS. (3) (Prerequisites: AEC 2713 or equivalent). Three hour lecture. Basic principles of forest resource valuation; economics applied to production, conversion, marketing and consumption of forest products and benefits. Spring Only.

FO 4123/6123. FOREST ECOLOGY. (3) (Prerequisite: FO 3012). Three hour lecture. Four hours laboratory. Natural principles governing establishment, development, and functioning of forest ecosystems. Includes ecology, genetics, physiology, tree growth, reproduction, site classification, stand dynamics, hydrology, nutrition, and succession. Fall Only.

FO 4203. COMPUTER APPL. FOREST RES II. (3) Three hours lecture. Basic principles of spreadsheet operations, worksheet management, formula integration, data analysis, and report building in forestry and natural resource management with emphasis on forest business applications.

SECTION V: DESCRIPTION OF CFR COURSES

Department of Forestry

FO 4213/6213. FOREST BIOMETRICS. (3) (Prerequisite: ST 2113 or equivalent or consent of instructor). Three hour lecture. Applications of mensurational and statistical principles and techniques in determination of forest growth and yield. Advanced topics of forest resource inventory. Spring Only.

FO 4221/6221. PRACTICE OF SILVICULTURE LABORATORY. (1) (Prerequisite: FO 4123/6123, or WFA 4123; Corequisite: FO 4223/6223). Four hour laboratory. Application of silviculture practices and operations under given forest land management objectives. Spring Only.

FO 4223/6223. PRACTICE OF SILVICULTURE. (3) (Prerequisite: FO 4123/6123 or WFA 3133 and WFA 4123; Corequisite: FO 4221/6221). Three hour lecture. Manipulation to obtain desired reproduction and to attain optimum development under given forest land management objectives. Spring Only.

FO 4231/6231. INTRODUCTION TO WOOD SUPPLY SYSTEMS. (1) (Corequisite: FO 3015). Investigative field and laboratory exercises used to gain practical knowledge into the structure and performance of wood supply systems. Summer Only.

FO 4233/6233. FOREST OPERATIONS AND HARVESTING. (3) (Prerequisite: FO 3015, FO 4231/6231, or consent of instructor). Three hour lecture. Study of practical, managerial, and logistic considerations associated with harvesting and other forest operations, as well as their social, environmental and legal influences. Fall Only.

FO 4253/6253. TIMBER PROCUREMENT. (3) (Prerequisites: FO 4231/6231, FO 4233/6233). Lectures and field exercises dealing with the problems of timber procurement to include planning for harvest, methods of handling and transport, legal and safety considerations. Fall Only.

FO 4313/6313. SPATIAL TECHNOLOGIES IN NATURAL RESOURCES MANAGEMENT. (3) (Prerequisite: FO 3015 or GR 2313 or consent of instructor). Three hours lecture. Three hour laboratory. Fundamentals of scale, area, height, and stand volume determinations from aerial imagery; planimetric and topographic mapping; image interpretation; GPS and GIS; application to natural resources. Fall Only.

FO 4323/6323. FOREST RESOURCE MANAGEMENT. (3) (Prerequisites: FO 4113/6113, FO 4213/6213, FO 4223/6223, FO 4233/6233, FO 4231/6231). Three hour lecture. Three hours laboratory. Application of quantitative decision making techniques to stand-level and forest-wide management problems. Topics include land classification, forest production, optimal rotation analysis, and harvest scheduling. Fall Only.

FO 4343/6343. FOREST ADMINISTRATION AND ORGANIZATION. (3) Three hours lecture. Hierarchy and land structuring of forest organizations. Legal aspects of administering forest and holdings. Fall Only.

FO 4353/6353. NATURAL RESOURCE LAW. (3) (Prerequisite: Junior standing or consent of instructor). Three hours lecture. A comprehensive study of the laws relating to natural resources and forestry with emphasis on tort law, real property law, environmental law, taxation law and contract law. Spring Only.

FO 4411-4441/6411-6441. REMOTE SENSING SEMINAR. (1) (Prerequisite: Junior standing). One hour lecture. Lectures by remote sensing experts from industry, academia, and governmental agencies on next-generation systems, applications, and economic and societal impact of remote sensing. May be repeated for credit up to four credits. (Same as PSS 4411-4441, ECE 4411-4441, and GR 4411-4441.) Fall Only.

FO 4413/6413. NATURAL RESOURCES POLICY. (3) (Prerequisite: Senior standing). Three hours lecture. Current topics relating to natural resources policy which affect management decisions and practices in the public and private sectors of natural resources use. Spring Only.

FO 4423/6423. PROFESSIONAL PRACTICE. (3) (Prerequisite: FO 4323/6323). Three hours lecture. Four hours laboratory. Forest resource data collection and analysis. Development of forest resource alternatives and recommendations for a specific forest property. Spring Only.

FO 4443 INT'L FOR RES & TRAD. (3) (Prerequisite: consent of instructor). Three hours lecture. A study of the world's wood consumption, marketing arrangements, community forestry, and forestry in economic development.

SECTION V: DESCRIPTION OF CFR COURSES

Department of Forestry

FO 4453/6453. REMOTE SENSING APPLICATIONS. (3) Prerequisites: A basic image interpretation or remote sensing course or consent of instructor). Two hour lecture. Three hour laboratory. An introduction to remote sensing with emphasis on analysis and applications of digital image data in inventory, monitoring, and management of renewable natural resources. Laboratory emphasis is on computer applications and digital techniques of image analysis. Spring Only.

FO 4463/6463. FOREST HYDROLOGY AND WATERSHED MANAGEMENT. (3) (Prerequisite: PSS 3303, FO 3012, FO 4123/6123, or consent of instructor). Three hour lecture. Synthesis of current information on the fundamental properties and processes of forest soils, hydrology, and water quality with emphasis on watershed and ecosystem management factors. Spring Only.

FO 4473. GIS FOR NATURAL RESOURCES MANAGEMENT. (3) (Prerequisite: Junior standing). Two hours lecture and three hours laboratory. Introduction to geographic information systems (GIS) with emphasis on collection, encoding, storage, retrieval, and analysis of spatial data for use in management of natural resources.

FO 4483/6483. FOREST SOILS. (3) (Prerequisite: PSS 3303, FO 3012, FO 4123/6123, or consent of instructor). Three hour lecture. Synthesize current information on fundamental properties and processes of forest soils with emphasis on applications to silviculture, soil conservation, and sustainable management of forested ecosystems. Spring Semesters of Odd Years Only.

FO 4513. FORESTRY CONSERVATION EDUC. (3) Two hours lecture; two hours lab). Importance of forestry and natural resources conservation, application of forestry and conservation principles and practices to educational settings. For non-forestry majors.

FO 4573. ECOLOGY OF MANAGEMENT FORESTS. (3) Three hours lecture. Examination of the ecological factors that influence silvicultural practice in North America. (Same as NREC 4573).

FO 4663. CONSULTING FORESTRY. (3) (Prerequisite: FO major, senior or graduate standing and consent of instructor). Three hours lecture. Review of business, legal, and economic issues integral to applying the science of forestry as a service based enterprise.

FO 4683. INTRO TO URBAN AND COMMUNITY FORESTRY. (3) Three hours lecture. Addresses urban forest management issues and opportunities as well as educational extension/outreach program strategies within the urban forest context. (Same as NREC 4683)

FO 4771. SEEING FOREST FOR TREES: CAREER (1) One hour lecture plus laboratory experience. A course for upper-level, non-Forestry majors providing an overview of forest management, wood products, manufacturing facilities, and career opportunities for non-foresters.

FO 4800. UNDERGRADUATE RESEARCH. Hours, credits and deliverables to be arranged. The purpose of this course is to provide a student with the opportunity to participate in research and/or creative project beyond the traditional undergraduate experience.

FO 4990/6990. SPECIAL TOPICS IN FORESTRY. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

NREC 2990. SPECIAL TOPICS IN FORESTRY. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

NREC 3113. FOREST RECREATION MANAGEMENT. Studies of the management of forest resources for outdoor recreation. (Same as FO 3113).

NREC 3213. ENVIRONMENTAL MEASUREMENTS. (Prerequisite: ST 2113) Two hours lecture. Two hours Laboratory. Principles of inventory, sampling and analysis for measurements in environmental assessments. Field exercises provide practice in sampling methods, data collection, instrumentation, and analysis. Spring Only.

NREC 4000. DIRECTED INDIVIDUAL STUDY. Hours and credits to be arranged.

NREC 4313. SPATIAL TECH NAT RES MGT. (Prerequisite: FO 3015 or GR 2313 or consent of instructor). Three hours lecture. Three hours laboratory. Fundamentals of scale, area, height, and stand volume determinations from aerial imagery; planimetric and topographic mapping; image interpretation; GPS and GIS; applications to natural resources. (Same as FO 4313).

SECTION V: DESCRIPTION OF CFR COURSES

Department of Forestry

NREC 4353. NATURAL RESOURCE LAW. Three hours lecture. A comprehensive study of the laws relating to natural resources and forestry with emphasis on tort law, real property law, environmental law, taxation law and contract law. (Same as FO 4353).

NREC 4413. NATURAL RESOURCE POLICY. Three hours lecture. A comprehensive study of the laws relating to natural resources and forestry with emphasis on tort law, real property law, environmental law, taxation law and contract law. (Same as FO 4353).

NREC 4423. ENVIRONMENTAL ASSESSMENT. (Prerequisite: NREC senior level standing or consent of instructor). Two hours lecture. Two hours laboratory. Principles of assessing environmental impacts resulting from planned management activities affecting natural resources. Preparation of Environmental Impact Statements (EIS). Spring Only.

NREC 4463. FOREST HYDRO & WATERSHED MGT. (Prerequisite: PSS 3303, FO 3012, FO 4123/6123, or consent of instructor). Three hours lecture. Synthesis of current information on the fundamental properties and processes of forest soils, hydrology, and water quality with emphasis on watershed and ecosystem management factors. (Same as FO 4463).

NREC 4573. ECOLOGY OF MANAGED FORESTS. Three hours lecture. Examination of the ecological factors that influence silvicultural practice in North America. (Same as FO 4573).

NREC 4683. INTRO TO URBAN AND COMMUNITY FORESTRY. Three hours lecture. Addresses urban forest management issues and opportunities as well as educational extension/outreach program strategies within the urban forest context. (Same as FO 4683).

NREC 4800. UNDERGRADUATE RESEARCH. The purpose of this course is to provide a student with the opportunity to participate in research and/or creative project beyond the traditional undergraduate experience, while allowing the university to track undergraduate participation in these activities. Hours, credits and deliverables to be arranged.

NREC 4990. SPECIAL TOPICS IN NREC. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

SECTION V: DESCRIPTION OF CFR COURSES

Department of Wildlife, Fisheries and Aquaculture

WFA 1001. FIRST YEAR SEMINAR. (1 hour) (Prerequisite: First year student). One hour lecture. First-year seminars explore a diverse array of topics that provide students with an opportunity to learn about a specific discipline from skilled faculty members. Fall Only.

WFA 1102. WILDLIFE AND FISHERIES PROFESSION. (2) (Prerequisite: Freshman or Sophomore standing or consent of instructor). Two hour lecture. Orientation to the interdisciplinary and applied nature of wildlife and fisheries management and related fields, emphasizing the department, college, and university; student roles and responsibilities; and career opportunities. Fall Only.

WFA 2990. SPECIAL TOPICS IN WILDLIFE AND FISHERIES. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

WFA 3000. INTERNSHIP IN WILDLIFE, FISHERIES OR AQUACULTURE. (1-4) (Prerequisite: Junior Standing and 2.75 GPA or better). Professional work experience with governmental or private agencies. (Hours and credits to be arranged).

WFA 3031. INTRODUCTORY WILDLIFE/FISHERIES PRACTICES. (1) (Prerequisite: Junior standing). Field exercises and practical exposure to research and management of wildlife and fish species and habitats in Mississippi. Summer Only.

WFA 3133. APPLIED ECOLOGY. (3) (Prerequisite: BIO 1134 and BIO 1144 or consent of instructor). Two hour lecture. Four hour laboratory, alternate weeks. The application of ecological principles which serve as a basis for the management of wildlife and fisheries in terrestrial and aquatic habitats.

WFA 4000. DIRECTED INDIVIDUAL STUDY. Hours and credits to be arranged.

WFA 4113/6113. ANIMAL BEHAVIOR. (3) (Prerequisite: WFA 3133, BIO 3104 or equivalent). Two hours lecture, two hours lab. Emphasizes applied approaches to the study of animal behavior. Covers fundamental principles, early studies in ethology, genetic, physiological and selective mechanisms, behavioral ecology, emerging field of conservation behavior, and integration of behavior into habitat management.

WFA 4123. WILDLIFE AND FISHERIES BIOMETRICS. (3) (Prerequisite: ST 3123 and a grade of C or better in MA 1613, or consent of instructor). Two hour lecture. Three hour laboratory. Application of statistical and mathematical tools and software to address wildlife and fisheries management/research questions.

WFA 4133/6133. FISHERIES SCIENCE. (3) (Prerequisite: ST 3123 or equivalent). Two hour lecture. Four hour laboratory, alternate weeks. Study of the biological parameters of fish populations. Spring Semesters of Even Years Only.

WFA 4153. PRINCIPLES OF WILDLIFE CONSERVATION AND MANAGEMENT. (3) (Prerequisite: Sophomore standing, WFA 3133 or FO 4123 or equivalent) Two hour lecture. Four hour laboratory on alternate weeks. Principles of game management; habitat improvement; wildlife techniques; public relations.

WFA 4173/6173. FISH PHYSIOLOGY. (3) Prerequisite: BIO 1134 and BIO 1144 or consent of instructor) Two hour lecture. Four hour laboratory, alternate weeks. Basic anatomy and physiology of major systems in fish: integration of the physiological systems as they function during development, growth and maturation. Fall Only.

WFA 4183/6183. PRINCIPLES AND PRACTICES OF AQUACULTURE. (3) Prerequisite: BIO 1134 and BIO 1144 or consent of instructor) Two hour lecture. Four hours laboratory alternate weeks. Principles and practices of aquaculture applied to the farming of marine and freshwater species of fish, crustaceans, and mollusks throughout the world. Spring Semesters of Even Years Only.

WFA 4223/6223. WILDLIFE PLANT IDENTIFICATION. (3) (Prerequisite: BIO 1134 and BIO 1144 or equivalent). Two hours lecture. Four hour laboratory alternate weeks. Identification, taxonomy, ecology, and management of wildlife food and cover plants Fall, Maymester (as needed).

WFA 4233/6233. LIMNOLOGY. (3) (Prerequisite: WFA 3133 or consent of instructor). Two hour lecture. Four hour laboratory. The physical, chemical and biological processes underlying the function and productivity of freshwater ecosystems. Fall Only.

WFA 4243. WILDLIFE TECHNIQUES. (3) (Prerequisite: Sophomore standing or consent of instructor). Two hour lecture. Four hour laboratory. Contemporary research and management techniques and tools for wildlife populations and habitats.

SECTION V: DESCRIPTION OF CFR COURSES

Department of Wildlife, Fisheries and Aquaculture

WFA 4253/6253. APPLICATION OF GIS IN WILDLIFE AND FISHERIES. (3) (Prerequisite: Senior standing or consent of instructor). Two hour lecture. Four hour laboratory weekly. Practical application of global positioning systems and geographic information systems to wildlife and fisheries management. (Limited to WFA majors) Spring Only.

WFA 4263/6263. WILDLIFE DISEASES. (3) (Prerequisite: BIO 1134 and BIO 1144 or consent of instructor). Two hour lecture. Four hour laboratory, alternate weeks. Effects and management of parasites and diseases in wild bird and mammal populations. (Same as CVM 4263/6263). Spring Semesters of Even Years Only.

WFA 4273. ECOLOGY AND MANAGEMENT OF HUMAN-WILDLIFE CONFLICTS. (3) (Prerequisite: WFA 3133 or consent of instructor). Ecological principles and management approaches to resolve human-wildlife conflicts. Fall Semesters of Odd Years Only

WFA 4283. HUMAN-WILDLIFE CONFLICT TECHNIQUES. (3) (Prerequisite: WFA 3133 or consent of instructor). Discussion, demonstration, and application of techniques used to resolve human-wildlife conflicts. Fall Semesters of Odd Years Only.

WFA 4313/6313. FISHERIES MANAGEMENT. (3) (Prerequisite: WFA 3133 or consent of instructor). Two hour lecture. Laboratories alternate weeks. Principles of fisheries management and methods for assessment and analysis of fish populations and aquatic habitats. Fall Only.

WFA 4323/6323. WILDLIFE NUTRITION AND PHYSIOLOGY. (3) Prerequisite: BIO 1134 and BIO 1144, or consent of instructor). Two hour lecture. Four hour laboratory, alternate weeks. Nutrition and physiology of aquatic and terrestrial wildlife, with emphasis on understanding life history strategies and functional adaptations to habitat and environmental variation. Spring Semesters of Odd Years.

WFA 4353/6353. FISH AND WILDLIFE POLICY AND LAW ENFORCEMENT. (3) (Prerequisite: Senior standing or consent of instructor). Three hour lecture. A survey of the major content areas of fish and wildlife policy and law enforcement. Emphasis is on the fundamentals of conservation policies and laws. Fall Only.

WFA 4363/6363. WILDLIFE AND FISHERIES ADMINISTRATION AND COMMUNICATION. (3) (Prerequisite: Junior standing or consent of instructor.). Two hour lecture. Three and one half hour lab, alternate weeks. Administrative and communicational techniques and skills in the workplace and political environments of wildlife and fisheries organizations. Spring Only.

WFA 4373/6373. PRINCIPLES AND PRACTICES OF CONSERVATION IN AGRICULTURAL LANDSCAPES. (3) Two hour lecture. Four hour laboratory, alternate weeks. Introduces theoretical background for ecological conservation in agricultural landscapes with focus on the role of USDA Farm Bill programs in achieving conservation goals. Spring Semesters of Odd Years Only.

WFA 4383/6383. WETLANDS ECOLOGY AND MANAGEMENT. (3) (Prerequisite: WFA 3133 and Junior standing). Two hour lecture. Four hour laboratory, alternate weeks. Hydrology, soils and biogeochemistry of wetlands; structure and function of important wetland types; wetland management for wildlife and fisheries; wetland creation and restoration. Fall Semesters of Even Years Only.

WFA 4393. URBAN WILDLIFE ECOLOGY. (Prerequisites: Junior or higher standing, Grade C or better in WFA 3133, and/or consent of instructor). Three hours lecture. Investigations of traditional wildlife conservation, ecology and management principles as they pertain to urban environments with an emphasis on species natural histories and urban ecosystem characteristics.

WFA 4394/6394. WATERFOWL ECOLOGY AND MANAGEMENT. (4) (Prerequisite: WFA 3133 and Junior standing or consent of instructor). Three hour lecture. Four hour laboratory. Annual ecology of North American waterfowl, habitat and population ecology, and management, waterfowl identification, field trips, management plan, and current issues. Fall Semesters of Odd Years Only.

WFA 4423. HERPETOLOGY. (3) (Prerequisite: BIO 1134 and BIO 1144 and WFA 3133, or consent of instructor). Two hour lecture. Four hour laboratory, alternate weeks. Evolution, systematics, biology and ecology of reptiles and amphibians. Fall and Spring Semesters.

WFA 4433. MAMMALOGY. (3) (Prerequisite: BIO 1134 and BIO 1144 and WFA 3133, or consent of instructor). Two hour lecture. Three hour laboratory every week Evolution, systematics, and ecology of mammals, with emphasis on North American groups. Fall Semesters.

SECTION V: DESCRIPTION OF CFR COURSES

Department of Wildlife, Fisheries and Aquaculture

WFA 4443. ORNITHOLOGY. (3) (Prerequisite: BIO 1134 and BIO 1144 and WFA 3133, or consent of instructor). Two hour lecture. Three hour laboratory every week. Recent and fossil avifauna of the world; its origin, distribution, classification, and biology. Spring Semesters.

WFA 4453. ICHTHYOLOGY. (3) (Prerequisite: BIO 1134 and BIO 1144 and WFA 3133, or consent of instructor). Two hour lecture. Three hour laboratory. Structure, evolution, classification and life histories of fishes of the world with emphasis on North American freshwater forms. Spring Semesters.

WFA 4463. HUMAN DIMENSIONS OF FISH AND WILDLIFE MANAGEMENT. (3) (Prerequisite: Junior standing or consent of instructor). Three hour lecture. Survey of the major content areas of human dimensions. Emphasis on the considerations and implications associated with measuring, evaluating, and influencing people's attitudes and behaviors. Spring Semesters.

WFA 4473. WILDLIFE AND FISHERIES PRACTICES. (3) (Prerequisite: WFA 3133 and WFA 4153 and Senior standing, or consent of instructor). Two hour lecture. Four hour laboratory. The integration of principles of ecology, wildlife and fisheries techniques and policies for effective planning and implementation of natural resource management. Fall and Spring Semesters.

WFA 4483/6483. SEMINAR IN TROPICAL BIOLOGY. (3) (Prerequisite: WFA 3133). One hour lecture. Four hour laboratory. An introduction to the composition and function of tropical ecosystems of the New World. Listed on the Study Abroad/Exchange Campus. Spring Semesters of Even Years Only.

WFA 4484/6484. UPLAND AVIAN ECOLOGY AND MANAGEMENT. (3) (Prerequisites: WFA 3133 and WFA 4153 and Junior standing or consent of instructor). Three hour lecture. Four hour laboratory. The application of ecological principles to management of wildlife populations, focusing on avian species and communities inhabiting upland ecosystems. Spring Semesters of Odd Years Only.

WFA 4494/6494. LARGE MAMMAL ECOLOGY AND MANAGEMENT. (3) (Prerequisites: WFA 3133 and WFA 4153 and Junior standing). Three hour lecture. Four hour laboratory, alternate weeks. Ecological principles and applied methods used in the management of large mammals. Fall Semesters of Even Years Only.

WFA 4513/6513. CURRENT TOPICS IN HUMAN-WILDLIFE INTERACTIONS. (3) (Prerequisites: Junior or higher standing, Grade of C or better in WFA 3133, and/or Instructor Consent). Three hours lecture. Investigations and related discussions regarding current topics and past trends in human-wildlife interactions emphasizing the role of wildlife damage management by wildlife biologists. Spring Semesters of Odd Years Only

WFA 4613. LANDSCAPE ECOLOGY. Prerequisite (WFA 3133 and ST 3123 (or equivalents or consent of instructor)). Two hours lecture, two hours lab. Foundational concepts and research methods of landscape ecology and application to ecology and management of natural resources. Spring Semesters of Odd Years Only

WFA 4623. CONSERVATION BIOLOGY. Three hours lecture. Theory and applications of conservation biology, measures of biodiversity, ecological geography, measures and treatments of decline. Fall Only.

WFA 4633. PROBLEM SOLVING IN CONSERVATION BIOLOGY. (3) (Prerequisites: WFA4623 or equivalent with instructor consent). Three hours lecture. Upper-level conservation biology course that builds on foundational concepts in lower-level courses in Conservation Biology. Focus on problem-solving of real-world conservation issues in a discussion, case-study, and in-class exercise format. Spring Only.

WFA 4800. UNDERGRADUTE RESEARCH. Hours, credits and deliverables to be arranged. The purpose of this course is to provide a student with the opportunity to participate in research and/or creative project beyond the traditional undergraduate experience.

WFA 4881. CURRENT TOPICS IN CONSERVATION BIOLOGY. (1) (Prerequisites: WFA 3133, Applied Ecology and WFA 4623, Conservation Biology or consent of instructor). One hour lecture. A forum to discuss current literature and theory that advances the study of biodiversity and its application to conservation biology. Fall Only.

WFA 4990/6990. SPECIAL TOPICS IN WILDLIFE AND FISHERIES. (1-9) Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years). All Terms.

SECTION VI: CFR ADVISOR LIST

FORESTRY				
FACULTY MEMBER	PHONE	OFFICE	PRIMARY ADVISING	SECONDARY ADVISING
Grado, Stephen	662.325.2792	357 Thompson Hall	Urban Forestry*	Environmental Conservation
Grala, Robert	662.325.7039	343 Thompson Hall	Forest Business*	Wildlife Management
Granger, Joshua	662.325.0596	321 Thompson Hall	Forest Products*	Forest Management
Grebner, Don (Department Head)	662.325.0928	329 Thompson Hall	Forest Management	Wildlife Management
Himes, Austin	662.325.4249	369 Thompson Hall	Wildlife Management*	Resource Conservation Science
McConnell, Eric	62.325.6340	365 Thompson Hall	Forest Business	Forest Management
Polinko, Adam	662.325.3510	359 Thompson Hall	Forest Management	Environmental Conservation
Poudel, Krishna	662.325.2697	315 Thompson Hall	Forest Management*	Natural Resource Technology
Renninger, Heidi	662-325-0792	313 Thompson Hall	Environmental Conservation*	Wildlife Management
Schulz, Ashley	662.325.5809	375 Thompson Hall	Environmental Conservation	Urban Forestry
Siegert, Courtney (UG Coordinator)	662.325.7481	347 Thompson Hall	Resource Conservation Science*	Environmental Conservation
Silva, Bruno	662.325.6651	345 Thompson Hall	Forest Business	Forest Management
Sun, Changyou	662.325.7271	363 Thompson Hall	Nat. Resource Law & Administration*	Forest Management

*Lead advisor for concentration

SUSTAINABLE BIOPRODUCTS		
FACULTY MEMBER	PHONE	OFFICE
Dr. Ruben Shmulsky (Dept. Head)	662.325.2243	203 Franklin Building
Dr. Frank Owens	662-325-6698	109 Franklin Building
Dr. Beth Stokes (UG Coordinator)	662-325-5811	205 Franklin Building
Dr. Jason Street	662-325-5120	5204 Forest Products Laboratory
Dr. Jilei Zhang	662-617-2414	113 Franklin Building

SECTION VI: CFR ADVISOR LIST

WILDLIFE, FISHERIES, AND AQUACULTURE			
FACULTY MEMBER	PHONE	OFFICE	ADVISING
Allen, Peter	662.325.4768	261 Thompson Hall	Wildlife Veterinary Medicine* Wildlife, Fisheries and Aquaculture Science
Ayers, Chris	662.325.1526	227 Thompson Hall	Conservation Law Enforcement Wildlife, Fisheries and Aquaculture Science
Burger, Leslie (UG Coordinator)	662.325.6686	259 Thompson Hall	Wildlife, Fisheries and Aquaculture Science* Wildlife Veterinary Medicine
Colvin, Michael	662.325.3592	215 Thompson Hall	Wildlife Veterinary Medicine Wildlife, Fisheries and Aquaculture Science
Correa, Sandra	662.325.0158	225 Thompson Hall	Wildlife, Fisheries and Aquaculture Science
Davis, Brian	662.325.4790	249 Thompson Hall	Wildlife, Fisheries and Aquaculture Science Wildlife Agriculture Conservation
Demarais, Steve	662.325.2618	247 Thompson Hall	Wildlife, Fisheries and Aquaculture Science
Evans, Kristine	662.325.3167	265 Thompson Hall	Conservation Biology*
Hileman, Eric	662.325.4707	A209 Thompson Hall	Conservation Biology Human-Wildlife Interactions
Hunt, Kevin	662.325.0870	FP Building 1, Rm 1203	Conservation Law Enforcement*
Iglay, Ray	662.325.5933	271 Thompson Hall	Human-Wildlife Interactions* Wildlife, Fisheries and Aquaculture Science
Kouba, Andrew (Dept. Head)	662.325.7494	217 Thompson Hall	
McConnell, Mark	662.325.2144	221 Thompson Hall	Wildlife Agriculture Conservation* Wildlife, Fisheries and Aquaculture Science
Morin, Dana	662.325.8577	251 Thompson Hall	Wildlife, Fisheries and Aquaculture Science Conservation Biology
Rush, Scott	662.325.0762	231 Thompson Hall	Wildlife, Fisheries and Aquaculture Science
Street, Garrett	662.325.5801	229 Thompson Hall	Wildlife Veterinary Medicine
Wang, Guiming	662.325.0414	273 Thompson Hall	Wildlife, Fisheries and Aquaculture Science Wildlife Veterinary Medicine