

Mr. Hall  
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FRSC 3111  
AGRICULTURE AND RESOURCE MANAGEMENT  
(Three Semester Hours)

**COURSE**

**DESCRIPTION:** An introductory course that examines the relationships between agricultural management practices and soil conservation, aquatic resources, and terrestrial wildlife populations. Practical conservation strategies will be emphasized.

**TEXT:** None  
Frequent supplemental reading will be provided.

**ATTENDANCE:** Students whose number of unexcused absences from class / lab exceeds six (6) will receive an “F” for the course. Unexcused absences less than the maximum allowable will result in fractional participation deduction from the final grade. For example, one unexcused absence out of six (6) maximum results in 16.7% participation penalty. Students should advise the instructor of anticipated absences in advance when possible; informative messages may be left at (229) 391-4800. All excused absences must be accompanied by written documentation; final evaluation of excuse legitimacy resides with the instructor.

**TARDINESS:** A student entering class late will be considered absent for the day. It is the sole responsibility of the student to inform the instructor of his / her tardiness so that absences are not inadvertently recorded. Chronic tardiness will result in class participation penalty.

**CHEATING:** Automatic F for the course.

**POLICY:** Students will not be permitted to review their hourly exams at any time other than the in-class review session (usually the next class period); hourly exams will NOT be available prior to finals. Short notes may be taken during class review of exams.

**OFFICE HOURS:** Posted at Room 122 YOW, or by chance.

<b>GRADING SCALE:</b>	90 - 100% = A
	80 - 89% = B
	70 - 79% = C
	65 - 69% = D
	less than 65 = F

<b>GRADE BASE:</b>	Best two of three hourly exams	40%
	Lowest hourly score <u>will be</u> dropped	
	FINAL EXAM (cumulative)	35%
	Quizzes, projects	20%
	Participation, attitude, attendance	5%

Note: Missed hourlies may not be made up. Missed exam will be the score dropped.  
 No early or late final exams. Final exam scores and course grades will not be posted.  
 Assignments and projects will not be accepted late.  
 Hourly exam dates and project due dates will be announced well in advance.  
 Exams may include TRUE / FALSE, multiple choice, matching, completion, and short essay-type questions.  
 Most, if not all, quizzes will be unannounced.  
 Quiz questions are usually derived from recent lectures / lab experiences.  
 Quizzes not surrendered to the instructor when requested result in a grade of zero.  
 No make-up quizzes. A score of zero (0) is recorded for tardy or absent students. A maximum of three (3) quiz / project scores may be dropped.  
 Chronic misbehavior in class may result in forfeiture of some or all five (5) participation percentage points.

Among the more important learning outcomes are :

1. To understand how standard agricultural practices may impact aquatic and terrestrial habitats
2. To understand the importance of field , fencerow , and pine or hardwood woodlot management as pertaining to wildlife habitat diversity
3. To understand the results of timber management activities such as prescribed burning , thinning , planting , and site selection when considering multiple use objectives such as timber, wildlife, aesthetics, and water quality
4. To correlate multiple weather variables with resultant fire behavior in dormant season prescribed burns in SYPine stands
5. To understand the objectives and implementation of Farm Bill programs such as Conservation Reserve , Wildlife Habitat Incentives , and Environmental Quality Incentives

## **Tentative Course Outline**

### **I. HISTORY OF AGRICULTURE IN GEORGIA AND THE SOUTHEAST**

- A. Past practices
- B. Field Abandonment and Forest Succession
- C. Tree Identification Basics
- D. Importance of Farms to Early-Successional Habitat
- E. How are Large fields and Large Clearcuts similar?

### **II. BASIC SOIL PROPERTIES**

- A. Texture
- B. Structure
- C. Horizon development
- D. Drainage classification
- E. Erosion risk
  - 1. O horizon present?
  - 2. Pore space / tilth
  - 3. Crop spacing / root system variables
  - 4. Slope

### **III. SOIL CONSERVATION STRATEGIES**

- A. Contour farming
- B. Strip cropping
- C. No-till / reduced till
- D. Problems with Post-Harvest Fall Tillage
- E. What defines a “weed”?

### **IV. AQUATIC RESOURCES ON THE FARM**

- A. Hydrologic Cycle – importance of transpiration / weather patterns
- B. Deep water – Aquifers
- C. Surface water
  - 1. Ponds
  - 2. Intermittent / Perennial Streams
  - 3. Vernal Pools
- D. Management – Importance of Fencing, Buffer Strips, and Streamside Management Zones. AVOIDING...
  - 1. Streambank degradation and siltation
  - 2. Organic Matter addition and declining Dissolved Oxygen levels
  - 3. Destruction of Streamside vegetation
    - a. Thermal pollution
    - b. De-stabilizing aquatic food chains
    - c. Variations in Aquatic Organism tolerance
  - 4. Fertilizer Runoff and Eutrophication
- E. Current water management issues

### **V. FUNDAMENTALS OF WILDLIFE MANAGEMENT (“IN THE FIELD”)**

- A. Food / Water / Cover / Space , concept of edges or ecotones
- B. Fencerows
  - 1. Creation – importance of bird dissemination
  - 2. Maintenance

- 3. Concept of Travel Corridors
  - C. Field Borders
    - 1. Establishment and Maintenance
    - 2. “Daylighting” Field / Woodlot borders
    - 3. Brushy ditches
  - D. The Fallow Field Dilemma
- VI. THE FARM WOODLOT
  - A. Variability – Size, Age, Density, Species Composition
  - B. The SYP Woodlot – matching species / site (C.R.I.F.F. classification)
    - 1. The pros and cons of monoculture
    - 2. The pros and cons of crown closure- pine straw production
    - 3. Thinning early and often
    - 4. Importance of prescribed burning
      - a. Herbaceous understory / time of year / frequency
      - b. Hardwood topkill
      - c. Important weather variables
    - 5. Potential for Livestock Grazing
  - C. The Hardwood Woodlot
    - 1. Mast production (Hard / Soft)
    - 2. Decadent trees / importance for cavity nesters
    - 3. Comparison of “clean farming” and “clean forestry”
  - D. Pine / Hardwood Woodlots
  - E. Introduction to Forest Products ( paper , lumber , veneer , ethanol )
- VII. ADDITIONAL WILDLIFE AMENITIES
  - A. Food Plots – realistic objectives
  - B. Nest Boxes / Predator guards
  - C. Tree / Shrub Planting – use of tree shelters
    - 1. Hard mast / Soft mast
    - 2. Thermal cover
- VIII. PESTICIDE USAGE – A DOUBLE-EDGED SWORD
  - A. Yield vs. pollution
  - B. Toxicity risks – What is a “safe” pesticide?
  - C. Labels / Material Safety Data Sheets
  - D. IPM strategies ( pine bark beetle illustration )
  - E. ORGANIC production
- IX. GOVERNMENTAL COST SHARE PROGRAMS
  - A. History of the Conservation Reserve Program
    - 1. Initial Program Goals / Land Capability Classes
    - 2. Evolution – The Longleaf Initiative
    - 3. Unforeseen Problems
  - B. Other Conservation Programs
    - 1. EQIP – Environmental Quality Incentives
    - 2. WHIP – Wildlife Habitat Incentives Program

