Fall 2020
GIS Applications in Wildlife Management and Conservation
FORS 4375/4075

Instructor: Daniel G. Scognamillo  
Phone: 468-5993  
Email: dgscognamillo@sfasu.edu  
Office: Forestry 203E

Office hours: Mon: 8:00-10:00  Tue: 11-12:30  
Wed: 8:00-10:00  Thu: 8:00-11:00
Or by appointment. Please call or email me to schedule an appointment.

Classroom and class time
Lectures: Forestry 221  
Monday and Wednesdays 10:00 - 10:50  
Thursday 5:00 – 6:40  

Labs:  
Forestry 102  
Mondays 12:00 - 2:50  
Forestry 108  
Tuesdays 5:00 - 7:50 (6:30)

Credit hours: 3 semester hours

Course description
Geographic Information Systems (GIS) are applied to a wide variety of wildlife ecology, conservation, and management issues. The goal of this course is to give students a general and comprehensive introduction to the most common GIS tasks and analyses applied to wildlife conservation and management and to familiarize students with different software used to perform those tasks and analyses.

Program Learning Outcomes
The course is designed to address the following Program Learning Outcomes, as given in the BSF Program Matrix:

1. Demonstrate understanding and competency of forest ecology and biology;
2. Demonstrate understanding and competency in the measurement of forest resources;
3. Demonstrate understanding and competency in managing forest resources;
4. Demonstrate understanding and competency of forest resource policy, economics, and administration.
5. Demonstrate understanding and competency in oral and written communication skills.

Items #1 - #4 above are required by the Society of American Foresters, the program’s accrediting agency.

B.S. Forestry Program Learning Outcomes  
Proficiency Levels

<table>
<thead>
<tr>
<th>Forestry Common Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
</tr>
<tr>
<td>FOR 475</td>
</tr>
</tbody>
</table>


**Student Learning Outcomes**
Upon successful completion of this course, the student will:

- Understand basic tasks performed in a GIS and their associations with ecological concepts & principles (PLO #1 and 2);
- Be able to identify appropriate analyses to address specific forest wildlife research and management issues (PLO #1, 2 & 3);
- Be able to apply GIS tools and analyses in wildlife research conservation and management, and to generate comprehensive outputs (PLO #1,2,3, 4 and 5);
- Have demonstrated competency in oral and written communication skills (PLO #5).

**Course requirements**
Knowing and understanding the material presented and discussed in lectures/labs are the keystone for successfully completing this course. As the instructor of this course I commit myself to being knowledgeable on all the topics that we will cover in class and being well prepared to lecture about them. I expect all students to have perfect attendance and be well prepared for class as well (i.e. read all assignments and review notes from lectures).

**Required textbook and readings**
- Other reading material will be provided for selected lectures as pdf files or hard copy.

**Grading Policy**

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labs (13)</td>
<td>260</td>
</tr>
<tr>
<td>Quizzes (10)</td>
<td>100</td>
</tr>
<tr>
<td>Mid-Term exam</td>
<td>100</td>
</tr>
<tr>
<td>Final exam</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>560</strong></td>
</tr>
</tbody>
</table>

Your final grade will be calculated as the percentage of the total points of the course that you obtained during lab reports, assignments, and exams. Grades will be assigned using the following scale:

- A: ≥90%
- B: 89.99% - 80%
- C: 79.99% - 70%
- D: 69.99% - 60%
- F: <60%

**Lab exercises**
Instructor will provide directions for each lab at the beginning of each session; students will submit answers for exercises via D2L before due date in order to receive full credit. No late assignments will be accepted.

**Quizzes**
Quizzes will be posted in D2L covering topics presented in lectures/labs.

**Mid-Term exam**
One mid-term exam is scheduled for the semester. This mid-term exam will be a combination of topics covered in lectures and labs.
Final exam
Final exam will be cumulative, covering all topics presented in lectures and labs during the semester.

Attendance Policy
Perfect attendance to lectures and labs is a requirement for this course. Justified absences will be accepted with the proper documentation. Student with two or more unjustified lecture or lab absences will have a reduction of 10% in the total number of points accumulated during the entire course.

COVID-19
COVID-19 MASK POLICY Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html

Student Academic Dishonesty Policy (4.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. Definition of Academic Dishonesty: Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf

Penalties for Academic Dishonesty (Policy 4.1)
Penalties may include, but are not limited to, reprimand, no credit for the assignment or exam, resubmission of the work, make-up exam, failure of the course, or expulsion from the university.

Course Grades Policy (5.5)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. Please read the complete policy at http://www.sfasu.edu/policies/5.5_course-grades.pdf

Academic Accommodation for Students with Disabilities Policy (6.1)
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/
**Responsible Use of Technology**

It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed. Please read the complete policy at [http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf](http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf)
Proposed Schedule of Lectures/labs (the order of the topics could change as the semester progresses)

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Topic</th>
<th>Labs</th>
<th>Supplemental exercises from Getting to Know ArcGIS textbook</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lab 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lab 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lab 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lecture</td>
<td>Habitat use analysis</td>
<td>Lab 10</td>
<td>Home range estimates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Lecture</td>
<td>Binary models. Occupancy models.</td>
<td>Lab 11</td>
<td>Habitat use. Lab 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Lecture</td>
<td>Wildlife management plans</td>
<td>Lab 13</td>
<td>Occupancy models.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Lecture</td>
<td>Wildlife management plans</td>
<td>Lab 14</td>
<td></td>
</tr>
</tbody>
</table>

MID-TERM EXAM

FINAL EXAM