FOR 463-00X / Special Problems: Intensive Silviculture, Spring 2016

Course Details
Instructor: Dr. Jeremy Stovall
Phone: (936) 468-2127
Email: stovalljp@sfasu.edu
Office: 203B Forestry
Office Hours: By appointment

Generally I maintain an open door policy, and keep a schedule posted by my door. Please feel free to stop by my office whenever. If you are coming to campus specifically to see me it would be best to make an appointment by email. I check email frequently and reply as soon as possible, within 24 hours at most.

Class: As this is a special problems course, there are no formal class meeting times.

Course Description
FOR 463. Special Problems - One, two or three semester hours. Individual study in an area of the student’s choice. Must be arranged in advance and approved by the dean’s office. May be repeated for credit for a maximum of nine credit hours.

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.
*This is not a General Education Core Course

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A – Advanced – FOR 428 supports Program Learning Outcome by providing students with transitional, high level topic-specific information, activities, and opportunities that enable the students to apply their critical thinking and tactical skills to resolved increasingly challenging strategic situations.

Revised 01.18.2016
Student Learning Outcomes
Upon the completion of this course, successful students will:

1. Explain the ecological underpinnings and technical considerations for forest tree improvement, forest vegetation management, and forest nutrition that are the cornerstones of modern intensive silvicultural systems (PLO 1, 2, 3, 4).
2. Communicate technical material clearly to a variety of audiences by multiple means of written and spoken communication (PLO 5).
3. Create solutions to real-world forest management challenges by applying higher-order thinking skills to their knowledge of silviculture (PLO 1,2,3,4,5).

Text and Materials
There are no required or recommended materials for this course. Students should refer to their notebook and text from FOR 347, as some handouts and lectures from that course will be useful in this course. New handouts and readings are available at the students' request.

Course Requirements
Presentation: This will be a 20 minute presentation on a one of the aspects of intensive silviculture as applied to a species not commonly managed in the US South. Topics and presentation dates will be decided on by the student and instructor. A rubric will be provided.

Research Paper: A research paper on a different topic from the presentation will be submitted. Topics and due dates will be decided on by the student and instructor. A rubric will be provided.

Grading Policy
A grade of 0 will be given to all involved parties on any assignment on which cheating occurs. Since there only two assignments as part of this special problems course, that will result in failure of the course.

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<tr>
<th>Item</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Presentation</td>
<td>50%</td>
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<tr>
<td>Research Paper</td>
<td>50%</td>
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<tr>
<td><strong>COURSE GRADE</strong></td>
<td><strong>100%</strong></td>
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<th>Percent Grade</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>&gt;89.44%</td>
<td>A</td>
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<tr>
<td>79.45 – 89.44%</td>
<td>B</td>
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<tr>
<td>69.45 – 79.44%</td>
<td>C</td>
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<tr>
<td>59.45 – 69.44%</td>
<td>D</td>
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<td>&lt;59.45%</td>
<td>F</td>
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Attendance Policy
It is university policy to excuse students from attendance for certain reasons. Among these are absences related to health, family emergencies and student participation in university-sponsored events. Students are responsible for providing documentation satisfactory to the instructor for each class missed prior to the absence.

Academic Integrity (A-9.1)
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/academic_integrity.asp

Withheld Grades Semester Grades Policy (A-54): 
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.

Students with Disabilities
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 D-34.1). 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.

Revised 01.18.2016
Intensive Silviculture Research Paper Assignment

Goals

The primary goals of this assignment are:

1. To learn about the management of plantation forests outside of the US South.
2. To improve your ability to write an appropriately formatted scientific literature review.

Description

**Audience:** Write for someone who is an expert in your topic. You do not need to spend time explaining basic concepts like DBH, for example.

**Purpose:** The purpose of your paper should be to give the reader a good understanding of the geographic extent, economic importance, ecological research, societal issues, history, and current status of or relating to the management of your assigned species, focused only on your assigned topic.

**Topic:** The topic will be separate from that used for your presentation. It must focus on one of the following three topic areas for a species or related group of species not actively managed on any significant scale in the US South:

1. Forest tree improvement and breeding
2. Forest nutrition and fertilizers
3. Forest competition control and herbicides

The topic chosen must not have been previously used for an assignment in Dr. Oswald’s regional silviculture course.

**Document Format:** Follow the technical report format from the silviculture lab style manual. Include a cover sheet. Since this is a literature review, you may not necessarily have the same sections (intro, methods, results, discussion). Rather, you should appropriately introduce your topic at the beginning, and then organize your content to be as clear as possible. You may reproduce and include relevant figures and tables from the literature, provided they are appropriately labeled and cited. You may create your own figures and tables if you feel that would more clearly communicate your subject matter.

All documents should be prepared in Microsoft Word, page size 8.5 inches by 11 inches. Margins should be 1 inch, font should be Calibri, size 11, and spacing should be set at 1.15 with a 10pt break between paragraphs. Use appropriate headers for each section, but the font must be Calibri, and no larger than size 13.

**Length:** Excluding the coversheet, literature cited, and any tables or figures, your paper must exceed 18 pages.
Citations: You must cite a minimum of 30 primary literature sources. A primary literature source will be defined as a scientific journal article reporting novel results. You may cite unlimited primary and secondary (e.g. textbook chapters, websites, etc.) sources, although all cited sources must be reputable. If you are uncertain as to the reputability of a source, please ask me.

Do not directly quote any sources. This is rarely if ever done in forestry scientific literature. Be careful not to paraphrase other sources, as this is a form of plagiarism. You should synthesize many sources to develop your content.

In-text citations should follow this format:

Single author sources: (Smith 2011)
Two author sources: (Smith and Jones 2012)
More than two author sources: (Smith et al. 2009)
Two sources by same author(s) in same year: (Smith and Jones 2012a) (Smith and Jones 2012b)

The literature cited section will generally follow the APA format used in most forestry literature. There are several variations on this style used by different journals. Google Scholar now allows you to copy and paste APA style citations directly, which should save you time. Always check citations to ensure Google correctly formatted them (sometimes it does not). Pay attention to the order of in-text citations if multiple sources are cited (oldest to newest), and the order of citations in the literature cited section (sorted alphabetically by first author’s last name).

Here are two example paragraphs and a literature cited section using correct in-text citation format:

Clonal plantations are now becoming common in the southeastern United States as improvements in somatic embryogenesis make possible the mass production of Pinus taeda (L.) clones (Stelzer and Goldfarb 1997, Whetten and Kellison 2010). Fertilizer application is also a common practice in plantations, with average growth increases across the Southeast of approximately 25% due to mid-rotation additions of nitrogen (N) and phosphorus (P) (Fox et al. 2007b). In order to maximize growth potential in clonal plantations to justify more expensive genetic material at planting, fertilization and other intensive silvicultural practices will need to be applied (Dougherty 2007). However, differences in morphology and development among clones may require different silvicultural prescriptions for different clones (Roth et al. 2007, Tyree et al. 2009).

A two phase model of single application fertilizer induced growth response was posited by Gough and Seiler and Gough et al. (2004, 2004). The first phase describes the physiological mechanisms by which plants respond in the short term to fertilizer application. Immediately following fertilizer application, root respiration increases to accommodate increased nutrient uptake. Nutrients, particularly N, are allocated to leaves, increasing photosynthetic rates and increasing the rate of photosynthate accumulation. This additional photosynthate is then allocated to the production of new leaf area. Nutrients are then retranslocated to the new leaf area, and photosynthetic rates return to pre-fertilization levels. At this point, the fertilizer growth response transitions to the second phase. In the second phase there are few if any physiological differences between fertilized and unfertilized tree.
However, fertilized trees have already developed greater leaf area due to phase one short-term physiological responses. It is this morphological difference that then continues to drive the fertilizer growth response in phase two, as has been described repeatedly in the literature (Colbert et al. 1990, Albaugh et al. 1998, Jokela et al. 2004, Fox et al. 2007a).

**Literature Cited**


Drafts

It is the option of each student whether they would like to submit an early draft for comment by the instructor. To allow appropriate time for the instructor to read and comment, all drafts must be submitted at least four weeks prior to the final assignment due date. This will allow me two weeks to review and comment, and you another two weeks to respond to the comments before submitting your final draft. Submitting a draft is recommended. The purpose of the draft is two-fold: 1) to improve your grade on this assignment, and 2) to give you more experience with the review process typical to all scientific literature.

Grading Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Technical report format <strong>WITH COVERSHEET</strong> correctly followed as described in the lab style manual, including proper table and graph formats, all correctly labeled</td>
<td>10%</td>
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<tr>
<td>Quality of writing, clear and concise communication</td>
<td>25%</td>
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<tr>
<td>Paper is well organized, and clearly flows from one section to the next</td>
<td>25%</td>
</tr>
<tr>
<td>Topic is adequately covered in terms of both breadth and depth</td>
<td>30%</td>
</tr>
<tr>
<td>In-text citation and literature cited formats are correct and consistent throughout</td>
<td>10%</td>
</tr>
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</table>

If you fall short of either the page or the citation count, your grade will be prorated accordingly. For example, a 15 page paper with 25 primary literature citations that otherwise earned a grade of 90% will be scored as follows:

$$\frac{15 \text{ pages}}{18 \text{ pages}} \times \frac{25 \text{ citations}}{30 \text{ citations}} \times \frac{90 \text{ points}}{100 \text{ points}} = 62.5\%$$

As you can see, it is important that you meet or exceed minimum required page and citation counts.

**Due Dates:** Paper topic and due dates must be agreed upon by the student and instructor by 1/25/2016 at 5:00pm CST.
Intensive Silviculture Presentation Assignment

Goals
The primary goals of this assignment are:

1. To learn about the management of plantation forests outside of the US South.
2. To improve your ability to give an interesting and informative presentation.

Description
You will create a 20 minute presentation that covers one aspect (forest tree improvement, forest vegetation management, forest nutrition) of the management of a chosen species in plantation forests. The presentation due date will be determined in agreement between the student and instructor by 1/25/2016 at 5:00pm CST. You may select one topic from below, or may choose another topic provided I approve it in advance.

Forest Tree Improvement
1. Douglas-fir
2. Poplars

Forest Nutrition
1. Sub-Saharan Africa
2. Norway Spruce

Forest Vegetation Management
1. Eucalyptus
2. Radiata Pine

Other?
Other combinations of topics or species are possible, pending prior instructor approval.

Presentation Format
The presentation should be targeted to senior-level undergraduate forestry students at SFASU. Your goal should be to have your peers walk out of the room after your presentation with a greater knowledge and understanding your topic. Anything within reason and good taste you can do to make your presentation more memorable is a plus. You can use whatever kind of powerpoint, handouts, or audiovisual aids that we can practically employ. If you use powerpoint, I require that you provide me a digital copy at the beginning of the class.
## Grading Rubric

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
<th>100%</th>
<th>90%</th>
<th>80%</th>
<th>70%</th>
<th>60%</th>
<th>&lt;60%</th>
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<td>Time (minutes)</td>
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<td>19-21</td>
<td>&gt;21</td>
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<td>&gt;23</td>
<td>&gt;23</td>
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<td>&lt;18</td>
<td>&lt;17</td>
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<tr>
<td>Breadth of Info</td>
<td>25</td>
<td>Cover’s all info</td>
<td>Missing minor content</td>
<td>Missing major content</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Accuracy of Info</td>
<td>20</td>
<td>Accurate coverage</td>
<td>Minor errors</td>
<td>Major errors</td>
<td>Many errors</td>
<td>Erroneous, superficial coverage</td>
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<tr>
<td>Organization</td>
<td>5</td>
<td>Well Organized</td>
<td>Out of place, lack of flow</td>
<td>Poorly organized</td>
<td>What?</td>
<td></td>
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<tr>
<td>Interesting</td>
<td>10</td>
<td>Entertaining stories</td>
<td>Boring, listing, dry</td>
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<td>Style</td>
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<tr>
<td>Professional appearance &amp; demeanor</td>
<td>5</td>
<td>Appropriate clothing for class, takes it seriously</td>
<td>Looks like they just woke up</td>
<td>Expletive laced slides &amp; clothing</td>
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<td></td>
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<tr>
<td>Audiovisual Aid Quality</td>
<td>5</td>
<td>Improves talk, not distracting, neat</td>
<td>Minor distractions, typos, etc.</td>
<td>Too much text</td>
<td>Unfixed Practice Errors</td>
<td>Out of order, incomplete, unreadable</td>
<td></td>
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<tr>
<td>Eye contact</td>
<td>5</td>
<td>&gt;60% of time</td>
<td>&gt;40% of time</td>
<td>Staring at slides or reading</td>
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<tr>
<td>Verbal skills</td>
<td>5</td>
<td>Volume and pace appropriate</td>
<td>Minor distracting verbal pauses</td>
<td>Um, uh, er, etc. Too fast</td>
<td>Too quiet, monotone, many verbal pauses</td>
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<td></td>
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<tr>
<td>Physical presence</td>
<td>5</td>
<td>Looks natural and comfortable</td>
<td>Some repeated distracting gestures</td>
<td>Standing behind podium</td>
<td>Rocking, distracting mannerisms</td>
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### OTHER POINT ADJUSTMENTS
- 10 points for each presentation on another day you miss (does not apply to excused absences)
- 5 points each time you are late to another day’s presentations
- 10 points each time you disrupt anyone else’s presentation (e.g. your phone rings)
- 10+ points for each individual if your draft Powerpoint is significantly under-prepared on the due date