**Reedley College – Agriculture and Natural Resources Department**

**Course Syllabus – Fall 2017**

**NR-11-57738 Silviculture**

Lecture - Mon. and Wed. 1:00 am to 2:50 am Room FEM 12

Lab - Mon. and Wed. 3:00 pm to 5:50 pm Room FEM 12

**Instructor:** Joshua Soderlund

Office: FEM 4G, Phone (559) 638-3641, Ext. 3260 Email: joshua.soderlund@reedleycollege.edu

Office Hours: Mon. 11:00am-12:00pm, Tues 10:00am-12:00pm, Thurs. 11:00am-12:00pm.

Other time by appointment

**Course Prerequisites:** none **Units:** 3

**Course Advisories:** English 125 and 126

**Holidays:** Holidays will be observed as per the State Center Community College District Schedule.

**Drop Deadline: November 13th,** after this date letter grade assigned.

**Final Exam: Monday, December 11th 1:00am – 2:50am**

**Text Book/References and required materials:**

Required Text:

Nyland, R., 2016. Silviculture: Concepts and Applications, 3nd Ed. Waveland Press, Long Grove, IL.

References and Resources:

* USDA Forest Service Silvics of North America Volume 1 (Conifers) and Volume 2 (Hardwoods). Available free online at <http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm>
* USDA Forest Service Fire Effects Database. Trees Index. Available free online at <http://www.fs.fed.us/database/feis/plants/tree/index.html>
* Dictionary of Forestry, Society of American Foresters. Available online at safnet.org
* Urban Forest Ecosystems Institute – SelecTree. Available at http://selectree.calpoly.edu

Students must have all required safety equipment when working with on field trips and during field lab exercises. The standard of 8” boots, gloves, pants, long sleeves, and a hard hat will be enforced. Students must furnish these items for their own use, they will not be provided.

 A scientific calculator can be valuable when performing calculations required in the course and on exams.

**Course Outcomes:**

Upon completion of this course students will be able to:

1. Distinguish between various harvest types, silvicultural prescriptions, and operations carried out to implement silvicultural components of forest management plans.
2. Select an appropriate silvicultural system (e.g. shelterwood, clearcuts, selection systems, and variations) in order to meet specific management objectives.
3. Understand timber marking of a forest stand to meet specific silvicultural prescriptions & marking rules.

**Course Objectives:**

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| --- |
| 1. Learn the characteristics and application of methods that comprise the practice of silviculture.
2. Understand the language of silviculture, including important terms that define the methods and practices.
3. Understand basic concepts of economics, management, and landowner objectives that have a bearing on silvicultural evaluations and decisions.
4. Demonstrate and develop treatment prescriptions based on specific long-term land objectives.
5. Discuss different ecological concepts (e.g. succession, energy flow, tolerance, etc.) and their importance to silviculture.
6. Understand the advantages and disadvantages of even-aged and uneven-aged stands.
7. Determine the appropriate planting procedure during artificial regeneration based on site productivity, site characteristics, and seed zones.
8. Perform measurements and data collection (ex. stocking surveys, regeneration assessments, etc.) associated with the practice of silviculture.
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**Classroom Conduct:**

All students are expected to act in a mature manner that respects their fellow students, the instructor and any guest presenters. Please turn cellular phones, pagers and all other electric devices **off** during class time. **No** tobacco products or sunflower seeds in class or on field trips.

**Cheating and Plagiarism:**

Cheating and plagiarism are serious offenses and will not be tolerated. Students shall comply with Board Policy 5410; each student is expected to exert an entirely honest effort toward attaining an education. Violations of this policy will result in failing grade on an assignment and/or the entire course.

**Accommodation Statement:**

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

**Reedley College Policies:**

To receive a passing grade for this course, students must complete all assigned work. It is your responsibility to stay informed on any changes to assignment due dates, readings, etc. Missing a class doesn’t excuse you from this responsibility (i.e. if a due date for an assignment changes, new assignments are given, etc.). This means you should ask a trustworthy classmate for notes if you are absent. Being absent is not an excuse for late work, late assignments, or just not knowing what is happening.

**Field Trips:**

There may be some field trips taken during the semester. These trips will generally occur during the scheduled class time. However, we may return to campus after 5:50 pm on occasion or we may depart earlier than the scheduled class time. Field trips are designed to allow for on-site observation of silvicultural practices currently employed by industry. Therefore, attendance and participation is mandatory.

These field trip classes will occur outside in an in-field laboratory setting. Being prepared means sturdy hiking shoes or boot, long pants, long sleeved shirt, jacket, eye protection, hearing protection, hard hat, a lunch, and water.

\* On certain occasions due to van and driver availability some students might need to provide transportation. Ridesharing is highly recommended!

**Attendance and Grading Policy:**

Class attendance is essential for students to be successful in any course, and this is especially true for compressed schedule courses. Individual participation will be considered when assigning your final grade. **If you miss class >6 times during the semester (without a valid reason) you may be dropped from the course**. If you miss a field trip, **NO** participation points will be credited. Upon approval of the instructor, you may make up one excused field trip and report.

Field trip reports are due at the beginning of the following class meeting, **No Exceptions**. Reports must follow the lab report format outlined on page four. Reports not meeting these guidelines will be reduced by 10%. Reports overdue by one week will receive no greater than 70% and greater than a week will receive no greater than 60%.

Exam grades may be curved based on a percentage of the highest point total in the class. Final grades will be assigned based on a straight percentage system according to the following scale:

90-100% A 80-89% B 70-79% C 60-69% D < 59% F

Final grades will be based on lab assignments, quizzes, exams, and a combined term paper and presentation. The weight of each grading component is as follows.

|  |  |  |
| --- | --- | --- |
| Item  | Total Points  | Percent of Final Grade |
| Exam 1 | 150 | 15% |
| Exam 2 | 150 | 15% |
| Final Exam  | 250 | 25% |
| Term Paper  | 100 | 10% |
| Presentation for Term Paper | 75 | 7.5% |
| Lab Assignments  | 200 | 20% |
| Unannounced Quizzes  | 75 | 7.5% |
| Total  | 1,000 | 100% |

Term Paper and Presentation

One major writing/presentation assignment will occur this semester. This assignment will include an individual paper and presentation on a forest pest/disease and its effect on the silvics of a single tree species or forest stand. The write-up will include: 1) title page, 2) introduction, 3) general information and description, 4) current & past research, 5) recommendations (what you think), and 6) conclusion. The report will be typed, 5-10 pages in length, double spaced, with one inch margins. At least two primary sources are required. A primary source consists of published literature found in scientific journals (i.e. The Journal of Forestry, Forest Science, Forestry, Forest Pathology, etc.). Additionally, a six minute PowerPoint presentation on the same topic is required. A presentation schedule will be circulated, with all presentations occurring during lab time on either **December 4th** or **6th**.

Lab Assignments:

Students will be required to turn in an assignment for each laboratory. Assignments will vary from work sheets to written reports. Assignments are due at the start of the next lab. Reports overdue by one week will receive no greater than 70% and greater than a week will receive no greater than 60%. Due to the nature of forestry field labs it is difficult to reproduce the field lab. In special cases students will be given a suitable make-up assignment.

Tentative Class Schedule Note: exact order of topics may vary depending upon scheduling of field trips and availability of necessary resources.

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| --- | --- |
| Lecture | Lab |
| Date  | Subject  |  | Subject  |
| 10/16 | Introduction to Silviculture  |  | Introduction / Silvics Lab Exercise  |
| 10/18 | Forest Regions~~Tree Physiology~~  |  | Stand Delineation- RC Farm Laboratory / Silvics Literature Review Assignment  |
| 10/23 | Basic Ecology, Competition, Succession |  | Vegetation Classification - RC Farm Laboratory |
| 10/25 | Forest Composition & Stand Structure  |  | Crown Class/Stand Structure-RC Farm |
| 10/30 | Prescription by Scale |  | Oak Grove Regeneration Inventory Lab |
| 11/1 | **Exam 1** |  | Seed Zones  |
| 11/6 | Regeneration & Cutting Methods |  | Tentative: Sequoia Lake Reforestation on Hall Property Field Trip |
| 11/8 | Regeneration & Cutting Methods cont.  |  | Tentative: SCE Forest Nursery Field Trip  |
| 11/13 | Silvicultural Treatments |  | Site Class, Productivity, Stand Development |
| 11/15 | Site Index CurvesBDq  |  | BDq, Unevenaged Management |
| 11/20 | Principles of Thinning Applications and Methods of Thinning  |  | Thinning and Growth Curves & MAI, CAI, PAI |
| 11/22 | **Exam 2** |  | Pruning on RC Farm  |
| 11/27 | Managing for Objectives  |  | Prescription Examination and Critique-Private Land, Sequoia Lake Field Trip  |
| 11/29 | Release Operations, Salvage, Control of Damaging Agents  |  | Student Presentations  |
| 12/4 | Tentative: Christmas Tree Management- Speaker: W. Bemis |  | Student Presentations  |
| 12/6 | Review for Final, Term Paper Due |  | Student Presentations  |
| 12/11-12/15 | Final Exams Week  | Dec 11th @ 1:00pm  |  Final Exam |

Field Trip Report Format (required)

1. Title page
	1. Field Trip Location
	2. Your Name
	3. Course
	4. Date
2. Introduction
	1. A short description of the field trip.
3. Discussion
	1. A detailed discussion of:
		1. What you saw, how it influenced your opinion, what you learned, etc.
4. Conclusion
	1. What you think now after this experience.

Note\*

You may include diagrams, tables, or photographs if permitted. A reference section is required if using outside resources.

Each report will be 3-5 pages:

* Typed, 12 point font
* Double spaced
* One inch margins on all sides.