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

**Course Syllabus**

NR 17-Introduction to Forest Surveying

Spring 2021 - CR#56441 - Room AG1

Lecture: Tuesday & Wednesday 8:00am to 8:50am,

Lab: Wednesday 9:00am to 11:50am.

**Instructor:** Joshua Soderlund                                                                                                **Units:**3

Office: FEM 4G, Phone (559) 638-0300, Ext. 3260

Email: joshua.soderlund@reedleycollege.edu

Virtual Office Hours: M--1:15pm-2:15pm; W--12:30pm-2:00pm; TH--9:00am-11:00am; F--12:30pm-1:00pm; Other times by appointment or *if my office door is open then I am available to talk.*

(ZoomConference links will be emailed out weekly)

**VIRUS WARNING- BECAUSE OF SERIOUS RISK OF COVID 19 VIRUS TRANSMISSION ALL PERSONS ARE EXPECTED TO ABIDE BY SAFETY PROTOCOLS AT ALL TIMES THROUGHOUT THE SEMESTER**

**DO NOT ATTEND ON-CAMPUS CLASSES IF YOU ARE ILL, IF YOU HAVE SYMPTOMS OF INFECTION OR HAVE BEEN IN CONTACT WITH ANYONE BELIEVED TO BE INFECTED WITH COVID 19.**

You are **required to wear a cloth face covering** over your mouth and nose while in face-to-face portions of this class and while inside of school buildings, near the entry doors and when outside but near other people.  You are required to wear facial coverings during laboratory exercises whenever other people are present in your area.

You are required to take action to sterilize equipment or other items that you handle before leaving an area and before allowing other people to touch those items.

**Course Advisories:**Mathematics 45 or 4A, English A1

**Holidays: Spring Recess- 3/29/21-4/2/21**

**Drop Deadlines: January 22th,**last day to drop to qualify for a refund.  **January 29st,**last day to drop to avoid “W”.  **March 12th,**after this date letter grade assigned.

**Final Exam: Thursday, May 20th, 8:00am – 9:50am**

**Textbooks:**

McCormac, J., W. Sarasua and W. Davis. 2013. Surveying 6th Edition. John Wiley & Sons, Inc. New York, NY. **(Recommended**)

Kiser, J. 2010. Surveying for forestry and the natural resources. John Bell and Assoc. Corvallis, OR. **(Optional)**

**Required Materials:**

Students will need the following materials to perform tasks in class:

\*A scientific calculator such as a TI 30 series or similar

\*A ruler

\*Sokkia transit field book or similar surveyors field book [at RC bookstore]

\*Drafting pencil (HB) [at RC bookstore]

**Course Outcomes:**

1. Determine distance and area measurements using manual and electronic devices.
2. Compute topographic elevation with ocular and electronic devices and/or trigonometric functions.
3. Survey a land feature (e.g. meadow, forest stand) and/or human-made feature (e.g. boundary, road) by use of surveying techniques.

**Course Objectives:**

1. Understand and competently operate surveying equipment and instruments (compasses, steel tapes, levels, abneys, clinometers, etc.) including modern electronic equipment (ex. electronic distance machine (EDM), Global Positioning System (GPS).
2. Demonstrate accurate field measurement of distances, direction, and elevation
3. Organize and assemble accurate surveying field notes.
4. Comprehend and demonstrate basic surveying computations.
5. Know and understand the Public Land Survey System and its legal subdivisions.
6. Work together as a team in the collecting and processing of surveying data.
7. Prepare planimetric and topographic maps from field notes.

**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 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 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.  If class happens to be canceled the dean’s office will post a cancellation notice on the classroom door or assign a substitute. For Reedley Campus classes, the dean’s office will post the canceled class to the Reedley College website.

**Participation and Grading Policy:**

Grading for this course is based on the sum of one exam, a comprehensive final, lab assignments/reports, and quizzes.  Both lecture and laboratory material will be covered on midterm exams and quizzes.  No early or makeup exams or quizzes will be given, unless previously (one week) authorized by the instructor. Late assignments will have 10% deducted each week.  After an assignment is submitted by the due date a student has one week to re-submit for a better grade.  Please communicate with me if you have extenuating circumstances which will cause a late assignment submission.    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**.  Exams may be curved based on a percentile of the highest point total in the class.  Extra-credit may be available. Final Grades will be assigned based on a straight percentage system according to the following scale:

Grades in this course will are based on a 10-point grading scale.

90-100% A

80-89%   B

70-79%   C

60-69%   D

   <59%   F

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

|  |  |
| --- | --- |
| **Item** | **Percentage and Points** |
| **Field Books/ Lab Reports** | 30%                      150 |
| **Quizzes** | 10%                      50 |
| **Participation** | 20%                      100 |
| **Midterm Exam** | 20%                      100 |
| **Cumulative Final Exam** | 20%                      100 |
| **Total** | 100%                    500 |

Laboratory Activities:

There will be several laboratory excursions taken during the semester.  These trips will generally occur during the scheduled class time.  However, we may return to campus after 11:50 am on occasion.  If you are unable to attend a class or lab period due to excused absence, you will still be responsible for the material covered and **may** be able to complete an alternative assignment.  Failure to do so will result in a zero for the particular lab.  Always come to lab prepared for outside activities.  Prepared is defined as having sturdy hiking shoes or boot, long pants, water, food, and warm (appropriate) clothing.

Lab/Field Book Assignments

Lab assignments will vary from practical skills assessments, computer assignments, and written lab reports. **If not otherwise announced, all field book assignments are due the following class period.** Makeup lab assignments will not be allowed without a valid excuse. Students must attend the lab or provide a valid excuse to complete a lab assignment.

Quizzes

Students will be given quizzes at random during lectures. Quizzes will cover material and terms presented in the lecture and are designed to test student comprehension.

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

|  |  |  |
| --- | --- | --- |
| **Week          Date** | **Lecture – T & W** | **Lab – W** |
| **1                 1/12 & 1/13** | Introduction to Surveying: terminology, field notes | #1 Lettering Techniques  #2 Pacing Laboratory |
| **2                 1/19 & 1/20** | above lecture cont. | #3 Pacing and Area Determination |
| **3                   1/26 & 1/27** | Distance Measurement | #4 Pacing and Area Calculation (continued) |
| **4                 2/2 & 2/3** | Tape Standardization & Taping | #5 Steel Tape Standardization               #6 Area Calculation With Steel Taping |
| **5                 2/9 & 2/10** | Leveling | #7 Horizontal Taping using Slope Chaining |
| **6                2/16 & 2/17** | Angles and Direction | #8 Practice Leveling |
| **7                   2/23 & 2/25** | Above lecture cont. | #9 Differential Leveling |
| **8                3/2 & 3/3** | Angles&Direction /Traverse | #10 Hand Compass Traverse |
| **9                3/9 & 3/10** | Total Station Intro & Exam Review | #11 Staff Compass Traverse #12 Introduction to Total Stations |
| **10             3/16 & 3/17** | **Mid-Term** | San Joaquin Lecture Series: Forestry Fire Scientist |
| **11             3/23 & 3/24** | Total Stations Continued | #13 Total Station Traversing by    Radiation |
| **12            3/30 & 3/31** | ***Spring Break 3/29 - 4/2*** |  |
| **13           4/6 & 4/7** | Topographic Surveys               #14.5 Total Stations and Topo Lines | |
| **14           4/13 & 4/14** | Horizontal Curves | #15 Introduction to Horizontal Curves |
| **15          4/20 & 4/21** | Public Land Surveys | #16 Maps and Intro to Garmin/ Trimble Juno GPS |
| **16         4/27 & 4/28** | GPS and GIS Overview | #17 (tentative) Field Trip – Sequoia Lake |
| **17         5/4 & 5/5** | Earthwork (Cut/Fill): Area and Volume Calculations | Road/Bridge Location or  Wahtoke Creek Survey: RC Farm |
| **18          5/11 & 5/12** | Review | Lab Practicum |
| **Final Exam:** | **Thursday, May 20th, 8:00am – 9:50am** | |