**NR 12 – Watershed Ecology**

**Section #51753**

Course Syllabus

Room FEM 8

Lecture: Wednesday 8:00am – 9:50am

Lab: Wednesday 10:00am – 12:50pm

**Instructor:** Louie M Long Jr.

Office: FEM 4F, Phone (559) 638-0300 Ext 3268

Email: louie.long@reedleycollege.edu

Office Hours: Tuesday 8:00am – 10:00am, Thursday 8:00am – 10:00am

**Course Prerequisites:** None Units: 3

**Drop Deadlines:**

Friday, January 25th, Last day to drop and receive a full refund.

Sunday, February 3rd, Last day to drop and avoid a “W” on WebAdvisor.

**Friday, March 8th, Last day to drop. A letter grade will be assigned after this date.**

**Final Exam:** Wednesday, May 22nd, 8:00am – 9:50am

**Required Textbooks:** None

**Required Materials:** Students will need the following materials to complete this course;

 A scientific calculator

Lab Manual. A lab manual can be purchased at the bookstore for approximately $7.00 or you can download it from CANVAS and print it yourself. You will need to bring it to class every day.

**Course Objectives:**

Upon completion of this course, students will be able to:

1. Delineate the boundaries of a watershed and sub-watershed,
2. Apply the necessary skills to assist the supervisor with data collection, scientific analysis, and to prepare basic reports,
3. Analyze and assess human-induced disturbances through analysis of aquatic organism.

**Student Learning Outcomes:**

1. Analyze natural and human-induced disturbances in a watershed.
2. Apply skills to aid a biologist with data collection, scientific analysis, record data, and to prepare basic reports.
3. Correlate biological and environmental factors that affect ecosystem health.

**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 non-essential electric devices off during class time.

**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 (e.g.., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact your instructor as soon as possible.” Arrangements must be made in advance (i.e. alternate test accommodations through DSPS).

**Reedley College Policies:**

To receive a grade for this course, students must complete all assigned work. There are NO makeup assignments for this course without prior approval. 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. **Check CANVAS often!**

Effective November 17, 2016, smoking and tobacco use shall not be permitted on any Reedley College property. Use of tobacco, smoking and/or e-cigarettes will not be permitted on any property of Reedley College; this includes: campus buildings, residential facilities, outdoor structures, athletic facilities, parking structures, parking lots, surface lots, grounds areas, any areas previously identified as designated smoking areas, and in all Reedley College owned, leased, or rented vehicles. Every student, faculty member, staff person, and visitor on campus is authorized to implement the College’s smoke free policy and regulation. For further information about Reedley College’s smoke-free policy, please see the complete policy by clicking here: **https://www.reedleycollege.edu/about/about-us/policies-and-procedures/smoke-free-policy/index.html**

**Field Trips:**

There will be multiple field trips taken during the semester. These trips will generally occur during the scheduled class time. However, we may return to campus after 1:00 pm on occasion or we may depart on days other than the scheduled class time. Field trips are designed to allow for on-site observation of watershed management practices currently employed by industry. Therefore, attendance and participation is mandatory.

This class will occur outside in an in-field laboratory setting. Always come to lab prepared for outside activities. Being prepared means sturdy hiking shoes or boot, long pants, long sleeved shirt, jacket, eye protection, hearing protection, a lunch, and water.

**Attendance and Grading Policy:**

Field trips are designed to allow for on-site observation of watershed management techniques. Therefore, attendance and participation is mandatory. 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 report.

Field trip reports are due at the beginning of the following class meeting, No Exceptions. Reports must follow the lab report format outlined in the handout you receive prior to the field trip. Reports overdue by one week or greater will receive a zero.

Class attendance is essential for students to be successful in any course. If you miss class >3 times during the semester (without a valid reason) you may be dropped from the course.

**Tardies:**

Students are expected to be on time. It is distracting, rude and unfair to fellow classmates and to the instructor when a student is late. It is your responsibility to notify the instructor (on a break or after class) that you are present if you arrive after roll has been taken.

**Lab Assignments:**

Lab assignments will vary from practical skills assessments, computer assignments, and written lab reports. All 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 an excuse to complete a lab assignment.

**Quizzes:**

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

**Exams:**

We will have 3 exams in this class; 2 midterms and 1 final exam. The final is cumulative.

**Grading Policy:**

Grades in this course are based on a 10-point grading scale. Final grades may be curved based on a percentage of the highest point total in the class. Late exams will be docked 10% per day overdue. Exam and 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

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

|  |  |
| --- | --- |
| Item  | Percent of Final Grade |
| Midterm | 25% |
| Final Exam  | 30% |
| Quizzes  | 15% |
| Lab Assignments  | 30% |
| Total  | 100% |

**Extra Credit:**

I do not give extra credit to individual students. If I make extra credit points available, they are available to all student whether you need the points or not. There is usually an extra credit question on the exams. There are also some volunteer opportunities available that I will offer 10 points extra credit for your participation. This may not sound like much but it is usually enough to bump a student one full letter grade. These opportunities include FFA competitions (Winter and Spring) and FARMS event. Dates and time to be announced.

Tentative Class Schedule

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

|  |  |  |
| --- | --- | --- |
| **Date** | **Lecture** | **Lab** |
| 1/16/19 | Intro to watersheds | Pace, Estimating Distance, campus river tour |
| 1/23/19 | Energy in a Watershed / Properties of water | Stream Cross-section on Campus |
| 1/30/19 | The Hydrologic Cycle | Estimating Discharge |
| 2/6/19 | Interception & E.T. | BMI collection on campus/ Site analysis |
| 2/13/19 | ***Stream Cross-section Thorburn Channel/ BMI Collection*** |
| 2/20/19 | Infiltration / Subsurface Water | BMI Lab - classroom analysis |
| 2/27/19 | Runoff & Yield | BMI Lab - classroom analysis |
| 3/6/19 | Stream Classification | BMI Lab - classroom analysis |
| 3/13/19 | **Midterm**  | BMI Lab - classroom analysis |
| 3/20/19 | Subsurface Flow/Run off | BMI Lab - classroom analysis |
| 3/27/19 | Bankful Discharge/ Stream Classification | Manning's Geometric Method |
| 4/3/19 | Fluvial Geomorphology/Lakes & Reservoirs | Water Quality Sampling |
| 4/10/19 | Invasive Species | Watershed Delineation |
| 4/17/19 | **Spring Break** |
| 4/24/19 | ***Lower Kings River Tour*** |
| 5/1/19 | ***Pine Flat Dam Tour*** |
| 5/8/19 | Video: Tulare the Phantom Lake  | Slope and Sinuosity |
| 5/15/19 | Review for Final | TBA |
| 5/22/19 | **Final Exam** | **Wednesday 08-09:50** |