

## OGLALA LAKOTA COLLEGE

### Course Syllabus for EnS 473 Wetlands Spring 2008

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Course Description: Wetlands are critical in the life cycles of avian, amphibian and rare floral species on the Pine Ridge Reservation and northern Great Plains. Furthermore, wetlands are protected under federal law. Wetlands covers the fundamental processes contributing to the unique nature of wetland ecosystems; as well as the various functions and values associated with wetlands. This course is in two parts: 1) understanding general hydrologic, geochemical, microbial wetlands processes, 2) application of this knowledge in the delineation of wetlands.

Course Objectives: Wetlands course is a capstone course for hydrology and environmental chemistry. The course allows students to integrate their knowledge of chemistry, geology, and hydrology with their field experiences in order to understand the wetlands processes in the Northern Great Plains.

Weekly course topics (and approximate lecture dates) will include:

- Wetlands Delineation and Wetlands Concepts (Lecture 1)
- Plant Indicators of Wetlands (Lectures 2 – 3)
- Vegetation Sampling and Analysis for Wetlands (Lecture 4)
- Soil Indicators of Wetlands (Lectures 5 – 7)
- Boundary Delineation Methods (Lecture 8)
- Wetlands Problems and Field Situations (Lectures 9)
- Wetlands Classification (Lecture 10)
- Wetlands Communities of the Pine Ridge Reservation (Lecture 11)
- Wetlands Mapping, Photointerpretation, and Remotely Sensed Data (Lectures 12 – 14)
- Guest Speakers – Dr. Dr. PV Sundareshwar (SDSMT); Bob Pille (OST EPP) (TBA)

This offering of EnS 473, particularly lectures 12 – 14, will complement the Great Plains Riparian Protection Project. We will be integrating our remote sensing and soils research towards the derivation of a watershed map for the Pine Ridge reservation.

Programmatic Application: The Clean Water Act mandates that Tribes work with the US Environmental Protection Agency (EPA) to identify and protect wetlands on reservations. Through this course, we will discuss methods for delineating and monitoring the status of wetlands.

Prerequisites: Geol 133 Environmental Geology; EnS 253 Hydrology; Bio 164 Introductory Biology II completed with a grade of “C” or better; or permission of instructor. A working knowledge of GIS is a strongly recommended.

Required Textbook: *Wetland Indicators*, 1999, by Ralph Tiner, published by Lewis Publishers, Boca Raton, Florida; ISBN 0-87371-892-5

Supporting Text: *A View of the River*, 2006, by Luna B. Leopold, published by Harvard University Press; New Ed edition; ISBN 0674018451

Descriptive Reading Load: Grade14 reading level. One to two chapters every 2 weeks.

Types and Amounts of Writing Expected: The nature of this course offering requires that a significant amount of writing to be completed as homework.

Lakota Perspective: This course stresses **Wolakotakiciapi** or “learning Lakota ways of life in the community”. Effective use of the Rosgen Stream Classification system requires patience and quiet observation. Participants in this course are expected to practice respect for each other, the instructor, and for all living and natural things used during this course.

Course Requirements: The homework will utilize the Internet, spreadsheets, ArcGIS, and Erdas Imagine. Students are expected to have a working knowledge of the Internet, spreadsheets and ArcGIS or the capacity to learn these skills *on their own time* over the course of the semester.

Class Attendance: In accordance with OLC policy, you will be dropped from the course if you miss more than three consecutive class periods. If you miss more than five class periods during the semester, you will also be dropped from the course.

Grading: Grading for this class will be made up of the following areas:

Assignments	40%
Quizzes	20%
Discussion	10%
<u>Midterm / Final Exam</u>	<u>30%</u>
Total	100 %

The following scale will be used:

- A = 90% - 100%
- B = 80% - 89.9%
- C = 70% - 79.9%
- D = 60% - 69.9%
- F = below 60%

Assignments: Homework assignments are based on readings and are tied to weekly objectives. The purpose of these assignments is to apply and reinforce concepts from the weekly readings. Handing in the assignment after the due date will result in an automatic **50-percent deduction** for each week the assignment is late.

Homework is an opportunity to practice professionalism. All homework involving writing should be completed in paragraph form, which consists of: i) a topic sentence; ii) 3-5 body sentences; and iii) a conclusion or transition sentence. Professional ethics requires referencing

the author of any text or pictures that are used in assignments. Plagiarism (i.e. passing off another author's work off as your own) will not be tolerated. Please refer to the Oglala Lakota College Student Handbook for the official policy on plagiarism. Please contact the Instructor if you have questions on plagiarism, or on how to site another person's work. Suspected cases of plagiarism or academic dishonesty will be referred to the OLC Administration.

The instructor is available for additional help on homework via email or through a telephone interview (please email to set-up an interview time).

Quizzes and Exams: There will be several quizzes administered through the OLC Moodle server based on weekly readings. Students are expected to complete online quizzes on time, as **exams and quizzes will only be available during their scheduled week**. Making up missed exams and quizzes are at the Instructor's discretion.

Course Philosophy: You are not studying and learning for the instructor, but for yourself. Grades are important for your academic career; nevertheless, your professional life really begins after you graduate. Understanding rivers will help you not only in your professional career, but also to understand and appreciate your surroundings and life itself.

This is a capstone class in environmental science. This is your chance to start build onto your existing knowledge and excel in it. But it is up to you. You have to invest your time (Other OLC professors who have previously taught this course suggest at least 4 hours of reading and 2 hours of problem-solving per week aside from your homework for this course). The instructor will work to provide time within the allotted class period and laboratory time outside of the class when students will have the opportunity to work on homework in a collaborative fashion.

**Tips to Succeed in this Course:**

Read chapters **before** trying to do the homework or the quiz. Then it will be much easier for you to follow the online lecture and to use online forums to ask questions about material that you did not understand.

Do not just “read” your textbook. Keep good notes in a separate notebook that you can use to study for the final exam. Use your notebook to comprehend new concepts and define new terms **in your own words**. This notebook will be useful for studying for the final exam.

Homework will include essay questions. Be sure that you can define (in full, comprehensible sentences) any new concepts and key terms when reading through a chapter so that you can use these terms in a meaningful way in your homework.

When you do your assignments, go back through the appropriate chapters and read them carefully a second time to find the answers.

Actively take part in the class laboratories. This will help you solve problems in your homework in a collaborative fashion.

Note: **The instructor reserves the right to make changes. Students will be informed of any such change.**