



Principles of Wetland Design – Syllabus



Duration: 12 Weeks

Credit Hours: 36 Hours

General Information

The Principles of Wetland Design (PWD) course is a new approach to understanding wetland design. Our 12-week course will prepare you to diagnose and understand how a wetland should function and provide ways to improve wetland projects in peril. All of the classroom presentations, discussions and project design information can be accessed online, no additional software is required.

NOTE:

This class will require the student to find a suitable field site at a location convenient to them. Some rudimentary survey work will be required, so the student will need to gain access to the site from the landowner.

The course will conclude with the preparation of a wetland design project based on a local site. Each student must locate a potential wetland mitigation site and prepare a detailed plan that covers all of the elements presented in the course. Each week's assignment will provide the data necessary for the development of the plan. The student will receive individualized review of the site data and design to help identify trouble spots and highlight high points.

Course Description

The first portion of the course includes presentations on critical wetland functions which include shoreline bank erosion control, sediment stabilization, water quality, habitats for wildlife and fish, and addressing the uniqueness/heritage aspects of the site.

The next portion of the course includes the development of the methods and calculations necessary to properly plan for wetland hydrology. A water budget will be established to enable students to understand how water circulates through a wetland.

Once the target wetland functions have been identified and the water budget is established, all the parts of the wetland are put together. This includes wetland planting schedules, soil amendments, project construction planning and monitoring protocols.

In an ideal situation, if all protocols have been followed, a fairly successful wetland should result. Unfortunately, this does not always occur. Therefore, the next topic discussed is how to take apart an existing wetland project and identify what might not be working and analyze possible conflicts. Our forensic approach will highlight areas that can be modified to restore the design back to its intended functions.

At the completion of the course the student will be able to describe the physical, chemical, and biological processes of a wetland, document the ecological processes necessary for restoring and enhancing wetlands, prepare a water budget and properly size a proposed wetland system, identify the methods used to restore, manage, maintain, and monitor the wetland system, highlight the existing and potential functions of a prospective restoration or enhancement site, and complete a wetland site design and determine associated opportunities and constraints.

Course Requirements

Students are expected to present original work for all weekly assignments, respond to weekly forum discussions, and provide responses to other students' discussions on or before the due date of the assignment. All information for course assignments (data forms, soil profiles, pictures, drawings, etc.), must be current and completed within the time frame of your published course start and end dates unless the staff of the Swamp School grants a specific exception to this policy. Submissions completed for an employer's work-related project will be accepted as long as they meet the time restrictions mentioned above.

Weekly class assignments include the preparation of a submission that may include an essay, pictures, maps, or other course-related material. Students must also complete several quizzes and a final exam.

Instructor Contact - Directly within the class via Moodle email

Time Limits

Weekly assignments are to be turned in within the timeframe indicated for each assignment, normally ten days from the start of the lesson. Daily assignments in weeklong courses are due the next day. You must complete all class requirements by the official end date of the course. If you are unable to complete the class within that time frame you **MUST** notify the Swamp School in writing. Late work may be turned in after due dates but may be penalized. If you have not completed the course by the official end date, additional time extensions can be requested but may be subject to an additional fee. If you wish, you may transfer into the next scheduled session of the course, however, some or all of your previous coursework may not carry over to the new session and you may also be subject to a re-enrollment fee. The Swamp School reserves the right to modify this policy on a case-by-case basis.

NOTE: In the event that the student falls more than two weeks behind during the class term, the student's course access will be suspended without notice until the student contacts the Swamp School to discuss continuation in the class or transfer to another session. It is up to the student to contact the Swamp School to discuss re-enrollment options.

Plagiarism and Writing Standards

The Swamp School's expectation is that all student work will be original. A detailed description of our policy on proper submission of an assignment is outlined in our Plagiarism Statement and Writing Standards.

Grading*

Weekly Assignments - 50%

Weekly class discussions and responses - 20%

Midterm - 15%

Final - 15%

*A minimum overall grade of 80% is required to pass this class.

Course Schedule

Week	Topic
Week 1	Models Overview
Week 2	Conducting a Wetland Assessment
Week 3	Shoreline Bank Erosion Control
Week 4	Sediment Stabilization
Week 5	Water Quality
Week 6	Wildlife Mid-term exam
Week 7	Fish
Week 8	Uniqueness/Heritage
Week 9	Developing a Water Budget
Week 10	Preparing a Grading Plan
Week 11	Implementation and Monitoring
Week 12	Final Exam