COURSE SYLLABUS

INTRODUCTION TO HYDRIC SOILS

SWS 4932
Spring 2015
2 credits

I. ENROLLMENT CAP: 10

II. COURSE PREREQUISITES: None, but a knowledge of chemistry, hydrology, and soils would be helpful.

III. COURSE DESCRIPTION: Introduction to hydric soils as part of the wetland ecosystems. This course will cover topics such as basic concepts in soil as related to hydric and non-hydric soils; definition and history of wetlands in the United States; what the criteria and hydric soil indicators are and how to use them in the field; a discussion of hydric soils in the United States by Land Resource Regions; whole landscape hydrology and its application to restore or create wetlands; protocol for monitoring hydric soils in the field; using Soil Taxonomy to identify potential hydric soils; understand special conditions for hydric soils; and a dialogue on regulations, mitigation, and laws associated with hydric soils. As much as possible all instruction will be in accordance with the National Technical Committee for Hydric Soils.

IV. COURSE OBJECTIVES:
   A. To acquaint students with soil science terminology used to describe hydric and non-hydric soils
   B. To appreciate the history of wetlands and hydric soils
   C. To define wetlands and the role hydric soils play
   D. To understand the criteria and indicators used for hydric soils
   E. To be able to use the hydric soil indicators
   F. To be able to used the hydric soil national list
   G. To be able to identify the hydric soil indicators in the field to delineate wetlands
   H. To understand hydric soils in special conditions

V. COURSE FORMAT: Lecture material will be delivered via E-Learning Sakai.

VI. INSTRUCTOR:
   Mary E. Collins
   Phone: 563-245-3754
   Email: mec@ufl.edu
   Office: On the web at lss.at.ufl.edu
   Office Hours: Available via email, phone, and chat sessions
VII. COURSE WEBSITE: lss.at.ufl.edu login using your Gatorlink username and password. You will see this course listed under e-learning.

VIII. INFORMATION ON WEBSITES and SUGGESTED TEXTBOOK: There is a lot of information available concerning hydric soils and wetlands. Here are some suggested readings.

Wetland Soils by J.L. Richardson and M.J. Vepraska. 2001. Lewis Publishers


XI. LECTURE MATERIALS and HANDOUTS: Lecture material, handouts, and reading and written assignments will be available via the website. This DE course has been structured to provide the students with similar lecture materials as the on-campus course. Therefore, some of the lecture material (used with permission and modified) is from Wade Hurt (instructor of the on-campus course), Soil and Water Science Department and others.

X. CLASS ATTENDANCE: Chat sessions are not mandatory, but you are expected to make an effort to attend as many as possible. To successfully complete this course in a semester, the student must complete all material presented. This course is designed to enable the student to learn as much as the student wants to study.

XI. GRADING SYSTEM: There will be no exams, but rather assignments. Assignments must be completed and turn-in on time in the proper format. Each day the assignment (if accepted) is late, 5 points will be deducted.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
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<tbody>
<tr>
<td>6 Assignments @ 100 points each</td>
<td>600 points</td>
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<tr>
<td>Final Assignment @ 150 points</td>
<td>150 points</td>
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<tr>
<td>Total points</td>
<td>750 points</td>
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Final Grade Determination Based on a total of 750 points:

A  = $\geq 698$ points
A- = 697 - 675 points
B+ = 674 - 653 points
B  = 652 - 623 points
B- = 622 - 600 points
C+ = 599 - 578 points
C  = 577 – 548 points
C- = 547 - 525 points
D+ = 524 - 503 points
D  = 502 – 473 points
D-  = 472 - 450 points
E    = $< 449$ points

**OPTIONAL PROJECT:** An optional project (approved by the instructor) will be available to earn **50 bonus points**. Your topic for the project must be approved by the instructor by **MONDAY, Feb. 16 or before**. Submit an outline of your project by the deadline. The project will be due **MONDAY April 13**. You may turn it in before that date if you wish. Optional project WILL NOT be accepted after that date and time. It is a bonus of 50 points. The following is a suggested list of projects.

**Interview** – You may want to interview a person who is actively engaged in hydric soil determinations or wetland identification. This person could be in research or work for a private business or a regulating agency. The interview must be **FACE-TO-FACE**. More information about the interview will be given when you receive permission from the instructor.

**Field Exercise** – You may have a wetland close to your home. Get permission from the owner and identify and delineate the extent of the hydric soils. Document your field exercise with pictures and/or video. More information about the field exercise will be given when you receive permission from the instructor.

**Research Paper** – Pick a topic of interest concerning hydric soils and write a research paper of approximately 7 pages. More information about the paper will be given when you get permission from the instructor.

**Presentation** – Create a presentation on an area of interest related to hydric soils. This presentation could be a powerpoint presentation which could be posted on the course website. The topic for the presentation may range from a past or present legal issue concerning hydric soils, creating a DE lecture on some aspect in hydric soils, to field techniques used to determine hydric soils. More information about the presentation will be given when you receive permission from the instructor.
Video – Create a 5 to 7 minute video on hydric soils. This video should be made to be viewed by a broad audience with the potential of being uploaded to the course website and e.g. YouTube. More information about the video will be given when you receive permission from the instructor.

Others – There may be project not listed above that you would be attracted to you and wish to pursue. Advice on what you propose will be given when you receive permission from the instructor.

UNIVERSITY POLICIES

Grades and Grade Points
For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Absences and Make-Up Work
Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Academic Honesty
As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php.

Software Use:
All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Training Programs
  Community Provider Database

- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See http://distance.ufl.edu/student-complaints for more details.
I. Introduction to Hydric Soils
   Introduction to Course
   Introduction to General Concepts

II. Basic Soil Concepts
    Soil Horizons – Masters and Subordinate Horizons
    Soil Color – How it is determined and what it means
    Soil Particle Sizes, Texture, and Textural Triangle
    Soil Drainage & Redoximorphic Features
    Concepts of Soil Classification

III. History of Wetlands and Hydric Soils and Definition of Wetlands
     Definitions of Wetlands
     History of Wetlands
     History of Hydric Soils
     Regulations, Mitigation, and Laws associated with Hydric Soils

IV. Redox Soil Chemistry
    Chemistry of Water
    Redox Reactions
    Redoximorphic Features
    Soil Color and Oxidation/Reduction
    Measuring Reduction in Soils
    Redox Potential
    Factors Controlling Reduction Features in Soils
    Redox Depletions

V. Criteria and Indicators of Hydric Soils in the United States
   Land Resource Regions
   Hydric Soil Criteria and National List of Hydric Soils
   All Soil Textures Indicators
   Sandy Soils Indicators
   Loamy and Clayey Soils Indicators
   Delineation of Hydric Soils

VI. Field Instruments to Monitor Hydric Soils
    Construction, Installation, and Use of Water Wells
    Construction, Installation, and Use of Piezometers
    Construction, Installation, and Use of Platinum Electrodes
VII. Whole Landscape Hydrology Indicators: Application to Restore or Create Wetlands
   Hydric Soil Indicators Related to Morphological Features
   Non-hydric Soils Related to Morphological Features

VIII. Using Hydric Soil Indicators in Disturbed and Altered Hydric Soils to Characterize Regulatory Wetlands
   Vegetative Disturbance
   Filled Disturbance
   Land Leveling Disturbance

IX. Soil Taxonomy and Possible Hydric Soils
   Categorical Levels
   Wet Suborders
   Interpreting Taxonomic Names
   Examples of Subgroups