SWS 5234: ENVIRONMENTAL SOIL, WATER, AND LAND USE:
SYLLABUS AND SCHEDULE 2012

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INSTRUCTOR:

Dr. E.A. Hanlon, Jr., Professor, Soil and Water Science Department, Southwest Florida Research and Education Center, 2685 SR 29 North, Immokalee, FL 34142-9515, phone 239-658-3400; email eahanlon@ufl.edu ; office hours by appointment.
A.L. Hylkema, GraduateTeaching Assistant, Southwest Florida Research and Education Center, 2685 SR 29 North, Immokalee, FL 34142-9515, phone 239-658-3400; email flwrgirl@ufl.edu ; office hours by appointment.
S.S. Shukla, Engineer, Southwest Florida Research and Education Center, 2685 SR 29 North, Immokalee, FL 34142-9515, phone 239-658-3400; email ssshukla@ufl.edu ; office hours by appointment.

TIMES:

All 40 Lessons ("lectures") will be posted on E-Learning (Sakai: https://elearning2.courses.ufl.edu/portal , accessed: 5Jun12) at the beginning of the Fall Semester. Student Bulletin board postings in E-Learning (constituting an on-line facsimile of a Discussion Session) are an integral part of the learning process and are a

graded portion of this course. The instructor shall respond in a timely fashion throughout the term.

Chat sessions are planned from 6 p.m. to 7 p.m. (Eastern Time) on *scheduled* Tuesdays during the regular semester using the Web-based system, Adobe Connect. Chat sessions will be held based upon need and possible participation of most of the class. Participants may interact with the instructor through typed questions and comments. The instructor will respond via voice through the Adobe Connect System. Typically, chat sessions will be held 1 week before the exams. The chat sessions are free form in that students ask the instructor to comment, expand, give examples, etc. Students can suggest topics for the chats to the instructor before the chat to allow the instructor time to upload relevant material into the Adobe Connect system, or during the actual chat session. The intent is to aid the student with principles or course content, and avoid a scripted lecture.

ROOM:

N/A (taught via distance education only, via E-Learning, in Fall 2011)

CREDIT HOURS: 3

SECTION NO.: **1326 and 2763 (Distance Education only!)**

ENROLLMENT CAP: 25.

MATERIAL AND SUPPLY FEE: None.

PREREQUISITE: SOS 3022, or SOS 5050, or equivalent

REQUIRED TEXTS:

Mirage: Florida and the Vanishing Water of the Eastern US., by Cynthia Barnet. The University of Michigan Press. 2007. ISBN-13: 978-0-472-11563-1 (Cloth: Alkaline Paper).

Plan B 4.0: Mobilizing to Save Civilization, by Lester Brown. W. W. Norton and Company. 2009. ISBN 978-0-393-33719-8 (Paperback).

Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters, by R.J. Glennon. Island Press, Washington. 2004. ISBN 1-55963-400-6 (Paperback).

NOTE: Textbooks can be ordered through the UF Bookstore by going to www.ufl.bkstr.com, then clicking on "Books," and then "Textbooks." From there, the ordering/shipping information is self-explanatory.

COURSE OBJECTIVES

To identify and relate differences among soils and their suitability for selected land uses.

To use the relationships between land use and the behavior of water in the soil and the landscape.

To examine historical and current water allocation techniques.

To apply methods of rating soils to determine suitability for selected uses and integrate these ratings with water and landscape information.

To integrate information and principles found in resources such as the Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm , accessed: 5Jun12) and to a lesser extent soil survey reports and contour maps for managing soil, water, and land uses together.

GRADING:

Examination A = 250 points (25%)

Examination B = 250 points (25%)

Final Examination = 250 points (25%)

Projects and reports = 100 points (10%)

Participation in discussion threads (bulletin boards) = 150 points (15%)

Total = 1000 points (100%)

GRADE SCALE:

Grade	Grade Point	%
A	4.0	90-100%
B+	3.5	85-89%
B	3.0	80-84%
C+	2.5	75-79%
C	2.0	70-74%
D+	1.5	65-69%
D	1.0	60-64%
F	0	<60%

DISTANCE EDUCATION PARTICIPATION:

Participants will access lectures, discussion threads, exams, etc. via the Internet using the UF Sakai E-Learning system. https://elearning2.courses.ufl.edu/portal (accessed: 5Jun12)

WORK EXPECTED:

Exams

Exams consist of computations, essay questions, and/or short answer questions, alone or in combination.

Students are expected to understand, associate, combine, and evaluate all material from lectures, discussions, and assigned readings. Emphasis is on understanding and applying the processes and underlying principles, not on memorization of information.

Course Project

The project report involves subjects such as interpretation of soil maps and topographic maps; understanding and use of soil survey reports; interpretation of hydrographs and other water-related information and data; explorations of water rights and water

allocation; and development of soil potential ratings for urban and agricultural land uses. Instructions for the project will be given approximately 1 week before work on the project starts, usually in early October. The intent is to allow time for the lesson materials to be covered before working on the project. See Course Schedule.

Students may submit a project outline for instructor review/approval if the proposed project does not meet the normal project topics in the project directions.

Assignments handed in after the designated turn-in time automatically receive a reduction in grade at the rate of 20 percent per day after the due date. An assignment turned in five or more days late will result in a grade of zero for that project.

Discussion Threads

Since discussion threads are integral to the course, students are expected to ask questions, provide examples from their own experiences, and discuss concepts after students have reviewed lesson materials and reading assignments. Typically, full participation requires a minimum of 2 to 4 meaningful responses (good question, a related experience, knowledge sharing from professional work, useful URL or other documentation, etc.) for each lesson. **Some leeway is given, but consistent contributions mark an engaged student. If you wish to just read the information without directly contributing to the discussions, please choose another course. We shall learn together, not alone.** Courtesy and tolerance are cornerstones of learning, especially in the written words found in discussions. The instructor will monitor student engagement and notify students who are not fully engaged approximately 1 month after the start of the course.

Scheduling Conflicts and Make-up Policy

Most of the students enrolled in this course are usually professionals in place-bound situations. Notifying the instructor of potential conflicts **before** the scheduled date is the easiest means of avoiding late assignments and making accommodations. If no advance notification occurs, then it is up to the student to discuss the issue with the instructor who is often a creampuff, but can be somewhat authoritarian at times. The student should suggest solutions to assist the instructor.

In the case of semester-long non-performance in the discussions, no leeway is given, nor is extra credit available. The instructor usually sends out non-performance notes two to three times early in the semester and then assumes the student will perform appropriately till the end of the semester.

BIBLIOGRAPHY:

Required texts from which reading assignments are taken.

Mirage: Florida and the Vanishing Water of the Eastern US., by Cynthia Barnet. The University of Michigan Press. 2007. ISBN 13: 978-0-472-11563-1 (Cloth: Alkaline Paper). (**Required Text**)

Plan B 4.0: Mobilizing to Save Civilization, by Lester Brown. W. W. Norton and Company. 2009. ISBN 978-0-393-33719-8 (Paperback). (**Required Text**)

Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters, by R.J. Glennon. Island Press, Washington. 2004. ISBN 978-1-155963-400-6 (Paperback). (**Required Text**)

The following references are useful for the principles that are presented in this course, but are not assigned as reading material. The more modern references are listed first.

The Big Thirst: The Secret Life and Turbulent Future of Water, by C. Fishman. Free Press. 2012.

The Swamp, by M. Grunwald. Simon and Schuster. 2006.

Water Crisis: Myth or Reality? Marcelino Botin Water Forum 2004, by Peter P. Rogers, M. Ramon Llamas, and Luis Martinez Cortina. Fundacion Marcelino Botin. 2004.

Water Wars: A Story of People, Politics & Power, by H. Rand. Xlibris Corporation, Philadelphia. 2003.

Cadillac Desert: The American West and Its Disappearing Water, by M. Reisner. Penguin Books, New York, NY. 1993.

Rivers of Eden: The Struggle for Water and the Quest for Peace in the Middle East, by D. Hillel. Oxford University Press, New York, NY. 1994.

Out of the Earth: Civilization and the Life of the Soil, by D.J. Hillel. University of California Press. 1992.

The Florida Experience: Land and Water Policy in a Growth State, by L.J. Carter. The Johns Hopkins University Press, Baltimore, MD. 1974.

The Day the House Fell, by R.L. Handy. ASCE Press, New York, NY. 1995.

Soil and Water Science: Key to Understanding Our Global Environment, Edited by R.S. Baker, G.W. Gee, and C. Rosenzweig. SSSA Special Publication No. 41. Soil Science Society of America, Inc., Madison, WI. 1994.

Course Schedule, Fall 2011:

Date	Lecture	Exam	Topic/Remarks	Book	Chapter(s)	Read by
22 Aug	1		Soil and water in the landscape			
24 Aug	2		Soil and water in the landscape/Soil survey ***Last day to drop with no fee liability			
27 Aug	3		Soil survey ~~***Last day to drop with no fee liability~~	Water Follies	Intro plus Ch. 1, 2, 3 & 5	15 Sep
				Mirage	Prologue Ch. 1 & 2	15 Sep
29 Aug	4		The map units of soil surveys			
31 Aug	5		Soil map units continued			
03 Sep	***		No class -- Labor Day			
05 Sep	6		Landscape variability			
07 Sep	7		Soil variability			
10 Sep	8		Soil variability continued	Water Follies	Ch. 6, 7, 8, and 9	29 Sep
				Mirage	Ch. 3, 4, & 6	29 Sep
12 Sep	9		Map scales and scale hierarchies			
14 Sep	10		Topographic (contour) maps			
17 Sep	11		Behavior of water in soils			
18 Sep	***		CHAT 6 p.m.–7 p.m.			
19 Sep	12		Movement of water in soils continued			
21 Sep	13		Measurement of soil			

Date	Lecture	Exam	Topic/Remarks	Book	Chapter(s)	Read by
			water			
24 Sep con't	14		Soil drainage classes/Hydrologic soil groups/Surface hydrology	Water Follies	Ch. 10, 11, 12, 13, and 14	12 Oct
				Mirage	Ch. 8, 9, and 10	12 Oct
26 Sep	15		Leaching and runoff ratings and an application			
28 Sep	16		Total maximum daily loads (TMDLs)			
01 Oct	***	A	EXAMINATION "A" includes Lectures 1 through 15; Water Follies through Ch. 9; Mirage through Ch. 6			
03 Oct	17		Minimum flows and levels (MFLs)			
05 Oct	18		Water allocation ***Return Exam A***	Water Follies	Ch. 15	22 Oct
				Mirage	Ch. 11 and 12	22 Oct
08 Oct	19		Water quality ***Begin Term Project***			
10 Oct	20		Best management practices (BMPs)			
12 Oct	21		Nutrient management			
15 Oct	22		Soil erosion by water			
17 Oct	23		Soil erosion by water continued	Plan B 4.0	Ch. 2	1 Nov
19 Oct	24		Soil erosion continued			

Date	Lecture	Exam	Topic/Remarks	Book	Chapter(s)	Read by
22 Oct	25		Wind erosion			
24 Oct	26		Other sorts of soil erosion and "land degradation" (Parts I and II) **[2 separate files to open/download]**			
26 Oct	27		Engineering properties of soils: Part 1			
29 Oct	28		Engineering properties of soils: Part 2			
30 Oct	***		CHAT 6 p.m.–7 p.m.			
31 Oct	29		Engineering properties of soils: Part 3			
02 Nov	30		Engineering properties of soils: Part 4 (finally!)			
05 Nov	***		Soil interpretations			
07 Nov			Work day ***Term Project Due***			
07 Nov	***	B	EXAMINATION "B" includes Lectures 16 through 30; Water Follies Ch. 10 through 15; Mirage Ch. 8 through 12; and Plan B 4.0 Ch. 2	Plan B 4.0	Ch. 3	19 Nov
09 Nov	***		No class–Homecoming			
12 Nov	***		No class – Veterans Day			
14 Nov	32		Soil interpretations continued ***Return Exam B***			
16 Nov	33		Soil potential ratings			
19 Nov	34		Soil potential ratings continued; Prime and unique farmland	Plan B 4.0	Ch. 8	29 Nov

Date	Lecture	Exam	Topic/Remarks	Book	Chapter(s)	Read by
21-25 Nov	***		Thanksgiving Holidays			
26 Nov	35		Farmland and other land/water use issues			
27 Nov	***		CHAT 6 p.m.–7 p.m.			
28 Nov	36		Domestic wastewater disposal			
30 Nov	37		Domestic wastewater disposal continued	Plan B 4.0	Ch. 9	6 Dec
03 Dec	38		Rules for land application of effluent, biosolids, and septage			
05 Dec	39		World soil and water resources			
05 Dec	40		Government conservation programs (distribute FINAL EXAM via Sakai email: Focus on Lectures 31 through 38; Plan B 4.0 Ch. 3, 8, and 9)			
6-7 Dec	***		No class- Reading Days			
10-14Dec		FINAL	Return completed FINAL EXAM by 5:00 PM			
17 Dec			Grades Submitted			

ACADEMIC HONESTY

In fall 1995, the University of Florida student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by the students:

Preamble: In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective

action. A student-run Honor Court and faculty support are crucial to the success of the honor code. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students 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.**"

Matters of violations of academic honesty are adjudicated by the Student Honor Court, the Health Center Student Conduct Standards Committee, the Student Conduct Committee, the College of Law Honor Committee and faculty.

See a current Undergraduate Catalog for definitions of Plagiarism, Bribery, Misrepresentation, Conspiracy, and Fabrication.

UF Counseling Services

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. These resources include (accessed: 4Jun12):

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling (www.**counseling.ufl**.edu/);
2. SHCC Mental Health, Student Health Care Center, 392-1171, personal counseling (www.**shcc**.ufl.edu/);
3. Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling; and
4. Career Resource Center, Reitz Union, 392-1601, career development assistance, and counseling (www.crc.ufl.edu/).

Accommodations for Students with Disabilities

Students requesting disability accommodation must first register with the Dean of Students Office. The Dean of Students Office (www.dso.ufl.edu/drc/ accessed: 4Jun12) will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

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 these violations are also against University policies and rules, disciplinary action will be taken as appropriate.