Course Syllabus

SWS 4204/6209: Urban Soil and Water Systems, Summer C Semester [3 credit hours]

Instructor: Dr. Samuel Smidt
Email: ssmidt@ufl.edu
Office Location: Remote
Office Hours: Scheduled by appointment

Course Format: Online only, no live sessions
Course Website: https://elearning.ufl.edu/
Course Description: This course introduces students to the topics and issues related to soil and water quality in urban systems. This is a combination of lesson discussion, assignments, and online discussions through which students will learn and discuss consequences and opportunities of human impacts on soil and water systems in urban areas. Graduate students will follow extended assignments to receive graduate level credits for this class.
Required Texts: No textbook is required.
You will be asked to download articles, book chapters, reports, and assignments throughout the semester.
Chat Sessions: There are no scheduled chat sessions for this course.
Communication: Direct communication will come through your official University of Florida email via Canvas. Group communication will be posted through the Canvas site. Each student is responsible for these messages, and emails should be checked daily. I will respond to all emails in a timely manner during the week.
Canvas: I will post all grades, lecture content, and resources to the course site.
Grading Policy: Your final is a combination of module assignments, exams, discussion posts, and course conduct. I do not curve grades, and I reserve the right to adjust grades at the end of the modules or course to the benefit to the student. I will not adjust grades lower than earned on graded items, unless first discussed with the student.
Late Homework: I do not accept late assignments without prior consent. I do not offer make-up assignments without prior consent. Please communicate with me if you are unable to meet a deadline.
General Policies: Assignments are to be your own work unless stated otherwise.
Each module will last ~2-3 weeks.
All relevant content will be made available to you at the start of each module.
Module content must be completed in order.
Exams can be taken twice per module.
You must get my approval prior to any late submissions.
This course is designed on respect. Respect for you, me, and each other, and proper web etiquette is expected. Disrespectful actions will be resolved as necessary.
Materials Fee: There are no additional material or supply fees for this course.

Course Evaluation: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Course Structure

This course is divided into 5 modules that follow the scientific method: (1) Introduction, (2) Methods, (3) Results, (4) Discussion, and (5) Conclusion. Each module has 4 components: (1) module lessons, (2) module assignment, (3) module exam, and (4) discussion thread. Within each module are short recorded videos, links to any relevant sites or readings, assignment directions, and an exam study guide. Students will follow each module in entirety to complete the course. Assignments will vary based on undergraduate or graduate student status. Level-specific tasks will be identified in the module assignment.

Course Grades

Module Assignment:	100 points each, 5 assignments, 50% of your total grade	500 Points
Module Exam:	75 points each, 5 exams, 37.5% of your total grade	375 points
Discussion Posts:	15 points per module, 5 modules, 7.5% of your total grade	75 Points
Course Conduct:	10 points per module, 5 modules, 5% of your total grade	50 Points
	TOTAL	1,000 Points

Grade Description

Module Assignment:	Each module will have an extended assignment relevant to the topics covered within the module. Each assignment will be announced at the start of the module and due at the end. Each assignment has its own grading criteria that will be described at the beginning of each module. All assignment information can be found in the corresponding module in Canvas.
Module Exam:	Each module will have one multiple choice exam. Exams are timed, open-book, and can be taken twice per module. A study guide will be provided in the module.
Discussion Posts:	You will be required to facilitate and respond to discussion threads throughout each module. The quality of each post will be evaluated. Grading criteria will be provided at the beginning of each module.
Course Conduct:	Your overall enthusiasm, timeliness, participation, activity, and communication will be evaluated and factored into your final grade for each module as part of your course conduct grade.
Final Exam:	There is no final exam for this course.

Grading Scale

A : 93 – 100%	B+ : 88 – 89.9%	C+ : 78 – 79.9%	D+ : 68 – 69.9%	F : <60%
A- : 90 – 92.9%	B: 83 – 87.9%	C: 73 – 77.9%	D: 63 – 67.9%	
	B- : 80 – 82.9%	C- : 70 – 72.9%	D- : 60 – 62.9%	

Course Objectives

1. Explain systems science, define the components to an urban ecosystem, and identify key functions of urban infrastructure from a soil and water perspective.
2. Describe key characteristics of urban soils, identify the predominant contaminants in relation to land cover, and explain challenges and opportunities for urban agriculture.
3. Explain the historical development of urban water systems, their current role and function, and their impacts on water resources.
4. Describe urban resilience, and identify how green infrastructure, regulation, and urban planning interact and impact resiliency goals.
5. Identify key future soil and water challenges for urban areas, explain their cause and impact, and describe effective solutions.

Teaching Philosophy and Course Design

1. This course follows a predictable 3-part pattern which repeats at the task, module, and semester scales. This is a "fractal" pattern to education. Part 1 is the introduction of new topics, concepts, or ideas. Part 2 is the expansion of these concepts in connection with other principles and topics. Part 3 is the application of new knowledge in a multidisciplinary framework.

2. This course is designed to satisfy a list of major unit objectives or "big-picture" concepts. Each unit objective consists of minor objectives that are supported by module. Objectives are to be used as a guide for key course concepts.

Example:

Major Objective 1: Explain systems science, define the components to an urban ecosystem, and identify key functions of urban infrastructure from a soil and water perspective.

Minor Objective 1.1: Define a system and explain systems science in the context of urban soil and water resources.

Minor Objective 1.2: Describe the components to an ecosystem and explain how humans are reliant on a well-functioning ecosystem.

Academic Integrity: 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*."

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: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

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

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.

Attendance Policy: Requirements for class attendance (online participation) are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

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**
- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

*U Matter We Care, **www.umatter.ufl.edu/**
*Career Connections Center, First Floor JWRU, 392-1601, **https://career.ufl.edu/**.

Student Complaints:
- Residential Course: **https://sccr.dso.ufl.edu/**
- Online Course: **http://www.distance.ufl.edu/student-complaint-process**

Course Schedule

WEEK #	START DATE	TOPIC	DUE DATE
1-3	13- May	**Module 1: Introduction (Urban Systems)** Introduction to Systems Science Introduction to Ecosystems Introduction to Urban Ecosystems Introduction to Ecosystem Services	29- May
4-6	30- May	**Module 2: Methods (Urban Soils)** Characteristics of Urban Soils Urban Contaminants Urban Biogeochemistry Urban Land Cover Urban Agriculture	14- Jun
7-9	15- Jun	**Module 3: Results (Urban Water)** History of Urban Infrastructure Water Impacts on Urbanization Urbanization Impacts on Water Urban Wastewater Components of Urban Water Systems	9- July
10-12	10- July	**Module 4: Discussion (Urban Resiliency)** Green Infrastructure Climate Change Adaptation Regulatory Tools Urban Planning Urban Ecosystem Health	25- July
13-15	26- July	**Module 5: Conclusion (Urban Challenges)** Water Availability Food Demand Infrastructure Climate Change Population Density	9- Aug

Example Readings

Daniels, L.W. (2011). Managing Urban Soils. *Urban nutrient management handbook*. Virginia Cooperative Extension Publication Virginia Tech, Blacksburg.

Gessner, M.O., et al. (2014). Urban water interfaces. Journal of Hydrology, 514, 226-232.

Marcotullio, P. J., Braimoh, A. K., & Onishi, T. (2008). The impact of urbanization on soils. In Land use and soil resources (pp. 201-250). Springer, Dordrecht.

Masson-Delmotte, T.W.V., et al. (2018). IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5 C. An IPCC Special Report on the impacts of global warming of 1.5 C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global.

Leyzerova, A., Sharovarova, E., & Alekhin, V. (2016). Sustainable strategies of urban planning. International Conference on Industrial Engineering.