Course Number	ARC 6912 (28535) / Section # SDM2 / 4 credits
Course Title	Architecture Research – Ecology (Principles and Applications in Ecological Planning and Sustainable Design)
Term	Spring 2026
Instructor	Daniel J. Smith
	eMail: djs3@ufl.edu
	Office Hours: by appointment
Instructor	Isabella G. Browne
	eMail: isabellaguttuso@ufl.edu
	Office Hours: by appointment
Credits	4 Credit Hours
Class Time	Monday, Thursdays, 5:30PM to 7:30PM EST (TBD w/ Wang)
Room Number	Zoom Links; Refer to Canvas.

COURSE DESCRIPTION

This course integrates and expands on foundational concepts in ecology, land use planning, and sustainable site design to examine the interactions between natural and human systems across regional, local, neighborhood, and site scales. The first portion of the course explores landscape ecology, conservation biology, and sustainable land use decision-making, with attention to governance, stakeholder engagement, and cumulative impacts from development. The second portion introduces neighborhood and site-scale strategies for integrating gray and green infrastructure, with an emphasis on ecological performance, urban design, and adaptive management. In the final portion of the course, students apply these principles through a site selection, inventory, analysis, and synthesis process that considers abiotic, biotic, and social systems. Together, these modules provide a comprehensive framework for planning and designing more sustainable, resilient, and ecologically informed places.

COURSE PURPOSE

To engage in sustainable design and planning, individuals must understand the dynamic relationships between natural systems and human activities across regional, local, neighborhood, and site scales. This course provides an integrated foundation in landscape ecology, conservation principles, and sustainable development practices, paired with site inventory and analysis skills, to support ecologically-informed land use decisions. Students will explore the direct, indirect, and cumulative impacts of the built environment on ecosystems and learn to apply interdisciplinary strategies in design, policy, and adaptive management to support more resilient and sustainable landscapes.

LEARNING OBJECTIVES

By the end of the course, students will:
- Be familiar with principles of healthy ecosystems and the benefits they provide to human communities.
- Recognize the types and mechanisms of direct, indirect, and cumulative impacts of the built environment on terrestrial and aquatic ecosystems.
- Become familiar with planning, design, policy, and management practices that support sustainable outcomes at regional, local, neighborhood, and site scales.
- Understand how to analyze both large- and small-scale project areas to identify ecologically and socially compatible development strategies using a context-sensitive design approach.

SCHEDULE

Class will be held on Mondays and Thursdays 5:30 PM - 7:30PM EST.

Readings and assignment for each week will be provided in class

Online Zoom link will be provided and detailed schedule to be discussed

Module 1: Course Introduction, Regional Systems and Land Use	
DATES	**TOPICS**
Week 1	
January 12	Introductions and course review (Smith and Browne)
	Relationships between human and natural systems (Smith)
January 15	Direct, indirect and cumulative impacts from human use (Smith)
Week 2	
January 19	*Holiday – No Class*
January 22	Landscape ecology and conservation biology (Smith)
Week 3	
January 26	**Assignment 1.1 Due**
	Land use decision making and suitability (Smith)
January 26	Landscape urbanism, ecological urbanism, transportation systems and open space (Smith)
January 29	Cont. and Discussion - Week 3 Topics
Week 4	
February 2	**Assignment 1.2 Due**
February 2	Governmental policies, programs and practices (Guest Lecturer)
	Stakeholder involvement and capacity building: international examples and case studies (Guest Lecturer)
February 5	Cont. and Discussion - Week 4 Topics

Module 2: Neighborhood and Site Systems and Design

DATES	TOPICS
Week 5	
February 9	**Assignment 1.3 Due**
February 9	Smart growth, new urbanism, traditional neighborhood development (state and international examples), redevelopment, infill, adaptive reuse, neighborhood design, transit-oriented development, walkability, complete streets, and so on (Guest Lecturer)
February 12	Cont. and Discussion - Week 5 Topics
Week 6	
February 16	**Assignment 2.1 Due**
February 16	Urban ecology, green infrastructure network, low impact development, landscape performance, linear infrastructure, context sensitive design, conservation ecology design approaches across neighborhood scale (Browne)
February 19	Cont. and Discussion - Week 6 Topics

Week 7	
February 23	**Assignment 2.2 Due**
February 23	Site design and preparation, maintenance and adaptive management (Browne)
February 26	Cont. and Discussion Week 7 Topics

Module 3: Application

DATES	TOPICS
Week 8	
March 2	**Assignment 2.3 Due**
March 2	Site selection, intro to site inventory, analysis, and synthesis process (Browne)
March 5	cont.
Week 10	
March 9	**Assignment 3.1 Due**
March 9	Abiotic systems analysis (Physical site characteristics) (Browne)
March 12	cont.
Week 11	*Spring Break*
Week 12	
March 23	Biotic (non-human) systems analysis (Biological site characteristics) (Browne)
March 26	cont.
Week 13	
March 30	**Assignment 3.2 Due**
March 30	Human/social systems analysis (Human site characteristics) (Browne)
April 2	cont.
Week 14	
April 6	**Assignment 3.3 Due**
April 6	Site synthesis (Browne)
April 9	cont.
Week 15	
April 13	Presentation / Discussion (Smith and Browne)
April 16	Presentation / Discussion (Smith and Browne)
April 20	**Assignment 3.4 Due**

About the Instructors

Daniel Smith, Ph.D., A.I.C.P.
Dr. Smith is an Assistant Research Scholar in the Center for Landscape Conservation Planning and a member of the graduate research faculty in both the School of Landscape Architecture and Planning and the School of Natural Resources and the Environment at the University of Florida. He has 35 years of experience in the fields of ecology and environmental planning. His primary research focus is studying movement patterns and habitat use of terrestrial vertebrates and integrating conservation, transportation, and land-use planning. Previous work includes landscape fragmentation/connectivity assessments; ecological hotspots modeling; wildlife movement, behavioral and habitat use studies; wildlife-vehicle collision-reduction studies; and planning, design and evaluation of wildlife-crossing structures.
He has contributed to national and international efforts in road ecology, including as co-editor of the 2015 award-winning *Handbook of Road Ecology*. Dr. Smith has served on advisory panels for the U.S. Fish and Wildlife Service and the National Park Service, He is also a former chair of the National Academies of Science, Medicine and Engineering, Transportation Research Board's Standing Committee on Environmental Analysis and Ecology and remains an active collaborator in global ecological infrastructure networks.

Isabella Guttuso Browne
Isabella Guttuso Browne is the Urban and Recreational Green Infrastructure Coordinator at the University of Florida's Center for Landscape Conservation Planning. She holds a Master of Landscape Architecture and a Bachelor of Fine Arts from the University of Florida. Isabella leads interdisciplinary projects that integrate green infrastructure into urban and regional planning, with a focus on ecological connectivity, water quality, and equitable access to nature. Her work bridges design, policy, and conservation science in collaboration with state agencies, local governments, and nonprofit partners across Florida.

TEXTBOOKS/READINGS

There are no assigned textbooks; relevant readings will be assigned based on the topic for each class period.

COURSE TECHNOLOGY

The seminar will be conducted online, following UF School of Architecture Studio System utilizing three portals:
- CANVAS
- ZOOM (https://zoom.us/privacy; https://zoom.us/accessibility);
  please go to Canvas for Zoom Link
- ONE-DRIVE

The UF Canvas e-learning portal will be used for sharing of certain common references available in electronic format. It will be accessible at http://elearning.ufl.edu/. Notify your faculty if you do not have access to the course through this online portal. We will also use Zoom for synchronous online learning and Miro for class presentations and reviews. Links to the class Zoom meetings and Miro presentation boards will be provided through Canvas.

Communicating and Learning Online [1]

---

[1] Adapted from information provided by the UF Center for Teaching Excellence Quality Assurance Committee: https://teach.ufl.edu/resource-library/onlinehybrid-course-creation/ and http://biostat.ufl.edu/resources/e-learning-resources/e-learning-basics/etiquette-online/.

It is important to recognize that the online aspect of courses still constitutes a classroom setting, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette.

<u>Security</u>
Remember that your password is the only thing protecting you from pranks or more serious harm.
- Don't share your password with anyone.
- Change your password if you think someone else might know it.
- Always logout when you are finished using the system.

<u>General Guidelines</u>
When communicating online, you should always:
- Treat instructor and classmates with respect, even in email or in any other online communication.
- Use clear and concise language.
- All college level communication should have correct spelling and grammar.
- Use standard fonts such as Arial, Calibri, Helvetica, or Times New Roman.
- Avoid using all lower cases (as it can be interpreted as lazy) and all upper cases or caps lock feature (AS IT CAN BE INTERPRETTED AS YELLING). We are here try to make you "professional" in all aspects, including preparing documents and communicating.
- Limit and possibly avoid the use of emoticons like :) or 🙂.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential medical or patient information via e-mail.

<u>Email Communications</u>
When you send an email to your instructor, teaching assistant, or classmates, you should:
- Use a descriptive subject line.
- Be concise and clear.
- Use standard file formats for attachments (e.g. PDF, DOCX, XLSX), or confirm that the recipient can open the format you intend to send.
- Sign your message with your name and return e-mail address.
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "Reply All."
- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

<u>Discussion Board Guidelines</u>
When posting on the Discussion Board, you should:
- Pay attention to manner.
- Be open-minded.
- If you ask a question and many people respond summarize all posts for the benefit of the class.
- When engaged in class discussion:
  - Make discussion that are on topic and within the scope of the course material.
  - Don't repeat someone else's comment without adding something of your own to it.
  - Take your comments seriously.
  - Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.

- If you refer to something that was said in an earlier post, quote a few key lines so reader do not have go back and figure out which post you are referring to.
- Avoid plagiarism. Use your own words to analyze and synthesize ideas. Always give proper credit when referencing or quoting sources.
- If you reply to a classmate's question, make sure your answer is correct, don't guess.
- Always be respectful of others' opinions even when they differ from your own.
  - When you disagree with someone, you should express your differing opinions in a respectful, non-critical way.
  - Do not make personal or insulting remarks.
  - Do not write anything sarcastic or angry; it often backfires.
  - Do not type in ALL CAPS, if you do IT WILL LOOK LIKE YOU ARE YELLING.

Zoom Online Meetings

When attending a Zoom class or meeting, you should:
- Do not share your Zoom classroom link or password with others.
- Enter the room a little early to have time to set up your audio and/or video.
- Even though you may be alone at home your professor and classmates can see you! While attending class in your pajamas is tempting, remember that wearing clothing is not optional. Dress appropriately.
- Mute your microphone when not in use, especially if you are in a location that can be noisy. Don't leave your microphone open if you don't have to.
- Your professor and classmates can also see what is behind you, so be aware of your surroundings. Make sure the background is not distracting or something you would not want your classmates to see.
- When in doubt use a virtual background.
  - If you choose to use one, you should test the background out first to make sure your device can support it.
  - Your background can express your personality but be sure to avoid using backgrounds that may contain offensive images, inappropriate language, nudity, and/or overt political messaging.

Privacy

Remember to safeguard private or sensitive information.
- Be careful with personal information (both yours and other people's).
- Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image agree to have their video or image recorded for purposes of this class only. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who are un-mute during class and participate orally agree to have their voices recorded.
- Unauthorized recording and unauthorized sharing of recorded materials is prohibited. Recorded materials that contain identifiable student information will not be shared outside the course without the express authorization of participants.

Use of Reference Material

All references should follow the format used by the American Psychological Association (APA). Citations should appear in the text as follows: (Meyer & Miller, 2014) when using an idea from the text; or (Meyer and Miller, 2014, p. 2-33) when using a specific quote on the indicated page (in this case, page 2-33). A good source of information on the APA format can be found from the Purdue Online Writing Lab: https://owl.english.purdue.edu/owl/resource/560/01/. Students from other departments may use a commonly accepted format for citations from their own field; please discuss this option with the instructor before you complete the outline of the paper.

Assistance for Writing Papers
The online resources to assist you in writing are extensive. The Dial Center for Written and Oral Communication (http://cwoc.ufl.edu/) and the Writing Program (http://writing.ufl.edu) at the University of Florida can assist you in several different aspects of writing. You can use the writing lab to get one-on-one help on every area of composition from basic grammar and mechanics to topics like essay organization, style, and argument.

Many other universities offer online handbooks on writing. I have found the following three particularly useful: the University of North Carolina at Chapel Hill (http://writingcenter.unc.edu/handouts/), the University of Wisconsin (http://writing.wisc.edu/Handbook/), and Purdue University (http://owl.english.purdue.edu/).

I found the following handouts particularly helpful while editing papers:
 http://writing.wisc.edu/Handbook/CommonErrors.html and
http://www.wisc.edu/writing/Handbook/ClearConciseSentences.html.
The online handbooks described above discuss many aspects of writing papers. Students at the graduate level should be prepared to write a critical argument rather than simply describe relationships. If you have any questions about what is expected at the graduate level, please see the instructor.

ATTENDANCE POLICY

Our policy on attendance is extremely strict: All students are expected to attend every scheduled seminar meeting. Any absence must be explained. Call the office and have a note left for your professor or contact your professor via email. It is your responsibility to get any assignments from your fellow students. Note that THREE unexcused absences will result in a full letter grade deduction, and FOUR or more unexcused absences will result in a failing grade and/or an automatic drop from the course. Arriving late (within 30 minutes of the start of class) will be counted as a half of an absence; arriving more than 30 minutes late will be counted as an absence.

It is never permissible to miss a critique, nor is it permissible to be late or to leave early. It will be considered a direct insult to your fellow classmates and the invited critics. If you arrive late to a review, you will not be allowed to present your work and will receive an automatic reduction of one letter grade on the project or assignment. You may or may not be allowed to present your work at a later date.

If something is seriously wrong and may affect your attendance, please talk to us about it. Arrangements can be made to cope with serious illness, family issues, or personal crises.

MAKE-UP POLICY

It is not possible to make up for a missed seminar session. Although a long conversation with a fellow student will help you begin to figure out what to do to prepare for the next session, it can never make up for the learning that happens during interactive group discussions. A session with your professor may or may not be possible and cannot duplicate the collective conversation.

GRADING

MODULE	ASSIGNMENT	GRADE
Module 1		
	Assignment 1.1	10%

	Assignment 1.2	10%
	Assignment 1.3	10%
Total		30%
Module 2		
	Assignment 2.1	10%
	Assignment 2.2	10%
	Assignment 2.3	10%
Total		30%
Module 3		
	Assignment 3.1	10%
	Assignment 3.2	10%
	Assignment 3.3	10%
	Assignment 3.4	10%
Total		40%

Each module includes written assignments, active participation in discussions, and presentations in module 3.

Do keep in mind that the day-to-day interaction in class and during presentations will have a significant impact on your final grade. For participation, we expect students to use their cameras and be attentive to the instructors during live sessions. Grading of assignments will partially be based on active participation. The following listing of project grades should help to understand their breakdown and grading criteria.

Graduate School Grading Scale + Qualitative Descriptions

	Letter Grade	Numeric Grade	Quality Points	Qualitative Description
PASSING GRADES	A	100-93	4.0	Outstanding work only
	A-	92-90	3.67	Close to outstanding
	B+	89-87	3.33	Very good work
	B	86-83	3.0	Good work
	B-	82-80	2.67	Good work with some problems
	C+	79-77	2.33	Slightly above average work
	C	76-73	2.0	Average work
FAILING GRADES	C-	72-70	1.67	Average work with some problems
	D+	69-67	1.33	Poor work with some effort
	D	66-63	1.0	Poor work
	D-	62-60	0.67	Poor work with some problems
	E	59-0	0.0	Inadequate work

Minimum Cumulative GPA = 3.0

The current UF grading policies can be found at: https://catalog.ufl.edu/graduate/regulations/#text.

Please note that the University of Florida Graduate School requires that a graduate student maintain a 3.0 (B) average to remain in good academic standing. Every possible effort is made to counsel students in academic difficulty to determine the cause and possible solution so that the student can continue and complete their studies in the University. The Graduate School considers grades of C-minus or lower to be failing grades. Note that you cannot graduate with any failing grades (C-minus or lower) or incomplete ("I") grades on your transcript.

An incomplete grade may be assigned at the discretion of the instructor as an interim grade only in cases of extreme extenuating circumstances. Note that the incomplete grade must be resolved prior to enrolling in Advanced Graduate Architectural Design Two. Failure to complete this studio before the beginning of the next semester requires a minimum of one-year delay in progress through the program.

UF POLICIES

University Policy on Accommodating Students with Disabilities
Students with disabilities requesting accommodation should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University Policy on Academic Misconduct
Academic honesty and integrity are fundamental values of the University community. UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. 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.'" The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to your faculty instructors.

Plagiarism includes the direct copying of text/images from other sources as well as minor alterations of work created by others (mirroring, application of visual effects/filters/distortions, etc.). Plagiarism is a serious offense and can lead to failure of the course and/or premature dismissal from the Graduate School. We expect that the work you prepare is wholly your own, created this semester for this course. You are expected to provide appropriate citations and/or credit for images, text references, and design influences, where appropriate. If you have any questions or concerns, please consult your instructors.

For information on University of Florida syllabus policies and required statements, please visit the UF Syllabus Policy page: https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

POLICY on RETAINING WORK

Please note that the University of Florida, College of Design, Construction, and Planning policy states that student's work may be retained indefinitely for academic purposes. You should be prepared for the instructor to ask that it be exhibited or photographed during or after the term. Having your work retained for photography or exhibition is evidence of its quality and value to the School. Not to worry, you will be able either to retrieve your original work or retrieve it temporarily to make copies or photograph it for your own personal purposes.

REGARDING ACCOMMODATIONS for STUDENTS with DISABILITIES

Students with disabilities requesting accommodation should first register with the University of Florida Disability Resource Center by providing appropriate documentation (352-392-8565, www.dso.ufl.edu/drc/). Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

ONLINE COURSE EVALUATIONS

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

GETTING HELP

For issues with technical difficulties for e-learning, please contact the UF Help Desk:
- Email: helpdesk@ufl.edu
- (352) 392-4357 – available 24 hours per day, 7 days per week
- Online: http://elearning.ufl.edu/ or http://helpdesk.ufl.edu/

Any requests for make-up or deadline extensions due to technical issues MUST be accompanied by the ticket number received from the UF Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up or deadline extension.

Counseling + Emergency Contacts
- Police / Fire / Medical Emergency: 911
- University Police Department (UPD): 352.392.1111
- UF Counseling and Wellness Center (3190 Radio Road): 352.392.1575 or http://www.counseling.ufl.edu/cwc/
- Student Nighttime Auxiliary Patrol (SNAP) free transportation: Use free "TapRide" app (IOS or android) to schedule pickup or call 352.392.7627. For more info: http://www.police.ufl.edu/community-services/student-nighttime-auxiliary-patrol-snap/. Hours of operation: Fall and Spring semesters: 6:30 pm to 3:00 am; Summer: 8:30 pm to 3:00 am.

CHANGES AND REVISIONS TO SYLLABUS

This syllabus is subject to change. Any changes will be relayed during regular class period.