DCP3210 | Section 048I | Summer A 2020 | 100% Online
Sustainable Solutions for the Built Environment

|	
Instructor:	Iris Patten, PhD
	Lecturer **|** Program in Sustainability and the Built Environment (SBE)
	College of Design, Construction, and Planning (DCP) **|** University of Florida
Virtual Office:	Zoom
Office Hours:	Zoom **|** By appointment
Office Correspondence:	352.294.1425 **|** Canvas email (preferred) **|** ipatten@ufl.edu (alternative)
Course Term & Credits:	Summer A 2020 **|** 3 Credits
Course Time & Location:	T, W, R **|** Period 2-3 **|** 09:30 – 12:15 **|** Self-Paced
Course Co/Prerequisite:	BCN 1582 (or) IDS 2154 (or) another course approved in the topic area
General Education Credit:	N/A
Final Exam Schedule:	N/A
Estimated Additional Costs:	~ $15 textbooks **|** $0 materials & supplies

Course Summary

This "survey-style" course broadly explores how sustainability can be pursued across full-transect built environments ... from supply-side problems and solutions in the energy, water, land, food, and capital resource domains … to demand-side problems and solutions in our buildings, landscapes, and transportation infrastructure and technologies.

Course Overview & Purpose

Sustainability in the built environment frames problems and espouses solutions in an iterative, and unending, process in service to the four fundamental human actions: (1) to eat and drink (e.g., via food systems); (2) to dwell (e.g., via building systems); (3) to move (e.g., via transportation systems); and (4) to commune (e.g., via information and communication technologies alongside inter/intra-personal self-actualization systems). The systems, goods, and services that enable these actions consume stocks and flows of key natural and human resources (e.g., energy, water, land/materials, capital) and go through five lifecycle phases: (1) production; (2) processing; (3) distribution; (4) consumption; and (5) post-consumption. The nature in which we provision and utilize these goods and services leads to various system states, each with a continuum of positive-to-negative outcomes (a sampling exemplified in the figure herewith). The entire process changes and exchanges with the 9 planetary boundaries (Stockholm Resilience Centre, 2012; created by Hal Knowles III, University of Florida). This course explores the common problems, and suggests scientifically defensible solutions, in questions of sustainability and the built environment.
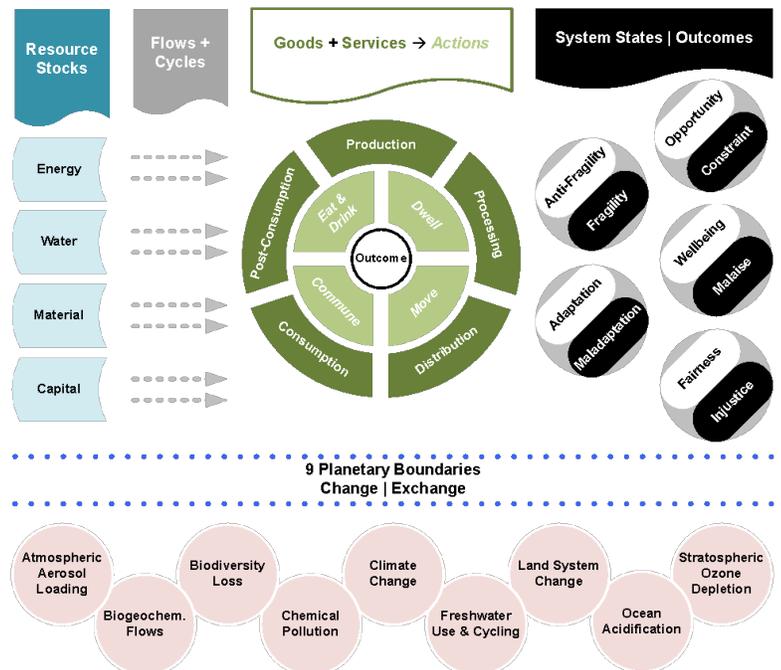
Course Goals & Objectives

This course aims to facilitate student learning and leadership in the establishment and enhancement of more sustainable human actions and more resilient social-ecological systems. Objectives flexibly address student goals and interests, though emphasis is placed on evaluating evidence-based products, systems, services, and case studies contributing to more sustainable human habitation. Via at home preparation, in-class discussions, multi-media exploration, online engagement, and individual and collaborative team assignments, students will be:

- Defining and comparing sustainability and resilience in complex social-ecological systems.
- Exploring and evaluating resource stocks and flows as they enable the functional goods and services critical for the prosperity of people and planet.
- Researching and communicating the inputs, outputs, and outcomes of performance-based principles, policies, programs, and practices in sustainability and the built environment.
- Balancing near-term needs and long-term thinking in solving complex problems and managing risk.
- Developing a personal body of knowledge to improve your own sustainability competency and leadership skills.
- Reflecting on the future of sustainability in the built environment and the adaptive capacity of our communities in the uncertainty of the emerging Anthropocene epoch.

Required Text(s)

The required text(s) for this course are as follows:

- Hawken, P. (2018). *Drawdown: The most comprehensive plan ever proposed to reverse global warming*.
  - http://www.worldcat.org/oclc/957139166
  - Cost | ~ $15

In addition to the required text(s), various supplemental, free publications identified for class discussion and/or assignments may be supplied via the UF Canvas e-Learning portal (https://lss.at.ufl.edu/), such as the following:

1. BuildingGreen
   1.1. Homepage | https://www.buildinggreen.com/
   1.2. Knowledge Base | https://www.buildinggreen.com/knowledge-base
   1.3. Product Guidance | https://www.buildinggreen.com/product-guidance
2. Drawdown
   2.1. Homepage | https://www.drawdown.org/
   2.2. Solutions | https://www.drawdown.org/solutions
3. Green Building Advisor
   3.1. Homepage | https://www.greenbuildingadvisor.com/
   3.2. Green Basics | https://www.greenbuildingadvisor.com/green-basics
4. My Florida Home Energy
   4.1. Homepage | http://www.myfloridahomeenergy.com/
   4.2. Find Help | http://www.myfloridahomeenergy.com/help/

Student Learning Outcomes

Upon completion of this course, successful students will be able to:

- Distinguish the similarities and differences between sustainability and resilience.
- Better understand how sustainable solutions are developed, deployed, monitored, measured, and/or modeled in service to the betterment of people, place, and planet.
- Formulate and deliver higher quality verbal and written arguments.
- Demonstrate an improved ability to think holistically and to learn from other people and professions.
- Interact effectively as a part of a team exploring important issues.

Course Modules (CM)

General course module main topics and sub-topics are summarized below. Course modules and topical content are expounded upon within Canvas and may be subject to change.

Modules	Module Main Topics	Module Sub-Topics
CM.ST	Introduction & Systems Thinking (ST)	• ST.01 > Sustainability, Resilience, & Complexity • ST.02 > Welcome to the Anthropocene • ST.03 > Decision Support > Monitor, Measure, & Model
CM.ICT	Information & Communication Technology (ICT) Solutions	• ICT.01 > Certification Standards & Codes • ICT.02 > Smart Cities, Buildings, & Enabling Technologies
CM.SS	Supply-Side (SS) Solutions	• SS.01 > Capital • SS.02 > Energy • SS.03 > Water • SS.04 > Land & Materials • SS.05 > Food
CM.DS.B	Demand-Side (DS) Solutions > Buildings (B)	• DS.B.01 > Structure, Envelopes, & Finishes • DS.B.02 > Space & Water Conditioning • DS.B.03 > Lighting & Plug Loads • DS.B.04 > Potable Water & Wastewater • DS.B.05 > Food Preparation, Cooking, & Dining
CM.DS.L	Demand-Side (DS) Solutions > Landscapes (L)	• DS.L.01 > Vegetation & Irrigation • DS.L.02 > Sensible Sites & Sense of Place • DS.L.03 > Green Infrastructure & Stormwater Management
CM.DS.T	Demand-Side (DS) Solutions > Transportation (T)	• DS.T.01 > Multi-Modal Infrastructure • DS.T.02 > Mobility Technologies by Air, Land, & Water
CM.IM	Impact Mitigation (IM) Strategies	• IM.01 > Atmosphere • IM.02 > Lithosphere • IM.03 > Hydrosphere • IM.04 > Biosphere

Assignments and Grading

Assignment details, deliverables, due dates, and grades will be published on Canvas and may be subject to change.

Grading Category	Additional Details	Points	% of Total
Weekly Quizzes	Required	100	10%
Preparation & Participation	Readings, Discussions, & Class Activities (points vary) • Weekly & Module-Based	200	20%
Personal Reflections (PR)	Individual (40 points/each) • PR.01 > CM.ST (or) CM.ICT • PR.02 > CM.SS • PR.03 > CM.DS.B • PR.04 > CM.DS.L • PR.05 > CM.DS.T (or) CM.IM	200	20%
Student Praxis (SP)	Individual & Team (60 points/SP.01 & 120 points/SP.02+SP.03) • SP.01 > Individual > Measuring & Modeling Impacts • SP.02 > Team > WRI Sustainability SWOT • SP.03 > Team > Drawdown Learn	300	30%
Quizzes	Canvas (Modules) & BuildingGreen (CEUs)	200	20%
Total		**1000**	**100%**

Grades will be based on evidence that students have completed assigned readings, contributed to online discussions, actively engaged in class interactions, and completed writing and presentation assignments, both individual and team-based, throughout the semester. All completed tasks will be evaluated based on pertinence of content, critical thinking, creativity, and communication. Details and due dates for assignments are posted on Canvas. The University standard suggests students might expect to study outside of class for up to 3 times the weekly class contact periods (e.g., a 3-credit course might be 3 x 3 periods = 9 hours/week in Fall/Spring or 3 x 6 periods = 18 hours/week in Summer A).

Grade	Points (GPA)	Percent	Grade	Points (GPA)*	Percent
A	930-1000 (4.00)	93.0-100.0%	C	730-769 (2.00)	73.0-76.9%
A-	900-929 (3.67)	90.0-92.9%	C-	700-729 (1.67)	70.0-72.9%
B+	870-899 (3.33)	87.0-89.9%	D+	670-699 (1.33)	67.0-69.9%
B	830-869 (3.00)	83.0-86.9%	D	630-669 (1.00)	63.0-66.9%
B-	800-829 (2.67)	80.0-82.9%	D-	600-629 (0.67)	60.0-62.9%
C+	770-799 (2.33)	77.0-79.9%	E	000-599 (0.00)	0.0-59.9%

Final student grades will follow University of Florida grades and grading policies.
- Undergraduate Students: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Teaching Philosophy & Expectations
I have experience in commercial construction management, planning, facilitation, systems ecology, and temporal and spatial analytics of land use change. I am passionate about the technologies and thought processes, policies, procedures, and decision-support strategies necessary to establish and sustain equitable, empowered, safe, healthy, and resilient communities adaptive to uncertainty.

- Student expectations of instructor:
  - o Enthusiasm for the course; engaging lectures and discussions; application of knowledge through classroom activities and fieldwork; organized and neat course materials; unbiased guidance; encouragement of critical thought; and reasonable availability to meet with students outside of class.
- Instructor expectations of students:
  - o Compassionate curiosity; positive attention and intention; willingness to learn with open heart and open mind; consistent attendance; punctual arrival; active participation in our class discussions and activities; advance reading of class content; on-time completion and submission of assignments; proper citation management; adherence to proper netiquette and all University rules and regulations.

Attendance Policies
Attendance is mandatory and participation is graded based on each class period (i.e., missing a multi-period day of class will count as multiple absences in accordance with the number of periods). As future sustainability professionals in training, you are preparing for potential future virtual meetings and collaboration. Thus, students should expect to participate via live video with dress and demeanor befitting an online workplace. *Students may miss up to the equivalent number of class periods as the course credits (e.g., 3 credits = 3 periods @ 50 minutes/each in Spring/Fall & 2 periods @ 75 minutes/each in Summer A) without penalty and with no need for an excuse.* Beyond those "waived" absences, students must provide a valid, and properly documented, excuse. Otherwise, unexcused points will be deducted proportional to the total number of periods where attendance was taken. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with University policies as found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

See Canvas for Additional Course Information
Additional information about the course is available on Canvas, including: instructional methods, tips for success, personal conduct policies, mobile communications and computing policies, and/or other relevant student guidance.

University and General Policies

Student Responsibilities:

"In 1995 the UF student body enacted an [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 students…"

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following responsibilities as delineated at: https://catalog.ufl.edu/UGRD/student-responsibilities/

- Academic Honesty
  - Preamble
  - The Honor Pledge
  - Student Responsibility
  - Faculty Responsibility
  - Administration Responsibility
- Student Conduct Code
- Alcohol and Drugs
  - What the University Community Can Do to Prevent Alcohol Abuse and Drug Abuse
- Relations Between People and Groups
- Service to Others
- Standard of Ethical Conduct

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). Instructors reserve the right to use the TurnItIn app within Canvas to evaluate work originality. Plagiarism is a serious offense and will result in an honor code violation and potential failure of the course. Additionally, any use, access, or handling of technology (e.g., cell phone, smart watch) during an exam will result in an honor code violation and potential failure of the course.

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://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/

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. As such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Students with Disabilities:

Students requesting accommodation for disabilities must first register with the Disability Resource Center (DRC). The DRC 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.

Upon registering, the DRC will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations. The DRC may be contacted by visiting 001 Reid Hall, calling 352-392-8565, or viewing www.dso.ufl.edu/drc/

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/.

Netiquette – Communication Courtesy:
All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Please refer to: http://biostat.ufl.edu/resources/e-learning-resources/e-learning-basics/etiquette-online/

Religious Observances:
Please inform the instructor of any religious holidays or other days of special religious significance that may interfere with your participation in this class so that appropriate accommodations can be made.

Special Consideration:
The principle of equal treatment of all students is a fundamental guide in responding to requests for special consideration. No student shall be given an opportunity to improve a grade that is not made available to all members of the class. This policy is not intended to exclude reasonable accommodation of verified student disability or the completion of work missed due to religious observance, verified illness, or absence due to circumstances beyond your control. Reconsideration of subjective judgments of an individual student's work will be done only if all students in the class can be and are given the same consideration.

Sexual Harassment:
Sexual harassment is reprehensible and will not be tolerated by the University. It subverts our academic mission and threatens the careers, educational experience, and well-being of students, faculty, and staff. The University will not tolerate behavior between, nor among, members of this community that creates an unacceptable working environment.

Helpful Campus Resources:
Your well-being is important to our University community. Students experiencing crises or personal problems that interfere with their general well-being or academic performance are strongly encouraged to talk to the instructor and/or to utilize the University's confidential counseling resources, available at no cost to currently enrolled students.

- *University Counseling Center & Wellness Center*, 3190 Radio Rd., 392-1575. Personal and career counseling, as well as therapy for anxiety, stress and mental health issues. http://www.counseling.ufl.edu/cwc/
- *Dean of Students Office,* 202 Peabody Hall, *392*-1261. Among other services, the DSO assists students who are experiencing situations that compromises their ability to attend classes. This includes family emergencies and medical issues (including mental health crises). https://www.dso.ufl.edu/care
- *Teaching Center*, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/
- *Writing Studio, 302 Tigert Hall,* 846-1138. Help brainstorming, formatting, and writing papers. http://writing.ufl.edu/writing-studio/
- *Library Support*. Provides various ways to receive assistance with respect to using the libraries or finding resources. http://cms.uflib.ufl.edu/ask
- *E-Learning Technical Support*, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://elearning.ufl.edu/student-help-faqs/
- *UF Information Technology | Computing Help Desk*, 352-392-HELP (4357) or e-mail to helpdesk@ufl.edu. http://helpdesk.ufl.edu/
- *Sexual Assault Recovery Services (SARS)*, Student Health Care Center, 392-1161. Sexual assault counseling.
- *Career Resource Center*, Reitz Union, 392-1601. Career assistance and counseling. http://www.crc.ufl.edu/
- *University Police Department,* 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/