

**DCP3210 | Class 12603 | Section 5365 | 3 Credits**  
**Sustainable Solutions for the Built Environment**  
**| Fall 2020 | 100% Online Synchronous**

<b>Instructor:</b>	Bahar Armaghani   LEED Fellow Director & Lecturer   Program in Sustainability and the Built Environment (SBE) College of Design, Construction, and Planning (DCP)   University of Florida
<b>Office Correspondence:</b>	352.294.1428   Canvas email (preferred)   <a href="mailto:barmagh@ufl.edu">barmagh@ufl.edu</a> (alternative)
<b>Course Time &amp; Location:</b>	Tuesdays   Period 3-4   09:35 – 11:30   Synchronous Zoom   Thursdays   Period 3   09:35 – 10:25   Synchronous Zoom   <a href="https://ufl.instructure.com/courses/404421/external_tools/166364">https://ufl.instructure.com/courses/404421/external_tools/166364</a>
<b>Course Co/Prerequisite:</b>	BCN 1582 (or) IDS 2154 (or) another course approved in the topic area
<b>Final Exam Schedule:</b>	N/A
<b>Estimated added Costs:</b>	~ \$15 textbooks   \$0 materials & supplies
<b>Virtual Office hours:</b>	Zoom   Tuesdays   8:30-9:30 am   Thursdays   10:30-12:30 pm   Zoom   By appointment <a href="https://ufl.instructure.com/courses/404421/external_tools/166364">https://ufl.instructure.com/courses/404421/external_tools/166364</a>
<b>Course Website:</b>	<a href="https://ufl.instructure.com/courses/404421">https://ufl.instructure.com/courses/404421</a> for modules, announcements, assignments, discussions, lecture slides, readings, quizzes, and grades

## Course Description

This course developed to acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future. Education for Sustainable Development and the Built Environment mean including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. Education for sustainability is essential to help people to understand and accept the need for significant changes in the way we operate socially and economically, in order to ensure a sustainable future for everyone. In this course, students will learn to think about sustainability issues, make assessment, identify strategies and technologies that addresses triple bottom line of sustainability using knowledge and skills gained in the course.



<http://www.burnsmcd.com/Sustainability-Summit>

### To provide sustainable solutions for the built environment, we must:

Use all resources wisely, consider the needs of future generations, evaluate a wide range of risks, protect and enhance the environment, conserve energy and natural resources, improve quality of life, and encourage innovative approaches to the design, construction, and operation & maintenance of facilities and infrastructure.

## Learning Objectives

This course's objectives to facilitate student learning and leadership in the establishment and enhancement of more sustainable planet. The objectives emphasis is on evaluating evidence-based products, systems, material, and services, and think about applying new strategies and technologies that contributes to more sustainable world via at home preparation, in-class discussions, videos, online engagement, and individual and collaborative team assignments, students will:

- Explore and understand sustainability.
- Evaluate and communicate the effectiveness of current sustainability initiatives in the built environment and ability to assess whether they are operating in an effective sustainability framework.
- Create a focus on the execution of strategies to drive long-term sustainability performance.
- Develop own body of knowledge to improve own sustainability competency and learn the importance of communicating the built environment's sustainability level.
- Understand how to reflect on the future of sustainability in the built environment, communities, and cities.
- Identify the characteristics of best practice in sustainable building/development/infrastructure initiatives and look beyond current initiatives to resilient buildings and cities.
- Communicate and advocate sustainable design principles, strategies, solutions and/or outcomes.

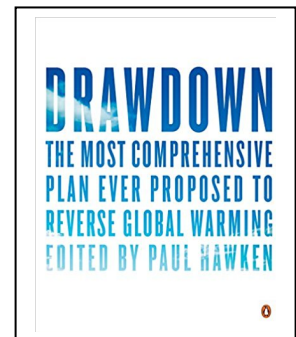
## Student Learning Outcomes (SLO)

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

- Distinguish the similarities and differences between sustainability and resilience.
- 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.

## Required Text/Reading:

- Hawken, P. (2018). Drawdown: The most comprehensive plan ever proposed to reverse global warming. <http://www.drawdown.org/>, Cost ~ \$15 on Amazon.
- In addition to the required text, various supplemental, free publications identified for class reading/discussion and/or assignments is supplied via syllabus on Canvas e-Learning portal (<https://ufl.instructure.com/courses/404421>). Students expected to complete readings as advance preparation for class discussion.



## Other Resources

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:

- BuildingGreen, Homepage, *UF membership access* | <https://www.buildinggreen.com/>  
Knowledge Base | <https://www.buildinggreen.com/knowledge-base>  
Product Guidance | <https://www.buildinggreen.com/product-guidance>
- Drawdown, Homepage | <https://www.drawdown.org/>  
Solutions | <https://www.drawdown.org/solutions>
- Green Building Advisor, Homepage | <https://www.greenbuildingadvisor.com/>

Green Basics | <https://www.greenbuildingadvisor.com/green-basics>

- My Florida Home Energy, Homepage | <http://www.myfloridahomeenergy.com/>  
Find Help | <http://www.myfloridahomeenergy.com/help/>
- U.S. Green Building Council, *UF membership access* | [www.usgbc.org](http://www.usgbc.org)
- LEED User, *UF membership access* | [www.leeduser.buildinggreen.com](http://www.leeduser.buildinggreen.com)

## Course Modules

General course module main topics and sub-topics are summarized below. Course modules and topical content including readings, assignments, discussions, PowerPoints, and final project are expound on within Canvas and may be subject to change.

<i>Modules</i>	<i>Module Main Topics</i>	<i>Module Sub-Topics</i>
<b>0</b>	Start Here	<ul style="list-style-type: none"> <li>• Welcome to the course</li> <li>• Course overview</li> <li>• UF resources and policies</li> </ul>
<b>1</b>	Introduction to Sustainability	<ul style="list-style-type: none"> <li>• UF Sustainability</li> <li>• Introduction to UN Sustainable Development Goals (SDGs)</li> <li>• Introduction to Drawdown</li> </ul>
<b>2</b>	SDGs, Drawdown and Sustainability	<ul style="list-style-type: none"> <li>• SDG Goal #2, Zero Hunger</li> <li>• Paris Climate Action</li> <li>• 2030 Challenge</li> <li>• Drawdown Solution #3, Reduced Food Waste</li> <li>• Cutting emissions as cities grow</li> </ul>
<b>3</b>	Whole systems thinking, Codes, Standards and Green Building	<ul style="list-style-type: none"> <li>• Biophilic Design</li> <li>• Smart Cities</li> <li>• LEED for Cities</li> <li>• Green Construction Codes</li> <li>• Living Building</li> </ul>
<b>4</b>	Land Use Planning and Sustainable Communities	<ul style="list-style-type: none"> <li>• Sustainable Communities</li> <li>• New Urbanism</li> <li>• Mass transit</li> <li>• Conservation subdivision</li> </ul>
<b>5</b>	Sustainable Site and Landscape	<ul style="list-style-type: none"> <li>• Landscape</li> <li>• Stormwater management</li> <li>• Heat island effect roof and non-roof</li> <li>• Site Lighting</li> <li>• Afforestation</li> </ul>
<b>6</b>	Water Conservation	<ul style="list-style-type: none"> <li>• Water inside and outside</li> <li>• Net zero water</li> <li>• Irrigation</li> <li>• WaterSense</li> <li>• Wave and Tidal</li> </ul>
<b>Exam #1</b>		
<b>7</b>	Energy Conservation and Efficiency	<ul style="list-style-type: none"> <li>• Affordable and clean energy</li> <li>• Net zero energy</li> </ul>

		<ul style="list-style-type: none"> <li>• Building envelope</li> <li>• Mechanical and electrical systems</li> </ul>
8	Renewable Energy	<ul style="list-style-type: none"> <li>• Solar farms</li> <li>• Refrigerant management</li> <li>• Energy systems</li> <li>• Commissioning</li> <li>• Wind turbine</li> </ul>
9	Indoor Environmental Quality	<ul style="list-style-type: none"> <li>• Interior material use</li> <li>• Daylight and views</li> <li>• Lighting</li> <li>• Air quality</li> </ul>
10	Material and Resource Use	<ul style="list-style-type: none"> <li>• Material embodied carbon</li> <li>• Waste management</li> <li>• Consumption and production</li> <li>• Eco building material</li> </ul>
11	Health and Well-being	<ul style="list-style-type: none"> <li>• WELL</li> <li>• Product chemical transparency</li> <li>• Red list material</li> </ul>
12	Looking Ahead: Climate Adaptation	<ul style="list-style-type: none"> <li>• Resilient Design</li> <li>• Sea Level Rise</li> <li>• Climate Action</li> <li>• Security and sustainability in smart cities</li> <li>• Regenerative Agriculture</li> </ul>
<b>Exam #2</b>		
13	Review and Practice class project & Introduce new latest systems and social equity of sustainability	<ul style="list-style-type: none"> <li>• LED lighting</li> <li>• Geothermal</li> <li>• Gender equality</li> <li>• Women and girls empowerment</li> </ul>
<b>Thanksgiving</b>		
14	Green Jobs	<ul style="list-style-type: none"> <li>• Sustainability internship search</li> <li>• Sustainability jobs search</li> <li>• Resources available, internal and external</li> </ul>
15	Final Project Presentation	<ul style="list-style-type: none"> <li>• One presentation. Each team will present their section</li> </ul>

*Disclaimer: This syllabus represents my current plans and objectives. Throughout the semester, we may need to adjust with unforeseen events and conditions. Such adjustments are communicated clearly in class and via written announcements on Canvas. These adjustments are not unusual and are expected during a pandemic.*

### **Attendance Policy, Class Expectations, and Make-Up Policy**

- 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).
- Students should expect to participate via live video with dress and demeanor befitting an online workplace.
- Do not post Zoom meeting screen shot on your social media.
- 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/>
  - **Follow UF 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/> (Links to an external site.)
- Note: it is an honor code violation to share the link video recording link to people outside of your course. If students appear in the video, this may also be a Family Educational Rights and Privacy Act (FERPA) violation.**

Etiquette
<ul style="list-style-type: none"> <li>• Be Present. This will allow you to get the most out of class time as well as for your classmates to get the most out of their collaborations with you.</li> <li>• Put your cell phone away unless you are actively using it to further the class activities.</li> <li>• Be prepared. The readings and videos have been carefully chosen to support the class activities.</li> <li>• Listen carefully and do not interrupt others.</li> <li>• Give quality feedback. What constitutes “quality” will be discussed in class.</li> <li>• Respect the opinions of others, even when you do not agree.</li> <li>• Keep an open-mind; embrace the opportunity to learn something new.</li> <li>• Avoid monopolizing the discussion. Give others a chance to contribute and be- heard.</li> <li>• Do not be afraid to revise your ideas as you gather more information.</li> <li>• Try to look at issues from more than one perspective.</li> <li>• Respect others by learning and using the name and pronoun they prefer.</li> <li>• Do not use offensive language.</li> </ul>

### Assignments and Grading

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

<i>Grading Category</i>	<i>Additional Details</i>	<i>Points</i>
<b>Attendance &amp; Punctuality</b>	Required	5
<b>Readings ( Individual)</b>	Readings (points vary) (0-15) • Weekly & Module-Based	15
<b>Discussion (Individual)</b>	Discussions (points vary) (0-15) • Weekly & Module-Based	15
<b>Presentations (Team)</b>	PowerPoint presentation (points vary) (0-15) • Weekly & Module-Based	15
<b>Exams</b>	• Mid-term (15) • Final (15)	30
<b>Final Project</b>	Class Presentation	20
	<b>Total</b>	<b>100</b>

### Grade and Grading Policy:

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Numeric Grade	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	0-59
Quality Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

Final student grades will follow University of Florida grades and grading policies.

- Undergraduate Students: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-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

## Class Project

This semester, the class will be working on below property to develop it with application sustainability and resiliency strategies.

3557 NW 19<sup>th</sup> Avenue, located between 19<sup>th</sup> and 20<sup>th</sup> Avenue off 34<sup>th</sup> Street.

### Teams

The class is divided into the following team:

- Land Use Policies & Codes
- Site and Transportation
- Water Efficiency
- Energy Efficiency
- Material use
- Indoor Environmental Quality

## Getting Help

### Health and Wellness

#### U Matter, We Care:

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc/Default.aspx/> , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

### Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>

### Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu) <https://lss.at.ufl.edu/help.shtml/>

## University Policies

### Online course evaluation

Students expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://gatorevals.aa.ufl.edu/students/>. 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. 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/>.

### 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. Contact DRC at **352-392-8565**, or viewing, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/).

### Student Honor Code and Academic Honesty

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 (<http://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.

### 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.

### 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.

### 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.

## Other Campus Resources

**Career Resource Center**, Reitz Union, **392-1601**. Career assistance and counseling.

<http://www.crc.ufl.edu/>

**Library Support**, <http://cms.uflib.ufl.edu/ask/>. Various ways to receive assistance with respect to using the libraries or finding resources.

**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/>

**Student Complaints Campus:** [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf/](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf/)

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process/>