



## **CE: 5381 Sustainable Construction**

**Instructor:** Adeeba A. Raheem, Ph.D., ENV SP; A.M.ASCE; Assoc. DBIA™

**Office Phone:** (915) 747-6348

**Email:** aaraheem@utep.edu

**Office Hours:** M/W: 1.00pm-3.00pm

### **Instructor Background**

Dr. Raheem received her Ph.D. in Construction Management from the University of Florida (UF). She holds multiple master's degrees in Building Construction, Environmental Engineering and Civil Engineering from UF. Her research interests include construction safety and sustainable construction with an emphasis on utilizing Building Information Modeling (BIM) and energy simulation tools and techniques. She has worked on various research studies focused on improving the environmental performance of commercial and residential buildings. For the past few years, she has been working on optimizing the performance of various components of commercial building facades in hot and humid climates. Dr. Raheem has published her research work in a variety of peer-reviewed journals, including Safety Science, Building Simulation and Building Appraisal.



### **Course Credits**

3-0

### **Prerequisites or Co-requisites**

Bachelor's Degree in Engineering, Physical Sciences or Business

### **Course Description**

Part I is about the origins of sustainable design, the ecological structure of matter, and the physical laws that govern it.

Part II gives a sustainable construction roadmap. It views the construction process itself through this same lens of interconnectedness and gives some practical rules to follow to attain the goal of building sustainably in both commercial and residential applications. In order to gain

an understanding of LEED NC, we will follow a commercial project, scheduled to achieve LEED NC Gold certification, Sweetwater Sound, through its LEED credits and submittals.

## **Course Goals**

The primary goal of this course is to have students make the mental connections that are necessary to understand why building sustainably is an important thing to do.

This understanding involves both the esoteric—the mental concepts of the world that we hold—and the practical—a different way of doing things in the practice of construction. Practical and esoteric information is not typically paired inside of the same book binding. Yet these two competencies of knowledge and action are completely interrelated, and a great disservice is committed by us when they are presented as if they are separate. Doing that creates an artificial presentation of the world, causing all manner of problems, one of which is exhibited in the way that we design and construct the built environment.

## **Objectives**

The focus is for students in Construction degree programs, for those studying to take the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED®) Accredited Professional (AP) Exam, and for those who would like a better understanding of how to live a more sustainable life as conscious stewards of this Earth. Construction students are encountering more and more employers who enquire whether the students hold the LEED® AP designation before they are considered for employment. Within a few years, the USGBC's LEED® criteria have become the leading green building program in the United States and is one that is being used all over the world as well. Its purpose is to identify many of the most important aspects of the construction process related to sustainable design and construction.

## **Required Materials**

Sustainable construction and design/M. Regina Leffers, Pearson, ISBN-13: 978-0-13-502728-8

## **Grading Policy**

Students will be responsible for weekly quizzes, class discussion questions, class discussion/participation, and assignments. Grades will be determined based on the following criteria.

<b>Grade</b>	<b>Required Percentage of Available Points</b>
A (Outstanding)	90 – 100
B (Very Good)	80 – 90
C (Satisfactory)	70 – 80
D (Unsatisfactory)	60 – 70
F (Failure)	less than 60

## Grading Schemes

	Quizzes	Discussion	Final Exam	Assignments	Technical review(s)
%age of grade	15%	25%	20%	20%	20%

### Deliverable standards

The class material is divided into seven modules. Each module consists of lectures and class assignments. Students will be responsible for all reading material assigned during each week.

- **Final exam** will consist of short questions, MCQs, Fill-in-the-blanks, True/False and some real-life situation analysis of construction problems. There will be **NO** makeup quizzes or exam unless there are extenuating circumstances.
- The students will have to submit three **technical reviews** by the last week assigned by the instructor. The specifics of the technical reviews are provided on the *Blackboard Home Page*.
- Each week students have to provide **FIVE** comments including their own answers to **discussion questions** posted on the discussion board online. The comments should add to the discussion by sharing your experience or adding information that is missing. The comments such as great...really good...I enjoyed it...All answers are good....I agree etc. will **NOT** be considered for grading purposes.
- Late **assignments** will **NOT** be accepted. Each student will have **ONE** opportunity during the 7-week period to submit a late assignment within one day after the deadline is passed. **This doesn't apply to quizzes and discussion comments.** Assignments will be graded based on the following rubric:
  - Proper English and Grammar – 10%
  - Accurate and Substantial Thought and Analysis – 60%
  - Organized and Coherent – 30%
- Students are encouraged to provide feedback during the term to facilitate a positive learning environment. Students can send any suggestions/comments/concerns regarding the course/assignments structure or any related aspect. Instructor strongly believes in helping and listening to students during the semester when it affects them THE MOST. The link for the final course evaluation will be sent to the students during the final week of the semester.

### What should you expect from me as the Instructor?

1. I will provide you clear instructions on class expectations
2. I will check my e-mail at least three times per week and will answer back to you as soon as possible.
3. I will leave myself open to suggestions about improvement of the class and class related activities.
4. I will do all I can to ensure your learning and success in this class
5. If any

changes in the course are to be implemented, I will ensure that the class is notified in a timely manner.

### **Discussion Grading Rubric**

	<b>20 points possible per discussion posting</b>			
<b>Quality of Posting</b>	<b>20 Points</b>	<b>15 Points</b>	<b>10 Points</b>	<b>5/0 Points</b>
<b>Response to assignment questions</b>	Responds completely to all questions.	Responds to most questions.	Responds to a few of the questions.	Responds to one question or less.
<b>Focus on Topic</b>	There is one clear, well-focused topic. Main idea stands out and is supported by detailed information.	The main idea is clear but the supporting information is too general.	The main idea is somewhat clear but there is a need for more supporting information.	The main idea is not clear. There is a seemingly random collection of information.
<b>Relates text and articles to the assignment</b>	Cites the text and all articles in relation to the assignment.	Cites the text and almost all articles in relation to the assignment.	Makes few citations from text and articles in relation to the assignment.	Makes very few or no citations from text and articles in relation to the assignment.
<b>Accuracy of Facts</b>	All supportive facts are reported accurately.	Almost all supportive facts are reported accurately.	Most supportive facts are reported accurately.	NO facts are reported OR most are inaccurately reported.
<b>Sources</b>	All sources used for quotes and facts are credible.	Most sources used for quotes and facts are credible.	Few sources used for quotes and facts are credible.	Sources used for quotes and facts are less than credible (suspect).

### **Diversity**

As an instructor, I am committed to creating an inclusive environment in which all students are respected and valued. I will not tolerate disrespectful language or behavior on the basis of age, ability, color/ethnicity/race, gender identity/expression, marital/parental status, military/veteran's status, national origin, political affiliation, religious/spiritual beliefs, sex, sexual orientation, socioeconomic status or other visible or non-visible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

### **Computer Requirements**

First, let's make sure your computer has the necessary plug-ins you will need to access all the content in this course. You can click [here](#) to access UTEP's test page that will inform you if the computer you are using has the latest software available.

## **Software Requirements**

You will need the following software on your computers to efficiently work in this course. In some cases your computer may already have some of these programs installed.

- Adobe Acrobat Reader. You can get the program by going to <http://www.adobe.com> and then clicking on the icon on the center of the screen which says "Get Adobe Reader". Follow instructions to install the reader.
- Adobe Flash Player. You can get the player by going to <http://www.adobe.com> and then clicking on "Get Adobe Flash Player". Follow instructions to install the player.
- Apple QuickTime Player. You can get this player by going to <http://www.apple.com>. Once there, click on the "Downloads" tab on the top of the page and then click on QuickTime "Download" and follow instructions.
- Microsoft Office. I recommend buying this if you do not have any word processing software or presentation software. As students, you can generally buy this whole package for about \$25, far less than the store price of approximately \$400.

## **Course Schedule Changes**

As course instructor, I reserve the right to adjust the course syllabus or change assignments as needed. I will be sure to give you plenty of notice prior to any changes. Remember that our course syllabus and class schedule are living documents and can be changed!

## **Class Participation**

I strongly recommend that you check the course at least three times a week at minimum to keep up. Email messages are sent to your UTEP email address, so you will want to check your UTEP email several times a week.

There will be no incompletes offered in this course. Past experience has shown that if you cannot complete the course during the time allotted, you probably never will.

## **Time Management**

The rule of thumb for time planning for a course is approximately three (3) hours for every credit hour taken. This is a standard figure recommended across the board by American universities. For a 3 credit course, course you should expect to spend:

**3 hours of class time + 9 hours of study and prep time = 12 hours per week.**

## **Being Successful in an Online Class**

Online learning is not a spectator sport. It is everyone's responsibility to participate as fully as they can so everyone can get the most from the experience. Here are some simple rules to follow to ensure your participation and engagement in the learning process:

- Ask questions: If you don't know the answer, someone else will. The discussion board is the area for asking questions related to content OR any problems (related to the class) you are having. Make sure that you have clearly indicated the subject of your message.
- Reach out to others: Offer a fact, article, link, or other item that can help others learn something you can share.
- Be appropriate: The online classroom is not the place for insulting or insensitive comments, attacks, or venting. Inappropriate behavior can be subject to disciplinary action, as well.
- Be diplomatic: When sending messages on emotionally charged topics, I recommend that you write the message and then walk away for at least an hour before re-reading the message and then sending it. Re-reading emotionally charged messages ensures that they are constructive instead of destructive. Think of the person at the other end.
- Stay focused: Stay on topic to increase the efficiency of your learning.

## **Effective Electronic Communications**

It is important to share a word of caution, so we can become wiser about interpersonal distance learning communications. When communicating electronically, many of the feelings or impressions that are transmitted via body language in face-to-face communications are lost. Consequently, interpreting emotions and innuendos is much more difficult. Only what is written, or drawn, carries the message. Often, excitement can be misinterpreted as anger or insult. It is important that we all keep this in mind as we communicate. Words in print may seem harmless, but they could emotionally injure us when working at a distance. Hence, it is vitally important that we are conscious of how we communicate while working at a distance.

- For example, avoid the use of caps in your electronic messages, as wording in caps comes across as shouting.

The standard practice ("Netiquette") for participation in networked discussion requires that all participation be focused on the topic at hand, not become personalized, and be substantive in nature. (Translation: you may certainly disagree with others, but you must do so respectfully; you may express strong beliefs or emotions, but you may not get so carried away that you lose all perspective on the course itself.)

- More information on Netiquette, the etiquette of Internet communication, can be found at [www.albion.com/netiquette](http://www.albion.com/netiquette).

## **Academic Dishonesty Statement**

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another person's as ones' own. And, collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action. Students may be suspended or expelled from UTEP for such actions.

Academic dishonesty is an assault upon the basic integrity and meaning of a University. Cheating, plagiarism, and collusion in dishonest activities are serious acts which erode the University's educational and research roles and cheapen the learning experience not only for the perpetrators, but also for the entire community. It is expected that UTEP students will understand and subscribe to the ideal of academic integrity and that they will be willing to bear individual responsibility for their work. Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Violations will be referred to the Dean of Students Office for possible disciplinary action. Students may be suspended or expelled from UTEP for such actions.

### **Notice of Safe Assign**

This course may utilize third party software that has the ability to automatically detect plagiarism on documents submitted for grading.

### **Copyright Notice**

Many of the materials that are posted within this course are protected by copyright law. These materials are only for the use of students enrolled in this course and only for the purpose of this course. They may not be further retained or disseminated.

### **Disabled Student Statement**

In Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, if a student needs an accommodation then the Office of Disabled Student Services located at UTEP need to be contacted. If you have a condition, which may affect your ability to perform successfully in this course, you are encouraged to discuss this in confidence with the instructor and/or the director of the Disabled Student Services. You may call (915) 747-5148 for general information about the American with Disabilities Act (ADA) and the rights that you have as a UTEP student with a disability. You also can visit the DSSO website at [www.utep.edu/dsso](http://www.utep.edu/dsso) or the DSSO office in Room 108 East Union Building.

Individuals with disabilities have the right to equal access and opportunity. It is the student's responsibility to contact the instructor and The Disabled Student Services Office at The University of Texas at El Paso.

### **Technical Assistance**

The University of Texas at El Paso offers complete technical information and help desk support at: <http://admin.utep.edu/Default.aspx?tabid=74092>