

Sustainable Design
IND2608
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3 Credit Hours

Introduction:

This class is the study of the interior design using green design and its affect on the environment. Please come to class prepared to take notes and work.

Description

This course will provide a wide range of design experiences through lectures, group discussions, research, and field tours. Topics which will be explored are special populations, economic and psychological factors, as well as environmental concerns. Architectural styles with an emphasis on preservation and renovation will be stressed. To receive credit for this course, students must specify a susatainabel project.

Pre-Requisites:

None

Assessed Degree Program Learning Outcome: To Develop an awareness of diverse ethical perspectives. The assessment will be taken from the project assigned during week 13.

Learning Outcomes and Objectives:

1. **Evaluate the development of sustainability**
 - a. Compare the scientific theories associated with sustainability including ecology and environmental science
 - b. Apply environmental science factors to sustainability concepts and terminology
 - c. Contrast the history of the U.S. environmental movement and its subsequent effect on legislation
 - d. Synthesize a minimum of five of the most significant global initiative for sustaining the planet
 - e. Analyze, at the macro level, the relationship between sustainability and economics
 - f. Categorize the principles associated with environmental responsibility including stewardship, ethics, and social justice
2. **Assess the environmental issues of sustainability**
 - a. Analyze sources of produced energy
 - b. Describe energy consumption patterns
 - c. Scrutinize population growth rates of highly developed and developing countries, and their relationship to sustainability
 - d. Explain at least factors that affect annual world population change
 - e. Analyze the characteristics and problems associated with natural resources, including

air, water, soil, minerals, biodiversity, and land.

f. Compare environmental concerns and challenges related to natural resources, including atmospheric changes, waste stream contamination, air and water quality, and soil pollution

g. Contrast indoor air quality (IAQ) and its related health concerns

3. Compare the regulations, programs, and organizations pertinent to sustainability

a. Demonstrate policies, legislation, and labeling related to sustainable design

b. Summarize the purposes of agencies and organizations related to sustainable design

c. Characterize sustainability perspectives of organizations and professionals associated with the field of interior design

d. Contrast sustainable resources and assessment tools

e. Explain the goals, policies, and procedures pertaining to selected sustainability assessment tools

4. Create transformational sustainable principles and strategies to design

a. Describe the importance of applying a set of sustainable principles to the practice of interior design

b. Analyze the process associated with a sustainability life cycle assessment (LCA)

c. Apply LCA to sustainable design

d. Investigate the strategic relationships between sustainable design, economics, and benefits

e. Apply environmental management systems to the practice of interior designers

f. Create a strategy for integrating the principles of sustainability, economics, and systems

5. Develop building and product assessment standards in design

a. Compare how the built environment affects people and the natural environment

b. Contrast environmental assessment methods from a federal, state, and local perspective

c. Describe global building assessment tools and standards

d. Differentiate the categories associated with Leadership in Energy and Environmental Design (LEED)

e. Synthesize the requirements for acquiring LEED certification

f. Categorize the Global Eco labeling Network (GEN) functions and requirements of its members

g. Compare organizations that certify equipment and finishes

6. Cultivate sustainable strategies for the consumption of natural resources in design

a. Create sustainable strategies for land consumption and apply the criteria to the built environment

Analyze the sustainment elements that contribute to thriving communities

c. Examine sustainable strategies for HVAC systems

d. Categorize conservation of energy and water when working with the built environment

e. Scrutinize the components of lighting systems

- f. Compare the principles of sustainability to the components of the building envelope
- g. Relate the energy-efficient strategies for windows and water technologies
- 7. Recommend sustainable strategies for indoor environmental quality in architecture and design**
 - a. Study the importance of day lighting
 - b. Identify approaches to integrating natural light with electrical sources
 - c. Apply methods to enhance day lighting and control sunlight
 - d. Classify important considerations for outdoor views
 - e. Describe the impact of outdoor views on people
 - f. Categorize how HVAC systems affect the quality of the indoor environment
 - g. Analyze environmental effects on people in the built environment
 - h. Investigate chemical contaminant effects on indoor air quality
 - i. Consider the contents of finishes and furnishings effect on indoor air quality
- 8. Categorize sustainable strategies for building components, finishes and furnishings**
 - a. Question sustainable strategies for specifying wood and plastic building components
 - b. Compare sustainable characteristics of doors, windows, and equipment
 - c. Apply sustainable characteristics of doors, windows, and equipment to the built environment
 - d. Contrast sustainable characteristics associated with interior finishes
 - e. Compare sustainable characteristics associated with furnishings
 - f. Apply sustainable characteristics of finishes and furnishings to the built environment
 - g. Categorize the importance of cleaning and maintenance of the built environment
 - h. Differentiate components of the building envelope including types of foundations, framing, roofing, windows and other materials that impact design solutions
 - i. Recognize the implications of altering construction materials and construction systems as related to cost, structure, and design
- 9. Create sustainable strategies for commercial and residential interiors**
 - a. Analyze characteristics of historic buildings that inform sustainable practices
 - b. Demonstrate how to integrate sustainability techniques with contemporary buildings
 - c. Develop sustainable benefits associated with reusing and preserving buildings
 - d. Apply these four basic approaches for the treatments of properties to sustainable interior environments: preservation, rehabilitation, restoration, and reconstruction
 - e. Use approaches to integrating historic preservation with requirements in building assessment programs
 - f. Analyze the relationships between sustainability and commercial interiors
 - g. Analyze the relationships between sustainability and residential interiors
 - h. Incorporate appropriate environmental considerations using information and research to protect the public's health, safety and welfare
- 10. Develop sustainable strategies for management and the initial phases of the design process**
 - a. Solve management strategies for sustainable interior environments
 - b. Relate the management strategies methods to practice

- c. Apply an understanding of the principles of sustainability to the goals and objectives of a sustainable environment
 - d. Construct strategies for enhancing the collaborative activities, which are essential to a sustainable project
 - e. Synthesize the methods for collecting data in the programming phase of a sustainable project
 - f. Analyze information gathered in the programming phase
 - g. Analyze the results of programming
 - h. Demonstrate a charette developing the architectural program of a sustainable project
11. **Design sustainable strategies for design process during the design phases**
- a. Demonstrate how to develop sketches that illustrate sustainable features of the built environment
 - b. Analyze elements of the lighting system related to sustainability during brainstorming sessions
 - c. Examine sustainable materials and resources during brainstorming sessions
 - d. Scrutinize important considerations for the indoor environmental quality during brainstorming sessions
 - e. Develop sustainable features on the drawings and specifications during the development phase of the design process

Assessment of Learning Outcomes: Learning outcomes are determined by measuring the ability of each student to retain the learning outcomes of the course. Performance-based methods, such as completion of assigned projects, general knowledge tests, visual and written presentations of assignments, discussion boards, and the final exam will determine the final grade on this course.

Outline of Course Work:

Do the necessary textbook reading and corresponding homework before coming to class. Take notes during each lecture and presentation. Present and explain course projects in both team and individual presentations. Use the instructor's comments and suggestions to improve your work.

Text:

Sustainable Design for Interior Environments, Susan M. Winchip, Fairchild Publications, Inc., New York 2007

~Required Text~

Expectations of a College Writer

In any paper, correspondence, or other written communication with your instructor, you **must** adhere to the following standards:

1. Communicate using Standard English. Papers, correspondence or electronic communications using computer Instant Message Chat Slang or jargon or any such slang, lingo, or other computer-related language will not be accepted.
2. Correctly spell and use the appropriate forms of words (use spell check).
3. Begin each sentence with a capital letter and end with proper punctuation.
4. Write complete sentences that are clearly worded, not garbled and confusing. Do not use fragments, comma splices or run-on sentences.
5. Avoid glaring grammatical errors. Look up the grammar rules if you do not remember the appropriate usage. Seek help in the learning labs or a grammar handbook.

6. When preparing a paper, create a thesis sentence that states the main idea of the essay or a topic sentence that states the main idea of the paragraph.
7. Organize the major supporting ideas and information so that the reader can follow.
8. Read your work aloud; then, revise and edit it. If you cannot come into our campus learning lab for assistance, you may wish to use the service of **Smarthinking**, an online writing review program. This site provides access to professional online writing tutors. Students receive a detailed, personalized critique of any written assignment, such as an essay, report, personal statement, cover letter, resume, or creative story. Students may choose a 30-minute review or a 60-minute review for longer essays.
9. Use appropriate citation style for all research papers. Confirm with your instructor the appropriate format to use.

Grading Division

- 15 points maximum – (PBL) Personal Based Learning*
- 15 points maximum – (TBL) Team Based Learning*
- 33 points maximum – Quizzes*
- 20 points maximum – Chat Room or Discussion Board*
- 6 points maximum – Exam*
- 11 points maximum – for attendance*

Grading Scale

90 – 100	= A
80 – 89	= B
70 – 79	= C
60 – 69	= D
Below 60	= F

Course Requirements:

- Written papers and visual presentations with citations and references.

Policy on Late Work or Make-Up Exams

Work handed in over one week late will have 10 points automatically removed from their grade. Visual Presentation will be handed in on the dates indicated and Oral Presentation will be given on the dates assigned. Only in extreme circumstances will late presentation be considered for grading and are subject to approval by the instructor.

Academic Honesty and Plagiarism

1. Collaboration and discussion is encouraged in all course aspects other than actually completing the assigned work (exams, homework, projects, etc). Indeed, collaboration often leads to increased understanding of the material being covered. If you have questions about an assignment, I encourage you to speak up and ask questions about it.
2. It should, but will not; go without saying that plagiarism is a form of fraud and will not be tolerated. Copying text or images from any source and claiming it as your own is considered plagiarism. Submitting copied text as your entire answer on a homework or project, even if you cite the source, is also a form of dishonesty.
3. Any form of academic dishonesty will be appropriately addressed.

Special Needs

If you have any special needs or requirements pertaining to this course, please discuss them with the instructor early in the term.

Syllabus Disclaimer

This syllabus is subject to change at the discretion of the instructor. Changes will be distributed when appropriate as an addendum to the syllabus. The course goals, objectives, student competencies do not change.

Withdrawal and Attendance Policy

It is the student's responsibility to withdraw from the class by **November 7, 2012** with a grade of "W".

Excessive absences (more than 2 for a class that meets twice a week) will result in administrative withdrawal or a grade of "F". Each minute a student arrives late or leaves early will cost him/her a point. 30 minutes or more away from class will be considered an absence.

Beginning Hybrid

This course requires both classroom and online attendance. You must have access to a computer to take this course.

Special Requirements for Online Courses

1. Each student must have reliable access to the internet and should plan to log into the course at least 2-3 times per week.
2. Access to a computer with an internet connection, web browser, word processing software and speakers for listening to audio and video streaming.
3. Reasonable familiarity with web browsing, email and word processing is also required.

Classroom Policy

- The lecture or discussion will start 5 minutes after the post time.
- No texting (private conversations) during the lecture.
- No post in anyway should be construed as personally offensive. Keep courtesy in the forefront of any communication.
- No personal posts in the classroom use your individual email.