

# **CET 284 SUSTAINABLE DESIGN AND CONSTRUCTION**

MURRAY STATE UNIVERSITY

**DEPARTMENT:** DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY

**I. TITLE** Sustainable Design and Construction, 3 credit hours, Spring 2011  
T R 11:00am-12:15pm, IT 229

**II. DESCRIPTION**

An introduction to high performance green buildings and their design and construction. Emphasis on LEED fundamentals.

**III. PURPOSE**

To provide an overview of emerging delivery systems for high performance green buildings and the basis on which their sustainability can be evaluated. The U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) criteria are discussed in detail.

**IV. OBJECTIVES**

- A. Be conversant on the subject of high performance green building design and construction
- B. Be conversant on the various LEED standards
- C. Be able to find green resources and other green building standards

**V. CONTENT**

- 1 Introduction to high-performance green buildings
- 2 Impacts of building construction, operation, and disposal
- 3 Methods and tools for building assessment
- 4 The green building process
- 5 Design and construction relationships
- 6 Site and landscape strategies
- 7 Building energy system strategies
- 8 Water cycle strategies
- 9 Materials selection strategies
- 10 Indoor Environmental Quality (IEQ) analysis and strategies
- 11 Construction team responsibilities and controls
- 12 Building commissioning strategies
- 13 Economic issues and analysis
- 14 Future directions in green high performance building technologies
- 15 Presentation of course projects

**VI. INSTRUCTION**

- A. Lectures and classroom participation (15%)
- B. Exams (55%)
- C. Papers (30%)
  - 1. Late homework will **not** be accepted except in unusual circumstances.

2. Assignments must be presented in a professional manner (i.e., clearly organized, neat, typed, etc.)
5. Multiple pages must be stapled together.

**VII. FIELD, CLINICAL AND/OR LABORATORY EXPERIENCES**

1. Not Applicable

**VIII. RESOURCES**

1. Class handouts.
2. Internet

**IX. GRADING PROCEDURES**

Grading Scale	
90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60%	E

**X. ATTENDANCE POLICY**

This course will adhere to the policy published in the MSU Undergraduate Bulletin. Attendance is expected and will greatly affect performance. **More than three unexcused absences will result in failure of the course.** Cell phone use is prohibited during class.

**XI. ACADEMIC HONESTY POLICY**

This course will adhere to the policy published in the MSU Undergraduate Bulletin. Disciplinary action may result in failure of this course.

**XII. TEXT AND REFERENCES**

1. Kibert, C. J., Sustainable Construction: Green Building Design and Delivery, 2<sup>nd</sup> Ed., Wiley, 2008.

**XIII. PREREQUISITES**

1. None

**XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY**

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or other provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.