

Course Descriptor

< COMN586 Sustainable Construction >

ACADEMIC YEAR	2015-16	SEMESTER	
Course Code	COMN586	Course Title	Sustainable Construction
Credit hours	4	Level of study	Undergraduate
College / Centre	COE		
Co-requisites	NIL	Pre-requisites	CVEN361

1. COURSE OUTLINE

[This course emphasizes the techniques and methods of sustainable construction and development. Importance of a collaborative team effort from owners, developers, architects, engineers, constructors, and consultants will be integrated into the course. Cost and schedule in a sustainable construction/development project are analyzed. The US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED) are studied.]

2. AIMS

[This course prepares students with the fundamentals and principles of sustainable construction. It provides information on technical requirements of the LEED Green Building Rating System for New Construction & Major Renovations (LEED-NC). Additionally, it provides an understanding of how LEED is being used nationally throughout the design and construction industries to define various levels of sustainable project design, the resources available for successfully achieving LEED project certifications.]

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
1. understand the physical limitations of the sustainable construction materials	Lecturer, Presentation	Assignment, Midterms, and Final Exam
2. become familiar with USGBC's LEED-NC suite of standards.	Lecturer, Presentation	Assignment, Midterms, and Final Exam
3. understand the concepts of sustainable landscapes and high-performance building energy design.	Lecturer, Presentation	Assignment, Midterms, and Final Exam
4. analyze how supply chain decisions affect society,	Lecturer, Presentation	Assignment, Midterms, and Final Exam



Course Descriptor

< COMN586 Sustainable Construction >

impact the environment, and consume our resources		
5. will compare and evaluate initiatives and practices used to change behaviors and pursue improvement initiatives that support sustainability/green concepts	Lecturer, Presentation	Assignment, Midterms, and Final Exam

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignments	10%
Mid-term Examination	40%
Final Examination	50%
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve 04 credit hours for this course by passing [ALL](#) of the course assessments [*alternatively, list the compulsory pass assessments**] and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction to green-building design strategies and benefits	3
2	Green building resources and references	3
3	Advancing Green building technologies and innovations	3



Course Descriptor

< COMN586 Sustainable Construction >

6. COURSE CONTENT (Indicative)		
WEEK	LECTURE TOPIC	TIME (HOURS)
4	Impacts of building construction, operation and disposal	3
5	Green building assessment, systems, and processes	3
6	Sustainable construction materials.	3
7	Ecological design	3
8	When and how to use LEED-NC, CS, CI, EB, ND and HC green building rating systems	3
9	9. Sustainable sites and landscaping	3
10	Building energy issues, creating low energy profile	3
11	The building hydrological systems	3
12	Material loop and indoor environmental quality	3
13	Construction Operations and Building Commissioning	3
14	Economic issues and future directions in green building	3
15	Examples of achieving LEED certification	3
	TOTAL HOURS	45
1 - 15	Plus RECOMMENDED INDEPENDENT STUDY HOURS	70
	TOTAL COURSE HOURS	115

7. RECOMMENDED READING

Core text/s:

< *Sustainable Construction: Green Building Design and Delivery* by Charles J. Kibert, 3rd edition, John Wiley & Sons (2012)

LEED Reference Guide For New Construction & Major Renovations Version 2.2, US Green Building Council >



Course Descriptor

< COMN586 Sustainable Construction >

Library + online resources:

1. U.S. Green Building Council (<http://www.usgbc.org/>)
2. LEED2009 Rating System (<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971>)
3. LEED online courses (<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=2177>)