

Pro-Green Diploma
PRGR 630 – Spring 2017
Sustainable Restoration of Existing Buildings

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Overview of the Course

The course examines the benefits of greening existing buildings and covers sustainable restoration processes involving: energy audits, construction materials, structural elements, electromechanical systems, site improvement, water conservation, and indoor environmental quality; in addition to associated operations, management, and costs.

Credit Hours

This is a 2-credit course.

Delivery Format

The course will be delivered in an online format. The student should expect one online lecture per week and an activity relative to the topic of the lectures.

Course Prerequisites

No pre-requisite courses are required for this course.

Course Goals

Students will learn the benefits of sustainable restoration and steps to achieve it.

Course Objectives

Students that successfully complete this course will:

- Recognize benefits of and need for sustainable restoration and preservation.
- Get acquainted with various rating systems for existing buildings
- Be familiar with the processes involved in restoring various building elements and systems
- Understand challenges and opportunities in implementing sustainable restoration

Topics Covered

- Introduction to buildings and sustainable development and the importance of preservation and restoration
- Rating systems for existing buildings
- Restoring building core and envelope
- Energy audits and energy efficient building upgrades
- Site management and water conservation retrofits
- Improving indoor environmental quality
- Management and costs of sustainable restoration

Texts and Supplementary Materials

Required Text

- Handouts and Articles provided on Moodle.

References

- Yudelson, Jerry; Greening Existing Buildings, McGraw-Hill, First Edition, 2012, ISBN: 978-0071638326.
- Carroon, Jean; Sustainable Preservation: Greening Existing Buildings, Wiley, First Edition, 2010, ISBN: 978-0470169117.
- Halliday, Sandy; Sustainable Construction, Gaia Research, First Edition, 2008, ISBN: 978-0-7506-6394-6.

Technical Requirements

- Intermediate computer skills

Grading Policy

The grades in this class break down as follows:

Knowledge Checks	20 pts
Group Project Activity	30 pts
Other Activities	30 pts
Final Exam	20 pts
Total Points	100 pts

Description of Course Requirements (assessments)

Discussion Forums and Activities

A forum activity enables participants to have asynchronous online discussions, i.e. discussions that take place over an extended period of time. There are **three** forum discussions in this class and **two** assignments.

Course lectures and their corresponding activities will be displayed on Moodle each Thursday at 6:00 p.m. You will have **one week** to complete each activity i.e. you have to submit the deliverable on the following Thursday by 6:00 pm at most.

Knowledge Checks

You will be given **four** knowledge checks throughout the semester, each of which makes up **5%** of the total grade. These serve to help the instructor know how well you have been following up on the course material. They also help the instructor know how well the information is being conveyed to you and what can be done to improve. The knowledge checks will be in the form of short multiple-choice quizzes which you can take any time within the specified week.

Group Project

There will be one group project. I will assign the groups myself, preferably between interdisciplinary professionals. The project will help you apply what you have learned throughout the course in a practical context. You will have four weeks to complete the project.

Internet Etiquette

Netiquette (short for "network etiquette" or "Internet etiquette") is a set of social conventions that facilitate interaction over networks.

General Rules

1. Make your messages easier to read by making your paragraphs short and to the point.
2. TYPING IN ALL CAPS IS CONSIDERED SHOUTING ON THE INTERNET.
3. Messages in all lowercase letters can be difficult to read, instead, use normal capitalization.
4. *Asterisks* surrounding a word can be used to make a stronger point.
5. Be careful when using sarcasm and humor. Without face-to-face communications your joke may be viewed as criticism. When being humorous, use emoticons to express humor. (Tilt your head to the left to see the emoticon smile) :-) = happy face for humor
6. Never give your user ID or password to another person. System administrators that need to access your account for maintenance or to correct problems will have full privileges to your account.

Make-up Policy

No make-up exams will be given.

Tentative Schedule

Week Topic Activity Due Date

Week	Topic	Activity	Due Date
1		Ice Breaker Forum – 5%	Monday Feb. 20
2	Introduction to buildings and sustainable development and the importance of preservation and restoration.	Making the Environmental Case for Green Restoration – 5%	Saturday Feb. 25
3	Rating systems for existing buildings	Knowledge Check 1 – 5%	Saturday Mar. 4
4	Introduction to building physics		Saturday Mar. 11
5	Building physics applications for existing buildings		Saturday Mar. 18
6	Restoring building core and envelope	Review of a Video on Green Restoration – 5% Knowledge Check 2 – 5%	Saturday Mar. 25
7	Energy efficient building upgrades	Green Materials Forum – 10%	Saturday Apr. 1
8	Site management and water conservation retrofits.	Knowledge Check 3 – 5%	Saturday Apr. 8
9	Improving indoor air quality	Knowledge Check 4 – 5%	Saturday Apr. 15
10	Management and cost of sustainable restoration.	Looking Back – 5%	Saturday Apr. 22
	Group Project	Applying Green Restoration to an Existing House – 30%	Proposal: Saturday Apr. 1 Interim Report: Saturday Apr. 15 Final Report: Saturday Apr. 29
	Final Exam	Term Exam – 20%	Saturday May. 6