

BLD 206: Sustainable Building

Fall 2012

3 Credits

Instructor: Anthony Stoppiello, Architect

503-368-6141

Location: Columbia 221

Time: Tuesday 6:00-8:50

Introduction to the theory and practice of green building for new and historic buildings

Course Description

Students learn, analyze and apply the principles of green building design and construction, including incorporating green principles in renovating and remodeling, and preservation of historic structures as well as new buildings.

Course Learning Outcomes

After completing this course, students will be able to:

- Describe and use the basic terms and concepts used in green buildings.
- Recognize and analyze green buildings.
- Identify and define green building systems and materials.
- Analyze and solve design problems utilizing principles of green building.

Assimilate knowledge gained in this course to evaluate green buildings.

Methodology

This course meets for one three hour session per week. Classes will consist of lecture, presentations, discussion and web searches. Students will be required to do a number of exercises throughout the term. Students will need to spend additional time outside of class time to complete work.

Required Text None

Required Materials Notepaper and writing implement

Grading will be determined as follows:

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| • Attendance and class participation | 20% |
| • Site study | 30% |
| • Final report outline | 15% |
| • Final report (oral and written) | 35% |

Attendance and Participation

- Attendance and participation in all classes is strongly recommended and necessary for successful completion of the course and learning of material. Class times will be used to introduce and discuss material, provide students with hands-on work time and allow interaction between students.

SUSTAINABILITY – GREEN BUILDING DESIGN

Focusing on remodels, but covering new construction as well

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<u>Class date</u>	<u>Subjects covered</u>
9/25	Class introduction and instructor's expectations Who are you and why are you attending? What's sustainability? What's green building? Why do we care? Principles of green design
10/2	Historic perspective on green design Systems approach to design Green Building programs and how they work Handout: Final report topics
10/11	NOTE: THIS IS <u>THURSDAY!</u> Assign final report topics Regional weather overview Western Oregon weather conditions and how they impact design How to do a site analysis and why
10/21	<u>SUNDAY</u> 10:30-1:30 Site visit to analyze an existing building and its site
10/23	Energy conservation Thermal and moisture protection Passive solar and daylighting Attached solar greenhouses Landscaping and Water storage Energy codes and standards Solar water heating and photovoltaics Construction practices—resources used and wasted in construction Building maintenance issues
11/1	NOTE: THIS IS <u>THURSDAY!</u> Students present site visit results, both oral (5 min. each) and written (graded)
11/6	continuation of 10/23 topics
11/13	Principles Report outlines due
11/20	Guest presentation (re-use, recycling, dismantling vs. demolition) Mechanical systems
11/27	Written final reports due; oral reports (5 minutes, Q&A 5 minutes)