



**Course Name** Building Design Innovation with Wood

**Course Number** WSE 225

**Course Credits** 3

**Class Meeting Times**

Lecture: 3 hrs/week

**Prerequisite and/or Corequisite**

Prerequisite: None

**Catalog Course Description**

Critically examines basics of building design and the relevant technical requirements, the solutions available and the specific applications, with a focus on wood-based products and other ligno-cellulosic materials. Examines material properties and product specifications to evaluate and choose a given material for a specific application, adopting quantitative and qualitative criteria. Explores principles of sustainable design, with a focus on the impact of materials and products. Focuses on multi-disciplinary aspects of building design and construction that facilitate communication between manufacturers, architects, engineers, and clients.

**Course Content**

Week	Topic	Assessment
1	Building codes and rating systems	Quiz 1 - Discussion
2	Traditional and modern construction systems - overview	Quiz 2- Discussion
3	building enclosure - water control	Quiz 3- Discussion
4	Thermal and Acoustic performance	Quiz 4- Discussion
5	Review	Mid term
6	Traditional timber construction systems – case study	Quiz 6- Discussion
7	Advanced mass timber construction systems – case study	Quiz 7- Discussion
8	Fire performance	Quiz 8- Discussion
9	Green roofs and walls – Indoor Environmental Quality	Quiz 9- Discussion

## On-campus Course Syllabus Template

Week	Topic	Assessment
10	Course wrap up	Final presentations
Finals		Final reports

### Course Specific Measurable Student Learning Outcomes

1. Describe principles of sustainable design and recognize their implementation in buildings;
2. Explain diversity and richness of geographical, cultural, and temporal dimensions of use of wood in the built environment;
3. Compare the different technical requirements in a building;
4. Recognize and describe various types of wood-based products;
5. Interpret various construction drawings (plans, sections, elevations);
6. Interpret information of product data sheets;
7. Evaluate the use of various wood products and other construction materials for specific applications in a building;
8. Communicate both verbally and in writing, as well with the help of schematic visuals, characteristics of different design solutions.

### Evaluation of Student Performance

Your grade will be based on the following scale:

A 93-100%; A- 90-92%; B+ 87-89%; B 83-86%; B- 80-82%; C+ 77-79%; C 73-76%; C- 70-72%; D+ 67-69%; D 63-66%; D- 60-62%; F <60%

Your grade will be calculated based on the total number of points you have earned on your assignments, with:

Discussion – 50 points (total) (Weekly discussion 5 points - Midterm discussion 10 points)

Vocabulary Quiz - 20 points (total)

Final Report – 30 points

Total – 100 points

Learning outcomes will be measured through assessment of your assignments as following:

LO	Assessment
1	Week 1 Quiz + Discussion
2	Weeks 2, 6, 7 Quiz + Discussion
3	Weeks 3,4, 7, 8, 9 Quiz + Discussion
4	Week 2 Quiz + Discussion
5	Mid term + Final report
6	Weeks 3,4, 7, 8, 9 Quiz + Discussion
7	Mid term + Final report
8	All (formative), Mid term + Final presentation & report (summative)

### Grading Criteria For the Final Report

Criteria	Several inaccuracies, missing many elements of the analysis.	Generally accurate, but missing some elements of the analysis	Accurate description and comprehensive analysis.

## On-campus Course Syllabus Template

Introduction: provides general information relevant to understand the context of the project. It covers information related to the building, the project development, approach and tools.	0-1.5	1.5-3	3- 4
<b>Construction systems:</b> illustrate with words and figures the different building systems (structure, enclosure and partitions) and all the relevant design requirements.	0-4	4-8	8-10
<b>Materials and products:</b> include materials and products of different building systems and both qualitative and quantitative characteristics of these materials to serve specific functions and meet performance criteria.	0-2	2-4	4-5
<b>Sustainability:</b> describes strategies used to meet specific sustainability criteria	0-1	1-2	2-3
<b>Conclusions:</b> represent in few points the most important takeaways.	0-1	1-2	2-3
<b>References:</b> All work by others and reported information are cited using standard citation format.	0	1	2
<b>Reflections:</b> critically address received comments and reflect on learned material	0-1	1-2	2-3
<b>TOT POINTS</b>			<b>30</b>

## Learning Resources

Both required and optional reading materials are available on Canvas or online through OSU library.

## Course Policies

### Academic Calendar

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: <https://registrar.oregonstate.edu/osu-academic-calendar>

### Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations."

**Student Conduct Expectations link:** <https://beav.es/codeofconduct>

### **Reach Out for Success**

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at [oregonstate.edu/ReachOut](http://oregonstate.edu/ReachOut). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

### **Student Bill of Rights**

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: <https://asosu.oregonstate.edu/advocacy/rights>

### **Student Learning Experience Survey**

During Fall, Winter, and Spring term, the online Student Learning Experience surveys open to students the Wednesday of week 9 and close the Sunday before Finals Week. Students will receive notification, instructions, and the link through their ONID email. They may also log into the survey via [MyOregonState](http://MyOregonState). Survey results are extremely important and are used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to "sign" their comments, agreeing to relinquish anonymity of written comments) and are not available to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.