Wood Framing (3)
Syllabus

CATALOG DESCRIPTION
Timber as material, properties. Framing with wood (light wood framing, heavy timber framing, laminated timbers). Design and selection of components. Connections of elements (nailing, bolting, timber connectors). Lateral loads and response thereto are also studied. Prerequisite: Arch 324 or equivalent.

OBJECTIVES
Students are familiarized with analysis and design of wood structures using the NDS-ASD code as well as load calculation based on ASCE – 7 (including dead, live, wind and snow load calculation). In addition techniques used to design with modern wood engineered products are explored. Topics covered include: sawn lumber, Glulam, LVL, I-joists, plywood panels, and stressed skin elements. The students will also explore architectural examples of contemporary wood design using case studies.

ORGANIZATION
The course is lecture based (synchronous with posted videos of lectures), and the concepts and procedures are taught in this context with classroom and homework problems solved by the students. Computer facilities, including software, are available for supporting computational work in the BT-Lab. Testing equipment and tools are also available for the construction project.
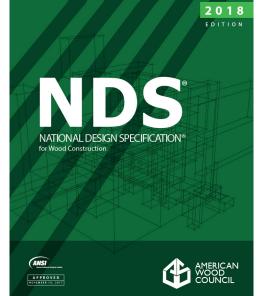
EVALUATION
Evaluation is based upon one exam (midterm); a series of online problems (approximately one per week) spaced throughout the semester; a group computer analysis project (STAAD.Pro); and a special project. All work will be set on a 100 point scale with grades assigned as follows:

		A	100 – 93.0	A-	92.9 – 90.0
B+	89.9 – 87.0	B	86.9 – 83.0	B-	82.9 – 80.0
C+	79.9 – 77.0	C	76.9 – 73.0	C-	72.9 – 70.0
D+	69.9 – 67.0	D	66.9 – 63.0	D-	62.9 – 60.0
		E	59.9 – 0.0		

By University policy the minimum passing grade is a D (63.0).

Scores for the grades are proportioned as follows:
Midterm	30%
Homework Problems	40%
Class Project	15%
STAAD Projects	15%

PROBLEMS
Homework problems covering the primary aspects of the course will be given out periodically throughout the semester. Late solutions to problems will be penalized -5% per day up to a maximum of -35%...

TEXTS
The required text is the *NDS-2018* code, available at http://www.awc.org/Standards/nds.html
In addition a copy of *Design of Wood Structures* by Donald Breyer is available in electronic format on Canvas. Another good resource is *The APA Engineered Wood Handbook* also posted on our Canvas site.

COURSE WEB SITE
Course notes will be maintained through a course web site http://www.umich.edu/~arch544
This will include homework submissions. Some material may also be posted on the Canvas site.