

ARCT 134 Structural Wood Design 2 Credits

Course Description

A course to introduce the sizing of structural members used in light wood frame building construction. A working knowledge of building codes and sizing terminology is emphasized. **Prerequisite:** ARCT 133

Course Objectives

The following list of course goals will be addressed in the course.

1. interpret building codes
2. solve building code problems
3. analyze characteristics of wood
4. define tension
5. define compression
6. define shear
7. define modules of elasticity
8. utilize fiber stress ratings
9. analyze lumber grade stamps
10. calculate live and dead loads
11. utilize principals of weight transfer
12. identify structural building components
13. compare construction methods
14. sketch structural details
15. define construction components
16. determine different loading situations
17. compute size and spacing of floor joists
18. compute size and spacing of ceiling joists
19. compute size and spacing for rafters
20. solve simple beam problems
21. solve continuous beam problems
22. determine laminated member sizes
23. compute size and spacing of posts
24. compute beam and girder sizes
25. compute header sizes
26. differentiate types of roof framing
27. analyze wood roof and floor trusses
28. compare gable and hip roof systems
29. analyze types and uses of panel products
30. analyze panel product grade stamps
31. compare types of structural fasteners
32. exhibit project design abilities

Required Text

Architectural Drafting and Design, Fifth Edition by Jefferis & Madsen

Fundamentals of Dwelling Construction, 2006 International Residential Code
Both texts may be purchased from the NDSCS Bookstore at www.ndscsbookstore.com.

[Wood Structural Design Data](#) (Click for a PDF of the manual)

Contact Coleen at the NDSCS Bookstore for the most current textbook information (1-800-342-4325, ext. 2239 or coleen.thoe@ndscs.edu). You may also visit the NDSCS Bookstore web site at www.ndscsbookstore.com and search for book information by class by clicking the "Textbook" tab.

Grading Scale

Letter grades will be awarded as follows:

| LETTER GRADE | PERCENT |
|--------------|-----------|
| A | 90-100% |
| B | 80-89% |
| C | 70-79% |
| D | 60-69% |
| F | Below 60% |

Grading Policies

Students will be graded on test results, quizzes, and assignments.

Student E-mail Accounts

NDSCS students are to use an NDSCS email account exclusively to ensure the lines of communication with your instructor and NDSCS are not broken, which often happens with other email providers. You can access your email account by following instructions at www.ndscs.edu/It-Setup. If you need help accessing your NDSCS email, contact the NDSCS IT Service Desk at 800-342-4325 ext 3333 or ndscs.servicedesk@ndscs.edu.

To make your NDSCS email account your preferred email address, log into your CampusConnection account and check the "preferred" box by campus email.

The NDSCS e-mail system provides students with an entire suite of services such as:

- 10 GB storage for email
- Instant messaging through Skype for Business
- Rich calendaring
- Photo sharing
- Multi-browser support
- SMS alerts to mobile phones

Student/Instructor Communication

You can contact your instructor in whatever way that is easiest and best for you in the particular instance. There are several areas inside the course that you can post a message -- keep in mind that these posted comments are visible to everyone enrolled in the class. Many times, this is appropriate and exactly what you WANT ... at other times you may have comments or questions that you want to be more private. At these times please contact your instructor by email or by phone.

When posting a question inside the course - please know that I questions will be answered within 48 hours, and every attempt will be made to answer within 24 hours. The exact time required will depend on the time the question was posted and the day of the week in which it was posted.

Course Policies and Procedures

Access Policy: Computer Failures and Viruses

Online students must maintain computer access at all times to the online course. Lack of computer access as an excuse for late work or missed exam/quiz will NOT be accepted. Review the [Computer Access Policy](#) to learn how you can take a proactive approach to your online success.

Student Attendance

Regular attendance and completion of all assignments, on time and as scheduled, is important to your success in this course. An online student who does not regularly attend their online class for a period of seven consecutive days may be dropped from the course. Attendance is evidenced by weekly completion of assignments and/or participation in online discussions. Efforts to contact inactive students are attempted as soon as each semester begins; however, if there is no response from the student and inactivity continues, a drop will be enacted. See the entire NDSCS Attendance Policy at www.ndscs.edu/online-attendance.

If your instructor is unexpectedly unavailable and may be delayed in reviewing or correcting assignments, you will be notified of this as a sign of courtesy and respect.