

ARCT 231 Commercial Methods and Materials 2 Credits

Course Description

This course is a continuation of study for construction methods, terminology, and use of construction materials with an emphasis on commercial construction. Students will write a research report on specific construction materials as assigned. This course will also introduce basic mechanical and electrical equipment, their functions and space requirements as they relate to commercial construction. Students may visit job sites to examine the latest methods of commercial construction. Prerequisite: ARCT 133

Required Textbook and Materials

Fundamentals of Building Construction: Materials and Methods, 6th Edition
Edward Allen, Joseph Iano,
ISBN: 978-1-118-13891-5

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.

International Building Code 2012 - You can find electronic Building Codes [HERE](#)

Expectations and Goals

Upon successful completion of this course, the student will be able to:

1. The various professionals who work together to create buildings, and how they relate to one another
2. The legal and building constraints that must be considered when constructing a structure
3. The information resources from which we work when we design buildings
4. The types of foundations - and when each is commonly used
5. Know the different types of excavations
6. How to keep soil and water from inside the excavation.
7. Understand the different types of masonry walls and related details
8. Know the structural steel shapes and designations
9. Understand the construction process used when erecting structural steel buildings
10. Know how we fireproof steel
11. How light gauge steel framing is similar to wood platform framing
12. The standard configurations of precast slabs, beams, columns, and walls
13. Typical framing concepts for precast concrete buildings
14. Appropriate materials and systems for roofing both low-slope and steep roofs
15. All about insulation, moisture vapor, and vapor retarders in roofs and walls
16. Alternative ways of insulating low-slope roofs
17. Types of doors typically used in commercial applications
18. Types of window operation and the advantages and disadvantages of each
19. Window frame materials and their advantages and disadvantages
20. The functions of building cladding

21. Conceptual approaches to water tightness in cladding design
22. Loadbearing walls and curtain walls
23. How to detail a masonry veneer curtain wall
24. Precast concrete curtain walls
25. Exterior insulation and finish system (EIFS) and how to avoid its traditional problems
26. Modes of assembly of metal and glass walls
27. Choosing a metal and glass curtain wall system
28. Alternative ways of fitting electrical and mechanical services into a building
29. The sequence of interior finishing operations for a large building
30. Building code provisions that relate to interior finishes
31. How to reduce noise transmission through walls and floors
32. The various types of interior walls and their functions

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.

Grading Scale

Your performance in this class will be based on the quality and accuracy of your sketches and answers on assignments, quizzes, and tests. Assignments that do not meet the deadlines given by the instructor will be reduced 10% per day.

Letter grades will be awarded as follows:

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

Student / Instructor Communication

You can contact your instructor via email. This will be the quickest and easiest way for them to respond. You can also contact them in any way that is easiest and best for you in the particular instance. There are several areas inside the course area 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 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.

Your instructor will check email REGULARLY during the work week and you are expected to do the same! It is CRITICAL that you check your email at least every 24-48 hours ... it is also CRITICAL that you come into the class at least every 24-48 hours to look for postings etc.

If your instructor expects to be unavailable for more than 24-48 hours, you will be notified by email or a posting. It is greatly appreciated if you would do the same.

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

Disability Information

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the **Student Accessibility Coordinator** (phone 671-2623, or toll-free 1-800-342-4325 ext. 3-2623) as early as possible in the term.