ARCT 242 Construction Estimating III
3 Credits

Course Description

This course covers manual and computer-assisted takeoff procedures for material and labor on commercial buildings. Students will become familiar with contracting and bidding procedures. Students will also be introduced to using an estimating digitizer to do take-offs.

Course Prerequisite / Co-Requisite: Prerequisites: ARCT 144 and ARCT 241

Course Objectives

The following list of course goals will be addressed in the course:
1. Full understanding of the construction bid process
2. List documents commonly used in the bid process
3. List the four types of prime contractors
4. List the preliminary procedures prior to groundbreaking
5. List three common bidding methods
6. Compare & contrast separate vs single contract systems
7. Define the types of bonds used in construction
8. List the 16 divisions of Masterformat
9. Complete worksheets using project spec. books
10. Describe uses of project schedules during bid process
11. Create an estimate form w/ formulas in Microsoft Excel
12. Respond to invitation to bid w/ request for bid package
13. Acknowledge receipt of addendums
14. Write a request for information (RFI)
15. Select the low bidder using a sub analysis form
16. Complete estimate using a database software (Timberline)
17. Estimate footing forms
18. Estimate demolition man-hours
19. Estimate footing reinforcement
20. Estimate footing conc.
21. Estimate concrete man-hours
22. Estimate foundation reinforcement
23. Estimate foundation forms
24. Estimate anchor bolts
25. Estimate foundation conc.
26. Estimate found. Insulation
27. Estimate slab vapor barrier
28. Estimate reinforced Mesh
29. Estimate grade slabs
30. Estimate steel base plates

31. Estimate steel columns
32. Estimate steel beams
33. Estimate steel channels
34. Estimate steel framing
35. Estimate steel lintels
36. Estimate steel door frames
37. Estimate steel doors
38. Estimate structural slabs
39. Estimate brace rods & angles
40. Estimate masonry man-hours
41. Estimate alum framing
42. Estimate aluminum doors/windows
43. Estimate face brick veneer
44. Estimate steel roof decking
45. Estimate prefabricated fascia/eaves
46. Estimate steel tracks & studs
47. Estimate steel furring
48. Estimate gypsum wallboard

Required Text and Materials

Construction Estimating, 2nd edition by Leonard P. Toenjes, American Technical Publishers
- NDSCS Architectural Drafting & Estimating Dept. ESTIMATING MANUAL (from ARCT 144 course)
- Architect's & Engineer's Scale
- Laptop (or access to computer)/ NDSCS Online course
- Calculator
- Construction Working Drawings (provided by instructor)
- Construction Specifications (provided by instructor)
- Construction Estimating Software (CD provided with book)
- The Construction Estimating CD ROM (included with book)
- Access to Microsoft Excel

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.

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.

Online Discussions

The online discussions are required activities, and full participation is essential for your success of this course. These discussions are an equivalent to the traditional classroom discussions. You are expected to read all postings, and interact with each other. Refer to the specific Discussion expectations under Discussion Grading Criteria.

Online Student Participation and Conduct Guidelines

The practices of courtesy and respect that apply in the traditional classroom also apply online. However, the expectations and practice differ in the online classroom to greater extent. Review the Online Student Participation and Conduct Guidelines (**Appendix A**) to learn of these expectations.

Assignments

Assignments are given in the course for completion in your textbook as well as other appropriate projects. Please follow the order of chapter completion as presented in the Schedule under the Course Navigation Area of Course Home.

Assignments and quizzes within each chapter are **due within specified time frames**. Refer to the Schedule for specific due dates. Assignments not completed by the specified deadline may have **10% of grade points deducted per day or 0 entered into the gradebook** at instructor's discretion.

 If you send your assignments as an attachment through the online Course Dropbox, always convert it to a PDF document. Other formats will NOT be accepted unless noted otherwise.

There is free software for converting documents to PDFs. You may use www.downloads.com to search for software as it is a trusted site and chances of finding software that is not malicious is greater. Microsoft Office 2013 products and beyond have the capability to save the document as a pdf (just go to File, Save As…, and choose PDF in the dropdown menu).

Threaded Discussion Grading Criteria

Participation in **threaded discussions ARE REQUIRED**. When a threaded discussion is posted, you will have a specific time period in which to participate. Make sure to make a posting relevant to the discussion topic - and then respond to other students. Discussions will be closed on a specific date, so **make sure to participate in the discussion before it closes**.

Points will be earned in the Gradebook for your participation in the assigned discussions. Points will be assigned using the following method and may be computed on a combination of columns 1 through 3:

(BEST)	Pts	(GOOD)	Pts	(MINIMUM)	Pts
You respond with an opinion or information pertinent to the topic. Use two or more complete sentences.	**5 max**	You respond with an opinion or information that is pertinent to the topic but in only one sentence.	**3 max**	You respond with an opinion or information not pertinent to the topic.	**2 max**
You not only post your thoughts, but also post reaction to another student as described above.	**3 max**	You not only post your thoughts, but also post reaction to another student as described above.	**1 max**	You not only post your thoughts, but also post reaction to another student as described above.	**0 max**
0-1 spelling or grammar errors	**2 max**	2-3 spelling or grammar errors	**1 max**	4 or more spelling or grammar errors	**0 max**
Total Possible Points Rubric #1	**10 max**	*Total Possible Points Rubric #2*	**5 max**	*Total Possible Points Rubric #3*	**2 max**

Submitting Assignments

All assignments should be turned in via **Dropbox** unless otherwise specified. You are **strongly encouraged** to make hard copies of your assignments and communications with the instructor to avoid losing data in the case of technical issues. *At the first sign* of problems, contact your Internet Service Provider (ISP) immediately.

It is your responsibility to access the class on another computer in the event of hardware or software problems. If your problems are not cleared up within 12 hours, contact the instructor to make other arrangements.

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%

Student-Instructor Communications

While an online class is available 24 hours a day and offers greater flexibility for the student and instructor, keep in mind that your instructor will not be available 24 hours a day. Instructors will check email, voicemail, and Cyber Office messages on a regular basis, but there may be times when they are unavailable due to other commitments and job responsibilities. Email, voicemail, or Cyber Office Messages will be responded to as time allows. As a general rule, you can expect your direct questions to be answered within 24 hours during week days.

When sending an email, please include your full name so your instructor knows who they are responding to. Often, the email address does not indicate who is sending the message.

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

Academic Integrity
Integrity is an NDSCS core value and there is an expectation that all students, as members of the college community, adhere to the highest levels of academic integrity.

Dishonesty in class, laboratory, shop work or tests is regarded as a serious offense and is subject to disciplinary action by the instructor and dean of the respective division. For more information, refer to the NDSCS Student Planner or College Catalog under College Policies and Basic Regulations of Conduct (page 32).

Types of Misconduct

Cheating: Intentionally using or attempting to use unauthorized materials, information, or study aids n any academic exercise.

Fabrication: Intentionally and unauthorized falsification or invention of any information or citation in an academic exercise.

Facilitating academic dishonesty: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Plagiarism: Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

Disabilities and Special Needs

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.

APPENDIX A
ONLINE STUDENT PARTICIPATION AND CONDUCT GUIDELINES

Online courses are based on the premise that students learn best in a community. The instructor plays an important role, but this is a different role than most instructors play in the traditional, face-to-face classroom. While you may see a shift in the way classes work, you'll also notice that some things don't change: the practices of courtesy and respect that apply in the ordinary classroom also apply online, and may actually require more attention in this venue. Here are some guidelines:

1. **Get involved**. In the online environment, it's not enough to show up! Your voice must be heard in order to show your presence. Your comments are needed to add to the information, the shared learning, and the sense of community in each class.

2. **Be persistent**. Remember that for many this is a fairly new environment. Each instructor still sets the rules, and you need to abide by them; however, if you run into any difficulties, don't wait! Send your instructor an email immediately or post in the Discussion Area. Most problems are easily solved, but your instructor and your fellow students need to hear from you before they can help.

3. **Share tips, helps, and questions**. For many, taking online courses is a new experience. There are no dumb questions, and even if you think your solution is obvious, please share it by posting it in the Discussion Area. For every student who asks a question, there are 10 others wanting to know the same thing.

4. **Think before you push the Send button**. Did you say just what you meant? How will the person on the other end read the words? While you can't anticipate all reactions, do read over what you've written before you send it.

5. **Consider the context**. Remember that we can't see the grin on your face when you make a sarcastic comment, we can't see the concern on your face if you only say a couple of words, and we can't read your mind and fill in the gaps if you abbreviate your comments. So: help us "see" you by explaining your ideas fully.

6. **Ask for feedback**. Not sure how your ideas and comments will be taken? Remember there's a person on the other side. If you disagree with what someone has said, practice all your communication skills as you express that disagreement. "Flaming," or flying off the handle and ranting at someone is unacceptable; it is the equivalent of having a tantrum, something most of us wouldn't do in an onsite, face to face classroom.

7. **Act with respect**. Any discriminatory, derogatory or inappropriate comments are unacceptable and subject to the same disciplinary action that they would receive if they occurred in the face to face classroom. If you have concerns about something that has been said, please contact your instructor.

8. **Exercise integrity**. Plagiarism, cheating, and other violations of ethical student behavior are serious actions in a learning community. See Academic Integrity Policy in the course syllabus.

9. **Recognize the consequences**. Consequences of online student behavior that contradicts the NDSCS Academic Integrity policy will be addressed on an individual basis and in accordance with NDSCS Academic Integrity policy. Refer to the NDSCS Student Planner or College Catalog for more information.

*Adapted with permission from Dr. C. A. Keller, San Antonio College