

**College of Business and Technology**  
**Department of Technology**  
**Course Syllabus**

Construction Technology  
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TECH 3313  
Fall 2003  
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Course Description:

Designed to acquaint students with construction systems, materials, equipment, municipal inspections, building codes, related service industries and estimating construction projects (65% Lecture/35% Lab)

Textbook:

Wagner, W.H. & Smith, H.B. (1996) Modern Carpentry: Building Construction Details in Easy-to-Understand Form. Tinley Park, IL: The Goodheart-Willcox Company, Inc.

Course Objectives:

At the end of this course, participants will be able to:

- 1) explain basic construction methods for residential, commercial and industrial concerns.
- 2) explain basic construction management techniques
- 3) explain material usage and cost accounting phases of construction.
- 4) identify tools, equipment, and machines pertinent to the construction industry.
- 5) explain the basic labor, law and legislative phases of construction

Course Competencies

1. Computer-Based Skills – the student will complete projects in computer based design and estimating. Internet search skills will be required to access the online information. Students will also present the completed project to the class and may utilize a presentation software package to illustrate the project.
2. Communication Skills – the student will exhibit a mastery of both written and oral skills in completion and presentation of the projects.
3. Interpersonal Skills – the student will work in a group to complete segments of the projects.
4. Problem Solving (Critical Thinking) – the student will use conceptual thinking and creativity and innovation in the identification and completion of the projects
5. Ethical Issues in Decision Making and Behavior- the student will understand and exhibit ethics through the data assembly and presentation portions of this project.
6. Personal Accountability for Achievement – the student will complete the project at the time designated by the instructor

7. Competence in Technology Principles
  - a. Competence in major field and grounding in other major technology major core areas – the student will complete the project as part of the requirements of the major
  - b. Exposure to and appreciation for industrial experiences such as industrial tours, work-study options and cooperative education, senior seminars – Students will gather data from a variety of sources for the project.

### Course Outline

	<b>Topic</b>	<b>Assignment</b>
August 26	Introduction; Planning and Designing	
Sept. 2	Reading Blueprints	Ch 6
9	Specifications and Codes	p. 133-137
16	Building Materials; Tools and Leveling Instruments	Ch. 1-5,29
23	<b>EXAM</b>	<b>Planning Project Due</b>
30	Footings and Foundations	Ch. 7
Oct. 7	Floor, Wall and Roof Framing	Ch 8,9,10
14	Plumbing, Electrical and HVAC	Ch.26,27,28
21	Closing In	Ch 11,12,13
28	<b>EXAM</b>	
Nov. 4	Finishing	Ch 14 – 18
11	Estimating	
18	Estimating	
25	<b>Thanksgiving (No Class)</b>	
Dec. 2	Field Trip	
9	Special Construction Techniques	<b>Estimating Project Due</b>
16	<b>Final Exam</b> 7:00 - 9:00	

### Course Evaluation

Two Exams & Final Exam	25 % each
Estimating Project	10%
Construction Planning Project	5%
Class Participation	5 %
Research Paper	5%

There will be a 10% per class period penalty for all late work.

Grades will be based upon the following scale:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	<- 59

### Class Participation

Class participation will be based upon both class participation and attendance. Attendance is crucial especially considering the density of information and skills covered each class. Attendance will be taken each class.

## **Additional References**

- Brown, W. C. (1987). Blueprint Reading for Construction: Residential and Commercial. South Holland, IL: The Goodheart-Willcox Company, Inc.
- Dagostino, F. R. (1982). Mechanical and Electrical Systems in Building-2. Reston, VA: Reston Publishing Company, Inc.
- Ellison, D. C., Huntington, W. C. & Mickadeit, R. E. (1987). Building Construction: Materials and Types of Construction. New York: John Wiley & Sons.
- Fales, J. F. (1991). Construction Technology: Today and Tomorrow. Mission Hills, CA: Glencoe/McGraw-Hill.
- Horton, A., Kamecek, S. A., Thompson, B. W., & Wright, P. H. (1991). Exploring Construction Systems: Designing, Engineering, Building. Worcester, MA: Davis Publications, Inc.
- Huth, M. W. (1989). Construction Technology. (2nd ed.). Albany, NY: Delmar Publishers Inc.
- Landers, J. M. (1983). Construction Materials, Methods, Careers,
- Van Orman, H. (1978). Estimating for Residential Construction. Albany, NY: Delmar Publishers Inc.
- Wagner, W. H. (1992). Modern Carpentry: Building Construction Details in Easy-to-Understand Form. South Holland, IL: The Goodheart-Willcox Company, Inc.