CONSTRUCTION METHODS
CET 1010

Class Hours: 4.0 Credit Hours: 4.0
Laboratory Hours: 0.0 Revised: Spring 07

Catalog Course Description:

The basic techniques and fundamentals essential in erecting wood frame, steel frame and reinforced concrete frame building. The study involves the various phases from site investigation through finished work.

Entry Level Standards:

Students entering this course should have some note-taking and study skills. They need some reading comprehension and written communication skills. Students may enroll in this course concurrently with DSPS, DSPW and DSPM courses.

Prerequisites:

None

Textbook(s) and Other Course Materials:

Text:

CET 1010 Construction Methods Course Booklet

Reference:

Other:
- Floppy Disk
- Paper
- Pencil

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction &amp; Building siting Factors</td>
</tr>
<tr>
<td>2</td>
<td>Site Investigation</td>
</tr>
<tr>
<td>3</td>
<td>Structural Systems &amp; Building Load</td>
</tr>
<tr>
<td>4</td>
<td>Plans and Specifications</td>
</tr>
<tr>
<td>5</td>
<td>Site Layout</td>
</tr>
</tbody>
</table>
EXAM 1
6 Excavation
7 Foundations (light)
8 Foundations (heavy)
EXAM 2
9 Wood Frame Systems
10 Wood Frame Systems
EXAM 3
11 Concrete Formwork, Transportation & Placement of Concrete
12 Concrete & Masonry Systems
13 Steel Frame Systems
14 Roofing Systems
15 FINAL EXAM

II. Course Objectives*:

A. Understand and use appropriate technical terminology in construction. A
B. Understand basic theoretical and practical concepts involved in light construction. A, C, K
C. Understand basic theoretical and practical concepts involved in heavy construction. A, C, K
D. Recognize the basic construction components and methods involved in light construction. A, C
E. Recognize the basic construction components and methods involved in heavy construction. A, C
F. Understand the importance of completing assigned task in a timely fashion. E
G. Prepare written summaries of topical research. G, L, N
H. Present an oral report on areas of topical research. G, L, N
I. Demonstrate self initiative to complete all assignments on time. E

*Letters after course objectives reference CET Program Outcomes (as required by ABET).

III. Instructional Processes*:

Students will:

1. Actively listen to class lectures and participate in class activities that develop and reinforce comprehension of the theories, concepts, principles and applications in the use of materials and methods of constructing a project. Communication Outcome, Technological Literacy Outcome, Active Learning Strategies
2. Work individually and in teams to complete class assignments. *Communication Outcome, Technological Literacy Outcome, Active Learning Strategies, Transitional Strategies*

3. Use WordPerfect/Word or other appropriate software to generate written homework assignments. *Communication Outcome, Technological Literacy Outcome, Active Learning Strategies*

4. Give an oral presentation on a topic assigned by the instructor. Students are encouraged to use PowerPoint to enhance their presentation. *Communication Outcome, Technological Literacy Outcome, Active Learning Strategies*

*Strategies and outcomes listed after instructional processes reference TBR’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.*

**IV. Expectations for Student Performance**: 

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

1. List building site design factors. A, B, & C
2. List different types of architectural drawing. A, B, & C
3. Describe the basic building elements and types of loading. A, B & C
4. Identify the stresses which occur in simple beams and columns. A, B & C
5. List the methods of subsurface exploration along with their limitations. A, B, & C
6. Identify foundation design factors. A, B, & C
7. List the components of basic foundation systems. A, D & E
8. List the characteristics of basic foundation systems. A, B, & C
9. List the primary wood frame floor system design factors. A & B
10. Identify basic wood frame floor system components. A & D
11. List the characteristics of basic wood frame floor system types. A & B
12. Identify the primary wood frame wall system design factors. A & B
13. List the basic wood frame wall system components. A & D
14. List the characteristics of basic wood frame wall system types. A & B
15. Identify the primary wood frame roof system design factors. A & B
16. List the basic wood frame roof system components. A & D
17. List the characteristics of basic wood frame roof system types. A & B
18. Identify the primary commercial floor system design factors. A & C
19. List the basic commercial floor system components. A & E
20. List the characteristics of basic commercial floor system types. A & C
21. Identify the primary steel frame system design factors. A & C
22. List the basic steel frame system components. A & E
23. List the characteristics of basic steel frame system types. A & C
24. Identify the primary formwork system design factors. A & B
25. List the basic formwork system components. A & D
26. Identify the primary reinforced concrete frame system design factors. A & C
27. List the basic reinforced concrete frame system components. A & E
28. List the characteristics of basic reinforced concrete frame system types. A & C
29. Identify the primary commercial roof system design factors. A & C
30. List the basic commercial roof system components. A & E
31. List the characteristics of basic commercial roof system types. A & C
32. List the characteristics of basic types of roofing systems. A, D, & E

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

Four examinations are scheduled. They will be True/False, Multiple Choice, Matching, and Short Answer Essay. The exams are given over the internet. Students normally have 1 week to complete the exam.

When a student misses an exam, he must contact the instructor immediately upon return and make-up the exam within one week.

B. Laboratory Expectations:

Quizzes:
Quizzes may be given by the instructor. Most quizzes will be unscheduled and randomly given. They cover the previous session’s material or the reading assignment for that day. There is no make-up or extra credit given for quizzes missed.

Written Assignments:
A minimum of three written reports will be required. They will consist of a synopsis of a magazine article. Topics will be provided by the instructor. Students may also be required to hand in answers to select questions at the end of each chapter or other appropriate homework at the instructor's discretion. All written assignments must be handed in on 8 x 11 engineering notepad, typing paper, lined paper with smooth edges or forms provided by your instructor. Students are encouraged to use word processing to generate their assignments.
All written assignments will be assessed a 10% penalty for each school day it is late.
All student work submitted for evaluation may be retained by the instructor.

**Oral Reports:**
Each student is required to make a 5 - 6 minute oral presentation on a topic assigned by the instructor. Failure to give an oral presentation will result in a failing grade in the class.

C. Field Work:

N/A

D. Other Evaluation Methods:

A subjective evaluation based on attendance, classroom participation and attitude may be included (10%).

E. Grading Scale:

Final grades will be computed from the grades obtained on homework, quizzes, and examinations as follows:

Quizzes and homework = 10 - 30%
Examinations = 60 - 80%
Oral Report = 15 – 20%
Attendance/Participation = 0 - 10%

Grades are based on the following:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>91 - 100</td>
</tr>
<tr>
<td>B+</td>
<td>86 - 90</td>
</tr>
<tr>
<td>B</td>
<td>81 - 85</td>
</tr>
<tr>
<td>C+</td>
<td>76 - 80</td>
</tr>
<tr>
<td>C</td>
<td>71 - 75</td>
</tr>
<tr>
<td>D+</td>
<td>66 - 70</td>
</tr>
<tr>
<td>D</td>
<td>60 - 65</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
</tr>
</tbody>
</table>

VI. Policies:

A. Attendance Policy:

Pellissippi Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.

In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or zero for the assignment or (2) an F for the course.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical
information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. Use of Equipment:

Any act of misuse, vandalism, malicious or unwarranted damage or destruction, defacing, disfiguring, or unauthorized use of property/equipment belonging to Pellissippi State is subject to disciplinary sanction.

Posted: January 5, 2007