

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

**SITE PLANNING & DEVELOPMENT
CET 2220**

Class Hours: 2.0

Credit Hours: 3.0

Laboratory Hours: 3.0

**Date Revised: Spring
02**

Catalog Course Description:

Basic concepts and design considerations in site planning and development. Topics include topography, storm water drainage, retention basin, sanitary sewer considerations, subdivision planning, pavement alignment and design.

Entry Level Standards:

Students must be adept in applying their background in trigonometry, geometry and algebra to the solution of land development related problems. Previous surveying and CAD experience or education is helpful.

Prerequisites:

None

Textbook(s) and Other Reference Materials Basic to the Course:

Text:

A Guide to Site Planning and Landscape Construction, Rubenstein, John Wiley Publishing Co.
Land Desktop 3 Update AOTC CW, Autodesk, Autodesk

Reference:

Surveying Fundamentals, Jack McCormac, Prentice-Hall Publishing Co.

Other:

- Scientific Calculator
- Paper
- Pencil

I. Week/Unit/Topic Basis:

Week	Topic
1	Lecture: Site Investigation Lab: Zoning Ordinances
2	Lecture: Subdivision Regulations Lab: Subdivision Regulations
3	Lecture: Street and Lot Layout; EXAM 1

- Lab: Street and Lot Layout
- 4 Lecture: Survey Calculations Review
Lab: Intro to Land Desktop
- 5 Lecture: Route Survey
Lab: Project Setup
- 6 Lecture: Route Survey (continued)
Lab: Project Point Control
- 7 Lecture: Route Survey (continued); EXAM 2
Lab: Generating Contours
- 8 Lecture: Hydrologic Cycle
Lab: Conceptual Plan setup
- 9 Lecture: Computer Applications
Lab: Horizontal Road Alignment
- 10 Lecture: Storm Water Runoff
Lab: Horizontal Road Alignment
- 11 Lecture: Storm Water Runoff
Lab: Subdividing into Lots
- 12 Lecture: Storm Drainage Design
Lab: Subdividing into Lots
- 13 Lecture: Storm Drainage Design
Lab: Drainage Easements
- 14 Lecture: Computer Applications
Lab: Drainage Easements
- 15 Lecture: Erosion and Sedimentation Control
Lab: Complete Concept Plan
- 16 FINAL EXAM

II. Course Objectives*:

- A. Understand and interpret governmental zoning laws. I, II, III
- B. Understand and interpret governmental subdivision regulations. I, II, III
- C. Understand the basic principles of boundary and route surveying and the corresponding calculations. II, III
- D. Lay out streets and lots for maximum density and safety. III, IV, V
- E. Design Storm Sewer and Detention Basin System for a subdivision. II, III, IV
- F. Design a basic development of a subdivision from concept to final plan. III, IV, V

*Roman numerals after course objectives reference goals of the CET program.

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 of distance measurement using surveying instruments. *Communication Outcome, Problem Solving & Decision Making Outcome, Active Learning Strategies*
2. Work individually and in teams to complete lab assignments related to the theories, concepts and principles covered in the lecture portion of the course. *Communication Outcome, Problem Solving & Decision Making Outcome, Information Literacy Outcome, Active Learning Strategies, Transitional Strategies*
3. Use EXCEL Spreadsheets, WordPerfect/Word or other appropriate software to generate written home work assignments. *Communication Outcome, Problem Solving & Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Information Literacy Outcome, Active Learning Strategies*
4. Use Autocad and related software to generate a plat design to standards presented by the instructor. *Communication Outcome, Problem Solving & Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Active Learning Strategies, Transitional Strategies*

*Strategies and outcomes listed after instructional processes reference Pellissippi State' 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. Identify the permitted land use in accordance with local zoning ordinances. A
2. Identify the procedure for developing preliminary subdivision plans from developers conception. A,B,F
3. Identify the procedure for finalizing subdivision plans from developers conception. A,B,F
4. Know terminology and minimum subdivision requirement. A
5. Explain efficient methods used in street and lot layout. D
6. Traverse closure calculations. C
7. Traverse adjustment calculations (compass, transit and Crandell's rule). C
8. Calculate a horizontal curve. C
9. Calculate a vertical curve. C
10. Calculate minimum horizontal and vertical sight distances. C
11. Describe and explain the hydrologic cycle. E

12. Calculate direct storm runoff. E
13. Understand the function of each part of a storage and control structure. E
14. Understand the types of water flow. E
15. Understand the layout and design of an urban storm drainage system. E
16. Design a storm sewer system. E,F
17. Design a detention basin. E,F

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

V. Evaluation:

A. Testing Procedures:

Three examinations are scheduled. They will be True/False, Multiple Choice, Matching, and Short Answer Essay. Each exam is supplemented with a take-home exam which is primarily problem solving. Students may make up one exam due to absences.

Examination will normally be given as scheduled. Should a student have a planned vacation, operation, etc. occur during a scheduled exam, every effort should be made to take the exam prior to the scheduled absence. When a student misses an exam due to illness, 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 sessions material or the reading assignment for that day. There is no make-up or extra credit given for quizzes missed.

Written Assignments:

Students may 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, or forms provided by your instructor. Students are encouraged to use word processing to generate their reports.

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.

C. Field Work:

Semester Project: Each student will complete a plat design as required by the instructor.

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 & Homework = 10% - 20%

Semester Project = 25% - 30%

Examinations = 45% - 60%

Grades are based on the following:

90 - 100 A

80 - 90 B

70 - 80 C

60 - 70 D

Below 60 F

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical 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 (Pellissippi State Catalog). Individual departments/programs/disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent.

It is the student's responsibility to attend every scheduled class activity on time.

Students are responsible to get assignments missed and to make-up any work missed during an absence

B. Academic Dishonesty:

To use any form of unauthorized aid (notes, text, etc.) during a quiz or obtain any form of help from another student during testing is considered a form of cheating. Any time any form of cheating is observed the student will receive a 0 on that quiz or test.