

COURSE OUTLINE **Subdivision Planning and Design**

Course Description

SR 112. Subdivision Planning and Design. 3 hours credit. Prerequisites: SR 204 and MA 140 with a C or better. This course will enable the student to understand the physical elements of designing land subdivisions including traffic circulation, sewer and drainage systems, soils and earthwork, grading considerations, erosion control, lot and block arrangement, topography and existing land use factors, and geometric analysis. The student will also learn about laws and codes affecting land subdivisions, environmental considerations and site analysis procedures.

Course Relevance

The concept and theories taught in this course will allow the students to understand the fundamentals of surveying, drafting, laws and codes governing the subdivision of land while considering topography and environmental concerns.

Required Materials

Colley, B.C. (1999). *Practical manual of land development*. (3rd ed). New York, NY. McGraw Hill.

Learning Outcomes

The intention is for the student to be able to

1. Apply the principles of site analysis and selection
2. Explain geometric principles of land planning
3. Describe street classifications systems
4. Analyze the design, location, and grades of streets, sewers and parking
5. Explain the influences of soil characteristics on land development

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Problem Solving
 - The student will develop a plat identifying critical elements of topography and the environment

Secondary skills (developed but not documented):

- Reading
- Listening
- Writing
- Critical Thinking
- Historical Interpretation

Field-Related Technology
Teamwork
Ethical conduct

Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. Completing a practical field project by applying the principles of advanced survey drafting design

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Subdivision fundamentals and requirements
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Land use regulations
 - B. Environmental concerns
 - C. Ability to analyze property sites
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Taking accurate and reliable measurements
 - B. Recording accurate survey notes
 - C. Complying with local regulations
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Demonstrate ability to draw a subdivision plat
 - B. Demonstrate knowledge of subdivision rules and regulations
 - C. Recognize safety concerns
 - D. Read and interpret plat descriptions and understand how to work with government officials
 - E. Understand the platting process

Learning Units

- I. Zoning and subdivision
 - A. Rules and regulations
 - B. Working with government officials
- II. Site selection and analysis procedures
 - A. Site conditions
 - B. Site layout
 - C. Safety concerns
- III. Geometric design in subdivisions
- IV. Topography, slopes and earthwork
 - A. Description of surfaces
 - B. Understanding map interpretation

- V. Design of circulation systems
- VI. Street design procedures
 - A. Intersections and special considerations
 - B. Sewer and drainage
- VII. Soils and their influence on development
 - A. Factors of soil formation
 - B. Topography
 - C. Environmental factors analysis

Learning Activities

Learning activities will require the student to exercise analytical and problem solving survey skill in his/her survey projects and assignments.

Grade Determination

All assignments will be evaluated on quality and quantity of work completed. The student's final grade will be based upon his/her level of development in basic survey skills.