

## **COURSE OUTLINE**

### **Subdivision Planning and Design**

#### **Course Description**

SR 112. Subdivision Planning and Design. 3 hours credit. Prerequisites: SR 204, EN 107, and MA 140, all 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 student 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*. (3<sup>rd</sup> 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.

#### **Learning PACT Skills that will be developed and documented in this course**

Through involvement in this course, the student will develop ability in the following PACT skill area(s):

##### **Analytical Thinking Skills**

1. Problem solving
  - By applying skills learning in this course, the student will develop a plat identifying critical elements of topography and the environment.

#### **Major Summative Assessment Task(s)**

These learning outcome(s) and the Learning PACT skill(s) will be demonstrated by:

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

## **Course Content**

- I. Skills or 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
- II. Themes – Key recurring concepts that run throughout this course:
  - A. Subdivision fundamentals and requirements
  - B. Regulation minimums
- III. 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

## **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
  - A. Rectangular layouts
  - B. Curvilinear layouts
- IV. Topography, slopes and earthwork
  - A. Description of surfaces
  - B. Understanding map interpretation
- V. Design of circulation systems
  - A. Traffic flows
  - B. Utility flows
- 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 be assigned to assist the student to achieve the intended learning outcomes through exercises that develop analytical and problem solving survey skills. This will include survey projects and assignments.

### **Grade Determination**

The student will be graded on learning activities and assessment tasks. All assignments will be evaluated on quality and quantity of work completed. The student's final grade will be based upon the level of development in basic survey skills.