

Engineering Technology – CET Option

Course Number and name: ET 355 Site/Land Development

Credits and Contact Hours: Lecture – 3 cr.hrs/46 contact hrs

Instructor's name: Ruinian Jiang

Textbook: Daisy Linda Kone, *Land Development Handbook*, 10th edition.

References: City of Las Cruces Zoning Code, City of Las Cruces Design Standards, City of Las Cruces Standard Specifications for Road Construction, Minimum Standards for Surveying in New Mexico, Technical Manuals, Library books and journals, internet articles, FEMA maps, SCS maps.

Specific Course Information:

Course Description: Introduction to the site plan process including project management and design techniques

Prerequisites: SUR 222

Goals/Objectives: To understand tools that are available and techniques those are presented in order to develop a site or subdivision plan. To learn the land development process and specifically the topics listed below.

This course will help achieve the following goals of the overall program outcomes (ABET outcomes):

develop a site development plan, utility plan	3a, b	9a
boundary plat, grading plan, storm and sewer plan	3b	9d
develop a site development feasibility study	3b, c	9e
communicate effectively by participating in discussions and oral presentation	3e	
communicate effectively by writing formal project reports	3g	

Basic Topics:

- Regulatory functions, resources and permits
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- Resources and permits, introduction to class project
- Surveys and base map preparation
- Site analysis and engineering feasibility
- Site analysis and sitting a structure
- Site analysis and sitting a structure
- Environmental considerations / Site analysis
- Introduction to grading
- Preliminary layout/grading
- Earthwork (grid method)
- Grading and drainage

- Parking lot design
- Drainage and runoff calculations
- Review of midterm project requirements / storm water ponds
- Storm water management methods (BMPs)
- Storm drain and sanitary sewer design
- Production estimations
- Water system design (fire and service)
- Final layout/grading
- Earthwork (end section method), Production estimations
- Preparation of SWPPP site layout
- Bid schedules and cost estimates

Computer Usage: Civil 3D or Land Desktop, SewerCAD®, WaterCAD®, CulvertMaster®, spreadsheets for earthwork takeoffs, and cost estimates.

Prepared by Ruinian Jiang, December 2010