

Master Syllabus

CAT 2561 - Route Surveying with Construction Applications

Division: Science, Mathematics and Engineering

Department: Civil Engineering Technology

Credit Hour Total: 2.0

Lecture Hrs: 1.0 **Lab Hrs:** 2.0

Prerequisite(s): CAT 1501

Date Revised: January 2015

Course Description:

Solving complex surveying problems for construction layout of buildings, sites and roads using appropriate mathematical calculations and surveying equipment. One classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency

Course Outcomes:

Horizontal and vertical control

Establish horizontal and vertical control networks to determine the boundaries of a construction site.

Assessment Method: Behavioral observations

Performance Criteria:

70% or higher based on a performance checklist

Assessment Method: Locally developed exams

Performance Criteria:

70% or more correct responses on written exams

Software

Utilize software to prepare construction drawings and perform calculations for layout.

Assessment Method: Locally developed exams

Performance Criteria:

70% or more correct responses on written exams

Assessment Method: Portfolios

Performance Criteria:

70% or more of available points on prepared drawings

Mathematical calculations

Perform proper mathematical calculations for construction layout.

Assessment Method: Behavioral observations

Performance Criteria:

70% or higher based on performance checklist

Assessment Method: Locally developed exams

Performance Criteria:

70% or more correct responses on written exams

Construction project layout

Complete the layout of construction projects.

Assessment Method: Behavioral observations

Performance Criteria:

70% or higher based on performance checklist

Assessment Method: Locally developed exams

Performance Criteria:

70% or more correct responses on written exams

Outline:

Surveying calculations

Horizontal and vertical control networks

Route surveying geometry

Construction plan interpretation

Integration of civil construction design software
Construction layout for site development