

COURSE OUTLINE

Revision: Loc Nguyen - Date: February 2009

DEPARTMENT:	Drafting Technology
CURRICULUM:	Drafting
COURSE TITLE:	Surveying for Drafting and Design
COURSE NUMBER:	TDR 160
TYPE OF COURSE:	Vocational Preparatory
COURSE LENGTH:	1 quarter
CREDIT HOURS:	3
LECTURE HOURS:	11
LAB HOURS:	44
CLASS SIZE:	20
PREREQUISITES:	MAT 111 & 112 (Applied Mathematics I & II)

COURSE DESCRIPTION:

This course covers the basics of surveying and mapping, to include survey planning and operations, the measurement of distances, angles and elevations. Also included is taking field notes, calculating and plotting the survey data.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Computation - Use basic algebra and trigonometry to calculate bearings, azimuths, latitudes and departures in surveying problems.
2. Human Relations - Work with a survey crew to accurately and efficiently obtain field data for mapping and construction.
3. Technology- se survey tools such as transit, rod, tape and electronic distance measurement equipment.

PROGRAM OUTCOMES ADDRESSED

- 1 Ability to apply knowledge of mathematics and scientific principles to technical engineering/drafting problems.
- 2 Ability to analyze and interpret data.
- 3 Ability to think critically in evaluating information, solving problems, and making decisions.
- 4 Ability to function on diverse, multi-disciplinary teams.
- 5 Ability to access and evaluate information from a variety of sources, including the Internet.
- 6 Understand professional and ethical responsibility.
- 7 Ability to communicate effectively with written, oral, and visual means.
- 8 Recognize the need for and ability to engage in life-long learning.
- 9 Ability to use modern technical engineering techniques, skills, and technology, including computing tools necessary for technical engineering/drafting practice.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Understand and demonstrate the basic surveying operations and mapping principles.
2. Apply these principles in field and office to civil and architectural projects.
3. Utilize survey equipment and tools to produce accurate and timely data.
4. Calculate bearings, distances, traverse closure and other basic survey problems.
5. Demonstrate transferring of survey data and computations to manual and CAD drawings.

TOPICAL OUTLINE:

APPROX. HOURS

I.	Basics of surveying	5
II.	Distance measurements	10
III.	Leveling (elevation measurements)	5
IV.	Angle and direction measurements	5
V.	Traverse surveys	10
VI.	Survey drafting	10
VII.	Highway curves	5
VIII.	Construction surveys	<u>5</u>
	Total	55

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