1-2015

SRVY 230.01: Introduction to Surveying for Engineers

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SRVY 230 – *Intro to Surveying for Engineers*
Spring 2015, 3 Semester Credits
Course Syllabus

Course Instructor: Corryn Greenawalt, PLS, corryn.greenawalt@umontana.edu

Class Meetings: 5:40-7:00 p.m., TR, HB 03; FINAL EXAM: Tuesday, 5/12, 5:40 p.m.

Course Prerequisite: M 090 or equivalent

Required Text: Surveying Fundamentals and Practices, 6th Edition; By, Nathanson, Lanzafama & Kissam; Published By, Prentice Hall, 2011.

Tools Student Needs: Calculator with Trig Functions
8.5" x 11" Letter Graph Paper & Pencil

Grading Criteria:

		Letter	Average
Homework	30%	A	90+
Attendance	10%	B	80+
Quizzes	20%	C	70+
Lab Assignments	25%	D	60+
Final Exam	15%	F	60-
	100%		

Course Description:
Basic principles of civil surveying and the use of surveying equipment. Surveying introduces students to the link between field (construction) and office (design) practices. Students will become familiar with Global Positioning Systems (GPS), levels, level rods, total stations, basic survey computations, and their relationship to Computer Design Systems.

Student Performance Goals and Objectives:
- Keep a set of neat and legible surveying notes in an acceptable format.
- Recognize, define and explain common surveying terms and symbols.
- Compute accuracies for horizontal and vertical distance measurements.
- Explain principles/procedures of electronic distance measurement (EDM)
- Set up and use an automatic level, and run a leveling circuit within a specified accuracy.
- Perform computations with horizontal angles, azimuths, bearings.
- Set up a total station and measure horizontal and vertical angles.
- Perform a traverse loop survey and basic traverse computations

Homework:
Will be assigned for each Learning Unit from the book. Homework is graded on the basis of accuracy, neatness, and timely submission. Homework is due at the beginning of the class identified during assignment. A 20% deduction in total score is applied for late assignments. Reading for each Learning Unit should be completed prior to lecture on that Learning Unit.

Quizzes:
Quizzes will be given periodically during the semester and graded under the same criteria as homework, and will cover everything covered since the previous quiz. No makeup quizzes will be given.

Labs:
Class time will be made available for labs. Labs will be individual grade, but involve team activity. Teams will be determined prior to each lab by the instructor.

Final:
A comprehensive written final exam will be given at the end of the semester.

Topic Outline:

Week	Date	Topic	Reading
1	1/27	Introduction and Course Requirements	
	1/29	Basic Concepts in Surveying	Chapter 1
2	2/3	Property Surveys	Chapter 8
	2/5	Measurements and Computations	Chapter 2
3	2/10	Geometry and Trigonometry	3-1, 3-2
	2/12	Coordinate and Analytic Geometry	3-3
4	2/17	PART 1 REVIEW	
	2/19	NO CLASS	
5	2/24	PART 1 QUIZ	
	2/26	Measuring Horizontal Distances	Chapter 4
6	3/3	Measuring Vertical Distances	Chapter 5
	3/5	Horizontal and Vertical Directions	Chapter 6
7	3/10	LAB – Level Loop	
	3/12	LAB – Level Loop	
8	3/17	PART 2 REVIEW	
	3/19	PART 2 QUIZ	
9	3/24	Traverse and Closure Computations	7-1, 7-2
	3/26	Traverse Area Misc Computations, Tri-Tri, GPS	7-3, 7-4, 7-5, 7-6
10	3/31	No Classes – Spring Break	
	4/2	No Classes – Spring Break	
11	4/7	LAB – Closed Control Traverse Loop	
	4/9	LAB – Closed Control Traverse Loop	
12	4/14	LAB – Closed Control Traverse Loop	
	4/16	Topographic Surveys and Maps	9-1, 9-2
13	4/21	Topographic Surveys and Maps	9-3, 9-4
	4/23	LAB – Topographic Surveys and Maps	
14	4/28	LAB – Topographic Surveys and Maps	
	4/30	LAB – Topographic Surveys and Maps	
15	5/5	LAB – Topographic Surveys and Maps	
	5/7	FINAL REVIEW	
16	5/12	FINAL EXAM	

Academic Integrity:
All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by The University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://life.umt.edu/vpsa/student_conduct.php

Disability Accommodation:
Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely way. Please contact me after class or in my office. Please be prepared to provide a letter from your DSS Coordinator. For more information, visit the Disability Services website at http://www.umt.edu/dss or call 406.243.2243 (voice/text).

Changes to Syllabi:
NOTE: Instructor reserves the right to modify syllabi and assignments as needed based on faculty, student, and/or environmental circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class.