

Course Book

Course Description	In this course the student will study the types of survey, tools used in measurements, ranging and measuring, Units of measurements, scales, and obstacles in measuring distances, leveling and methods of computing elevations with all the drawing needed for them.				
Course objectives	On completion of this course the student will be able to: Learn a good idea about survey principles.				
Student's obligation	The lecture starts on its time. The students should attend the class every lecture. Quiz is expectable every week. In practice aspect, students must attend the lab and do the lab works and write a report on the experiment that they did in one group or subgroup.				
Required Learning Materials	Learning resources: Theory: lecture halls with computers equipment for lecture presentations, white board, and overhead projector. Field practice: Instruments and equipment's available in the laboratory Different forms of teaching will be used to reach the objectives of the course. All lectures write by Microsoft word or power point presentation program. White board and data show device will be used in every lecture.				
Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome	
	Paper Review	N/A	N/A	N/A	
	Assignments	Homework	5%		2,3,4
		Class Activity	2%		1-4
		Report	5%		1-4
		Seminar	5%		3
		Essay	N/A	N/A	N/A
		Project	N/A		4
		Quiz	8%		4
	Lab. Reports	10%		4	
	Midterm Exam-Practical	15%			
	Midterm Exam-Theory	10%		1-4	
	Final Exam	40%		1-4	
	Total	100%			

Specific learning outcome:	<p>After completing this students will be able to explain in the following area:</p> <p>1-Learn student the Surveying is the technique of determining the positions of different points on the surface of the earth, and representing them on a sheet of paper known as plan or map to any suitable scale.</p> <p>2. Familiarize with the fundamental instruments used in surveying.</p> <p>3- Levelling work using level device. And its apparatus.</p> <p>4- Having useful knowledge about tools and method of surveying</p>	
Course References:	<p>Magazines and review (internet):</p> <p>1- Level and topographical area Author: Dr. Abdulkarim Touma.</p> <p>2- Practical space Prepared by: Ziad Abaljbar Jassim - Ibrahim Daoud Alwan</p> <p>3- Construction Area / 1976 Author: William Irvin.</p>	
Course topics (Theory)	Week	Learning Outcome
Definition of survey, benefits, types...	1	1
Ranging and Measuring, Methods of Measurements	2	1,4
Erecting & Dropping Perpendiculars Chain or tape surveying	3,4	1,2,4
Obstacles in measuring distances:	5	1,2
Topographic map and its application, methods of locating contours, characteristics of contours, contour interval, calculation of reservoir capacity.	6,7	2,3
Definition of Levelling, Levelling Staff, Bench mark , Datum line, Back sight, Fore sight, Intermediate sight, Turning point, ,	8,9	2,4
Methods of computing Elevations in leveling: (Height of Instrument Method, Rise and Fall Method) and correction of errors, Permissible error	10,11	2,3,4
Profile & cross-section leveling , volume of earthworks (cut & fill)	12	3,4

Practical Topics	Week	Learning Outcome
Identify the survey devices in the surveying laboratory.	1	1
Measuring the horizontal distance with the approximate ways	2	1,2
Exercise on Erecting & Dropping Perpendiculars	3	1,4
Exercise on Obstacles in measuring distances:	4	2,4
Using level instrument, Levelling Staff, Bench mark, Datum line, Back sight, Fore sight, Intermediate sight and Turning point.	5,6	2,3,4
Measuring elevations and solving examples with different ways.	7,8	3,4
Appointment of contour line in the field with different ways and practical exercises to draw the contour lines.	9,10	3,4
Raising closed polygon using a compass and reading inner angles of the closed polygon	11	2,4
Sketching horizontal curves ,solving practical examples of the curved design	12	1,3,4

Questions Example Design

Q1 / Define contour line, contour interval and Explain briefly methods of drawing contouring?

Q2) The following consecutive readings were taken with a level on continuously Sloping ground at a common interval of 20m. The last station has an elevation of 155.272 m. Rule out a page of level book and enter the readings. Calculate

- (i) The reduced levels of the points by rise and fall and height of instrument methods, and
- (ii) the gradient of the line joining the first and last points. (0.420, 1.115, 2.265, 2.900, 3.615, 0.535, 1.470, 2.815, 3.505, 4.445, 0.605, 1.925, 2.885.)

Q3) There are two kinds of Measurements used in Plan Surveying, what are they?

Extra notes:

External Evaluator

As assistant Professor I have reviewed the Course Catalogue related to the subject of surveying for second semester, Department of Architectural Techniques, Technical college of Shaqlawa, I found that the course Catalogue is very good describing the aim and objectives of the subject. Moreover it is covering all the required syllabus and contents of the course and describes satisfactorily the aspects related to the course which is approved by the department.



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