Lectures of the Department of Civil Engineering

Subject Title:- **Engineering Survey**
Class:-Second class

Lecture Contents	Lecture sequences	First lecture	Instructor Name
	The major contents : 1- Definitions and basic terminology of Surveying.		
	The detailed contents: 1-Types of Surveying 2-Types of Errors 3-Mistakes, random, systematic 4-Scales 5-Methods of representing scale of the map		

Lecture Contents	Lecture sequences	Second lecture	Instructor Name
	The major contents : 1- Definitions and basic terminology of Surveying.		
	The detailed contents: 1-Types of Surveying 2-Types of Errors 3-Mistakes, random, systematic 4-Scales 5-Methods of representing scale of the map		

Lecture Contents	Lecture sequences	third lecture	Instructor Name
	The major contents : 1- Tape measurements and corrections.		
	The detailed contents: 1- Tape measurements and corrections 2-Standard Length, Temperature, Sag, Slope, pull, Corrections 3-Tape traverse and corrections 4-Mapping small areas, Traverse corrdection using graphical methd		

Lecture Contents	Lecture sequences	forth lecture	Instructor Name
	The major contents : 1- Leveling Principles.		
	The detailed contents: 1- Definition, Composition of a level, Types of levels, 2-Setting up the level, HI and Rise and Fall methods 3-Earth curvature and atmospheric correction. 4-Reciprocal leveling 5-Check leveling and closing error. 6-Two peg test		

Lecture Contents	Lecture sequences	fifth lecture	Instructor Name
	The major contents : 1- Profiles and cross sections.		
	The detailed contents: 1- Choosing the appropriate horizontal and vertical scales. 2-Contour Interval, Methods of contouring, How to interpolate the location of a contour line. 3-Theodolite for angular measurements 4-Theodolite composition and parts. Centering and leveling. Reading the angle according to different types. Face Right and Face left readings for better angular precision.		

Lecture Contents	Lecture sequences	sixth lecture	Instructor Name
	The major contents : 1- Profiles and cross sections.		
	The detailed contents: 1- Choosing the appropriate horizontal and vertical scales. 2-Contour Interval, Methods of contouring, How to interpolate the location of a contour line. 3-Theodolite for angular measurements 4-Theodolite composition and parts. Centering and leveling. Reading the angle according to different types. Face Right and Face left readings for better angular precision.		

Lecture Contents	Lecture sequences	seventh lecture	Instructor Name
	The major contents : 1- Theodolite traverse.		
	The detailed contents: 1- Loop and open traverses, Correcting angles, Compass rule for traverse correction. 2-Tacheometry using theodolites 3-Stadia hairs. Finding distances and levels 4-Total Station Surveying		

Lecture Contents	Lecture sequences	eighth lecture	Instructor Name
	The major contents : 1- Theodolite traverse.		
	The detailed contents: 1- EDM, microwave , lase and IR. 2-The meaning of EDM Accuracy (ppm) 3-Areas 4- Areas for regular and irregular figures.		

Lecture Contents	Lecture sequences	ninth lecture	Instructor Name
	The major contents : 1- Theodolite traverse.		
	The detailed contents: 1- Trapezoidal and Simpson rules. 2- Coordinates method. 3- The Planimeter .		

Lecture Contents	Lecture sequences	tenth lecture	Instructor Name
	The major contents : 1- Volumes		
	The detailed contents: 1- Method of longitudinal sections 2-Method of cross sections 3-Method of grid levels 4-Method of contours. 5-Horizontal Curves. 6-Curve definition and symbols, Types of Curves .		

<table>
<tr><td rowspan="3">Lecture Contents</td><td>Lecture sequences</td><td>eleventh lecture</td><td>Instructor Name</td></tr>
<tr><td colspan="3">The major contents :
1- Volumes</td></tr>
<tr><td colspan="3">The detailed contents:
1- Method of longitudinal sections
2-Method of cross sections
3-Method of grid levels
4-Method of contours.
5-Horizontal Curves.
6-Curve definition and symbols, Types of Curves
.7- Method of longitudinal sections
▪ Method of cross sections
▪ Method of grid levels
▪ Method of contours.
▪ -Horizontal Curves.
▪ Curve definition and symbols, Types of Curves
▪ Method of taping
▪ Single theodolite method
▪ Two theodolites method.</td></tr>
</table>

<table>
<tr><td rowspan="2">Lecture Contents</td><td>Lecture sequences</td><td>twelfth lecture</td><td>Instructor Name</td></tr>
<tr><td colspan="3">The major contents :
1- Volumes
▪ -Vertical Curves
▪ Summit and Sag Curves
▪ Parabolic formula for solution
▪ -GPS principles</td></tr>
<tr><td></td><td colspan="3">The detailed contents:
1- Method of longitudinal sections
2-Method of cross sections
3-Method of grid levels
4-Method of contours.
5-Horizontal Curves.
6-Curve definition and symbols, Types of Curves
.7- Method of longitudinal sections
▪ Method of cross sections
▪ Method of grid levels
▪ Method of contours.
▪ -Horizontal Curves.
▪ Curve definition and symbols, Types of Curves
▪ Method of taping
▪ Single theodolite method
▪ Two theodolites method.</td></tr>
</table>