

Course Specifications (2011 - 2012)

A. Basic Information

Course Title	Surveying (1)			Course Code:	SUR 151	
Lecture:	3	Tutorial:	1	Practical	2	Total
						6
Programme (s) on which this course is given:	B.Sc. Civil Engineering (General)					
Major or minor element of program:	Minor					
Department offering the program:	Civil Engineering					
Department offering the course:	Surveying Engineering					
Academic Year of program:	First	Level of program:	First Semester			
Date of specifications approval:	16/3/2010					

B. Professional Information

1. Overall aims of course

By the end of the course the students will be able to:

- Be familiar with the basic surveying techniques required for civil engineering.
- Understand the coordinate system, traversing concepts and computations.
- Realize the leveling techniques and procedures, calculations and adjustment.
- Plan and execute a traverse survey for engineering development;
- Ability to prepare calculations in an organized, readable format.
- Understand the concepts of geometrical design of road curves.

2. Intended Learning outcomes of Course (ILOs)

a. Knowledge and Understanding:

- a.1) Recognize concepts and theories of mathematics and sciences, appropriate to the discipline.
- a.5) Recognize methodologies of solving engineering problems, data collection interpretation.

b. Intellectual Skills

- b.2) Select appropriate solutions for engineering problems based on analytical thinking.
- b.3) Think in a creative and innovative way in problem solving and design.
- b.4) Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
- b.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.
- b.12) Create systematic and methodic approaches when dealing with new and advancing technology.
- b.17) Assess and evaluate different techniques and strategies for solving engineering problems.

c. Professional and Practical Skills

- c.1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice to solve engineering problems.
- c.5) Use computational facilities and techniques, measuring instruments, workshops and laboratories equipment to design experiments, collect, analyze, and interpret results.
- c.13) Use laboratory and field equipment competently and safely.
- c.14) Observe record and analyze data in laboratory and in the field.
- c.15) Practice professionally construction management skills. Prepare technical draft and detailed drawings both manually and using CAD.

d. General and Transferable Skills

- d.1) Collaborate effectively within multidisciplinary team.
- d.2) Work in stressful environment and within constraints.
- d.3) Communicate effectively.
- d.4) Demonstrate efficient IT capabilities.
- d.7) Search for information and engage in life-long self learning discipline.
- d.9) Refer to relevant literatures.

3. Contents

Week #	Topics	No. of Hours	ILOS	Teaching / learning methods and strategies	Assessment method
1	• Overview and introduction	6	a1	Lectures	Assignments
			b2.b7	Practical training / laboratory	Quiz
			c1	Class activity	
			d1.d3.d4.d7	Computer based work	
2	• Measurements	6	a1.a5	Lectures	Assignments
			b2.b7	Practical training / laboratory	Quiz
			c1	Class activity	
			d1.d3.d4.d7	Computer based work	
3	• Computation of areas.	6	a1.a5	Lectures	Assignments
			b2.b3.b7.b17	Practical training / laboratory	Quiz
			c1.c5	Class activity	
			d1.d3.d4.d7	Computer based work	
4	• Scale	6	a1.a5	Lectures	Assignments
			b2.b3.b4.b7.b12.b17	Practical training / laboratory	Quiz
			c1.c5.c13.c14.c15	Class activity	
			d1.d2.d3.d4.d7.d9	Computer based work	
5	• Compass Surveying	6	a1.a5	Lectures	Assignments
			b2.b3.b4.b7.b12.b17	Practical training / laboratory	Quiz
			c1.c5.c13.c14.c15	Class activity	

			d1,d2,d3,d4,d7,d9	Computer based work	
6	• Leveling Concepts	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
7	• Leveling Applications	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
8	• Co-ordinate systems and Traversing	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
9	OFF - Feast Vacation				
10	• Co-ordinate computation and Adjustment	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
11	• Co-ordinate computation and Adjustment	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
12	Midterm Exam		a1,a5		Mid-term exam
			b2,b3,b7,b12,b17		
			c1		
13	• Earthwork computations	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
14	• Geometrical Design for Curves	6	a1,a5	Lectures	Assignments
			b2,b3,b4,b7,b12,b17	Practical training / laboratory	Quiz
			c1,c5,c13,c14,c15	Class activity	
			d1,d2,d3,d4,d7,d9	Computer based work	
15	Oral Exam & Final Exam		a1,a5		Oral exam
			b2,b3,b4,b7,b12,b17		Final exam
			c1,c5,c13,c14		
			d1,d2,d3,d4,d7,d9		
Total		72			

4- Teaching and Learning Methods:

Check using the symbol

<input checked="" type="checkbox"/>	Lectures
<input checked="" type="checkbox"/>	Practical training / laboratory
	Seminar / workshop
<input checked="" type="checkbox"/>	Class activity
	Case study
	Project work
	Tutorial
<input checked="" type="checkbox"/>	Computer based work
	Other :

5- Student Assessment Methods:

Check using the symbol

<input checked="" type="checkbox"/>	Assignments	to assess	a1,a5	b2,b3,b4,b7,b12,b17	c1,c5,c13,c14,c15	d1,d2,d3,d4,d7,d9
<input checked="" type="checkbox"/>	Quiz	to assess	a1,a5	b2,b3,b4,b7,b12,b17	c1,c5,c13,c14,c15	d1,d2,d3,d4,d7,d9
<input checked="" type="checkbox"/>	Mid-term exam	to assess	a1,a5	b2,b3,b7,b12,b17	c1	
<input checked="" type="checkbox"/>	Oral exam	to assess	a1,a5	b2,b3,b4,b7,b12,b17	c1,c5,c13,c14	d1,d2,d3,d4,d7,d9
<input checked="" type="checkbox"/>	Final exam	to assess	a1,a5	b2,b3,b7	c1	
	Design Project	to assess				
	Report	to assess				
	Experimental write up	to assess				
<input checked="" type="checkbox"/>	Informally assessment (Lecture attendance)	to assess				d1,d3,d9
	Other	to assess				

6. Assessment schedule

Assessment 1 Assignments on weeks	1,2,3,4,5,6,10,13
Assessment 2 Quizzes on weeks	1,2,3,4,5,6,10,13
Assessment 3 Mid-term exam on week	12
Assessment 4 Oral Exam on week	14
Assessment 5 Final exam on week	15
Assessment 6 Design Project on weeks	
Assessment 7 Report on weeks	
Assessment 8 Experimental write up on weeks	
Assessment 9 Informally assessment	

7. Weighting of Assessments

Assignments	5%
Quiz	5%
Mid-term exam	10%
Oral exam	20%
Final exam	60%
Design Project	
Report	
Experimental write up	
Informally assessment	
Other	
Total	100%

8. List of References

8.1 Course Notes

Lecture: Power Point Presentation, Assignments, Self-tes,...Prepared by the Instructor

8.2 Essential Books (Text Books)

8.3 Recommended Books

- 1- James M. Anderson and Edward M. Mikhail, 1998: Surveying Theory and Practice.
- 2- Andrew L. Harbin, 2001: Land Surveyor Reference Manual
- 3- W. Schofield and M. Breach, 2007: Engineering Surveying
- 4- S.K. Husain, M.S. Nagaraj, 1992: Textbook of Surveying, fifth revised addition, S.Chand & Company LTD, Ram Nagar, New Delhi-110055

8.4 Periodicals Web sites, etc

E-learning website: www.itep-edu.org

9. Facilities Required for Teaching and learning

- 1-Data Show and Screen
- 2-White Board and Markers
- 3- Well Equipped Computer Lab.
- 4- Map drawing software packages
- 5- Paper Maps and Digital Maps.

Course Coordinator:

Assoc. Prof. Amr Hanafi Ahmed Ali

Course instructor:

Assoc. Prof. Amr Hanafi Ahmed Ali

Head of department:

Prof. Ahmed AdbulFattah Mahmoud Ahmed

Signature:

Date:

D	M	Y
8	12	2011