

c. Professional and Practical Skills: :

1 -	Eliminate the errors in the level measurements.
2 -	Compute the required bearings for coordinates computations.
3 -	Identify different types of loads and internal forces.

d. General and Transferable Skills: :

1 -	Work in stressful environment and within constraints.
2 -	Communicate effectively.
3 -	Effectively manage tasks, time, and resources.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Definition and classification of surveying	5	4	1
Different types of map scales	3	2	1
Fundamental of leveling instruments, observations and computations	7	4	3
Leveling application in profile	6	4	2
Types of bearings and 2D coordinates computations	6	4	2
Basic concept of structure analysis	5	4	1
Different types of loads and structures	6	4	2
Reactions and internal forces computations for beams	7	4	3

Teaching And Learning Methodologies :

Interactive Lecture
Discussion
Problem-based Learning
Report
Experiential Learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	10.00	15	to assess the ability to solve problems and analyze results independently.
Final Exam	40.00		
First Mid-Term Exam	15.00	7	to assess the ability to solve problems and analyze results independently.
Quizzes	10.00		to assess the ability to solve problems and analyze results independently.
Reports	10.00		
Second Mid-Term Exam	15.00	11	to assess the ability to solve problems and analyze results independently.

Recommended books :

1. John Uren and Bill Price, Surveying for Engineers, 5th Edition, 2010, Macmillan International Higher Education.
2. Russell C. Hibbeler, Mechanics of Materials, 10th Edition, 2017, ISBN-13: 978-0134319650