

## Faculty of Engineering & Technology

### Planimetric Surveying 1

#### Information :

**Course Code :** SCM 221

**Level :** Undergraduate

**Course Hours :** 2.00- Hours

**Department :** Department of Structural Engineering & Construction Management

#### Instructor Information :

| Title              | Name                                      | Office hours |
|--------------------|-------------------------------------------|--------------|
| Lecturer           | Bahaa Aly Abd El Rahman Ahmed Shaheen     |              |
| Assistant Lecturer | SARAH SALAH SAYED HUSSIEN ALI ELSHISHTAWY |              |

#### Area Of Study :

Conduct distance measurement operations and their usage in mapping.  
Use surveying instruments in mapping and various area computation techniques.  
Coordinate computations and manipulations.  
Compute angular measurements using theodolite and Traverse computation.

#### Description :

Distance measurements and their corrections, Surveying operations using distance measurements, Area computations, Leveling, Grid leveling, Contour maps, Profiles, Cross sections, Volume computations, Angle measurements using theodolites.

#### Course outcomes :

##### **a.Knowledge and Understanding: :**

|     |                                                                   |
|-----|-------------------------------------------------------------------|
| 1 - | Define basic concepts of surveying operations.                    |
| 2 - | Recognize primary surveying applications in engineering projects. |
| 3 - | Gather knowledge of commonly used surveying instruments.          |
| 4 - | Recall Surveying as a mapping tool.                               |

##### **b.Intellectual Skills: :**

|     |                                                                |
|-----|----------------------------------------------------------------|
| 1 - | Derive different solutions for distance measurement obstacles. |
| 2 - | Differentiate between area computational techniques            |
| 3 - | Assess and correct angular measurements.                       |
| 4 - | Use surveying for mapping purposes and scales.                 |
| 5 - | Handle coordinates and bearings.                               |
| 6 - | Handle traverse calculations.                                  |

##### **c.Professional and Practical Skills: :**

|     |                                                         |
|-----|---------------------------------------------------------|
| 1 - | Distinguish distance measurement tools and instruments. |
|-----|---------------------------------------------------------|

|     |                                                                      |
|-----|----------------------------------------------------------------------|
| 2 - | Categorize surveying theodolite screws and parts.                    |
| 3 - | Handle and practically work with the theodolite.                     |
| 4 - | Ability to handle and practically work with the level and theodolite |

**d.General and Transferable Skills: :**

|     |                        |
|-----|------------------------|
| 1 - | Lead teams effectively |
| 2 - | Work under pressure    |

**Course Topic And Contents :**

| Topic                                 | No. of hours | Lecture | Tutorial / Practical |
|---------------------------------------|--------------|---------|----------------------|
| Introduction                          | 3            | 1       | 1                    |
| Distance measurement operations       | 8            | 3       | 2                    |
| Usage of scales for mapping           | 3            | 1       | 1                    |
| Surveying for mapping                 | 5            | 2       | 1                    |
| Computation of coordinates            | 3            | 1       | 1                    |
| Area Computation                      | 5            | 2       | 1                    |
| Basic Concept of Theodolite           | 3            | 1       | 1                    |
| Angular measurements using theodolite | 8            | 2       | 4                    |
| Traverse computations                 | 7            | 2       | 3                    |

**Teaching And Learning Methodologies :**

|            |
|------------|
| Lectures   |
| Tutorials  |
| practicals |

**Course Assessment :**

| Methods of assessment  | Relative weight % | Week No | Assess What |
|------------------------|-------------------|---------|-------------|
| Final Examination      | 40.00             |         |             |
| Mid Term Examinations  | 20.00             |         |             |
| Practical Examination. | 10.00             |         |             |
| Semester Work          | 30.00             |         |             |

**Course Notes :**

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**Recommended books :**

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**Periodicals :**

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**Web Sites :**

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