

Construction & Building Engineering Courses (CB)

Transportation Engineering Courses Group

CB 271 – Construction Surveying 1

COURSE INFORMATION

Course Title: Construction Surveying 1

Code: CB 271

Hours: Lecture – 2 Hrs. Tutorial – 2 Hrs. Laboratory – 2 Hrs.

Credit –3.

Prerequisite: BA 124

GRADING

Class Performance/Attendance: 10%

Midterm # 1/Assignments – (7th Week): 30%

Midterm # 2/Assignments – (12th Week): 20%

Final Exam: 40%

COURSE DESCRIPTION

Introduction to mapping and surveying science ; Scales and measurements units ; Measurement of distance ; Linear surveying technique ; Bearing calculation and measurement ; Rectangular coordinates calculation ; Application of practical surveying problems ; Measurement of horizontal and vertical angles ; Total station ; Traversing ; Profile leveling ; Setting out construction projects

TEXT BOOK

Surveying for Construction by William Irvine, FRICS Publisher: McGraw-Hill, London, 1995.

REFERENCE BOOKS

Surveying, by A. Bannister & S. Raymond Publisher: Pitman, London, 1993.

Elementary Surveying, by Paul R. Wolf & Russell C. Brinker, Publisher: Prentice Hall, Inc. Ninth Edition 2001.

Surveying, Fourth Edition by Jack McCormac Publisher: Prentice Hall Inc.1998, Fourth Edition.

APPENDIX A-76

COURSE AIM

The student should know the engineering applications of surveying instruments and methods in the layout of the construction of engineering projects and setting out techniques.

SPECIFIC OUTCOMES OF INSTRUCTION

The student should know the types of equipment and instruments commonly used in the surveying practice.

COURSE OUTLINE

- Week Number 1:* General introduction, Basic principles of surveying and plan scales
- Week Number 2:* Measurement of distances and linear surveying techniques
- Week Number 3:* Bearing of surveying lines.
- Week Number 4:* Rectangular Coordinates Calculation
- Week Number 5:* Area calculation of closed traverse
- Week Number 6:* Application of practical surveying problems
- Week Number 7:* Theodolite Traversing, 7th Week exam.
- Week Number 8-9:* Total station
- Week Number 10:* Setting out Axes of Construction projects using total station.
- Week Number 11:* Profile Leveling , Rise & Fall Method
- Week Number 12:* Profile Leveling, Collimation Level Method, 12th Week exam.
- Week Number 13:* Volume of Longitudinal Earthwork projects.
- Week Number 14:* Setting out Horizontal Curves with field applications.
- Week Number 15:* Setting out Vertical Curves with field applications.
- Week Number 16:* Final Exam.

COURSE COORDINATOR AND DEMAND

Course Coordinator: Dr. Akram Soltan Kotb.

Course Demand: *Required*