

Department : Building & Construction Technology Engineering

Subject : Construction Drawing

Class : 4th year

Hours : 3hrs (practical)

Objectives :

The student will learn to draw all kinds of details related to civil works (structural maps for concrete & steel) as well as to read & execute the projects & plans which were drawn previously.

Week	Syllabus
1	Introduction to define the civil drawing & all application in engineering & industrial fields between the engineer & worker .
2	Concrete drawing & how to take the longitudinal & cross sections in multistory buildings . Show details of roofs , beams , columns , stairs , footing .
3&4&5	Reinforced concrete footings , Wall footing , Isolated , Combined , Strap , Continuous , Raft foundations .
6	Reinforced concrete columns and cross sections.
7&8	Shear walls and staircase, type of staircase, reinforcement details
9&10&11	Reinforced concrete beams : Simple beam , simple beam with cantilever , fixed beam , Continuous beam , Girder, type of reinforcement cut-of and bent-up method.
12&13&14 &15	Reinforced concrete slabs (Types of slabs) : One way slabs , Two way slabs , Flat slabs , Ribbed & hollow – block slabs with all reinforcement details.
16	Building joints , Types of joints , Expansion joints , Construction joints .
17	Introduction to define the steel drawing, steel column base plat connection
18	Beam – column connections (Riveted , Welded , Bolts)
19&20	Pre-stressed concrete, Water tanks and.
21&22	Architectural details : Floors & roofs types , Their materials , Finishing methods , Doors & windows , Types of doors & windows according to their uses .
23	Elevators
24&25&26 &27	Municipal engineering drawing :Water distribution systems : Internal water networks for building (cold & hot) , Water treatment station , Sewage network systems for building .
28&29&30	Irrigation works drawing : Regulators , Pipes , Box culverts , Siphon , Weirs , Bridges .

References :

- 1- **Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315-747) .**
- 2- **Reinforced Concrete Designer's Handbook / Reynolds , C.E. &Steed Man . J.C.**
- 3- **Foundation Analysis & Design / Bowles J.E.**
- 4- **A Manual of Engineering Drawing for Students & Drafts / French . T.E.**
- 5- **Structural Details in Concrete / M.Y.H. Bangash**
- 6- **Irrigation Principles & Practices / Isracolson .**
- 7- **The design of prestressed concrete bridges / ROBERT BENIM**
- 8- **Detailing for steel construction, second edition, AISC.**
- 9- **الكود المصري لتصميم المشآت الكونكريتية رقم 203 / دليل التفاصيل الانشائية**