

WORKING DRAWING

ENAR 304

Lecture : 2
Tutorial : 0
Practical : 4

Year : III
Part : I

Course Objectives:

The objective of this course is to introduce the principles of working drawings and construction documentation for medium-scale, multi-storey buildings. By the end of this course students will be able to produce coordinated plans, sections, elevations, and details, and demonstrate proficiency by preparing comprehensive architectural and construction drawings applicable to varied design contexts.

1 Architectural Drawing (18 hours)

- 1.1 Site plan with landscapes and setting out
- 1.2 Floor plans
 - 1.2.1 All floor plans: Basement plan, ground and upper floor plans, roof/terrace plan
 - 1.2.2 Blow-up plans with detailed layout: Kitchen, toilets and any other special rooms
- 1.3 Elevations
 - 1.3.1 Four sides: Front/back/side elevations (NSEW)
- 1.4 Sections
 - 1.4.1 Section through staircase: Cross and longitudinal sections
 - 1.4.2 Wall sections from foundation footing to coping/ridge including all necessary elements in detail (DPC, sill, lintel, cornice, parapet, balcony/ verandah, shading devices)
 - 1.4.3 Blow-up details of external/ internal wall section and roof details
- 1.5 Opening details/door and window details
 - 1.5.1 External entrance gate: Elevation, section and blow-up details
 - 1.5.2 Elevations, sections and blow-up details of doors (Main and interior), windows, ventilations and skylights
 - 1.5.3 Preparation of door/window schedule
- 1.6 Staircase details
 - 1.6.1 Plan and sections
 - 1.6.2 Blow-up details with staircase elements: Tread, riser, balusters, balustrade, handrails
 - 1.6.3 Ramps, spiral staircases if any

2 Structural Drawing (9 hours)

- 2.1 Trench plan
- 2.2 Foundation: Footing plan and section and blow-up details
- 2.3 Typical beam section: Cross and longitudinal
- 2.4 Typical slab plan and section
- 2.5 Typical roof section
- 2.6 Typical column section: Cross and longitudinal
- 2.7 Staircase plan and section/ ramp section
- 2.8 Typical tie beam, plinth band, lintel band, sill band and other miscellaneous details such as, chajja, arch, duct, pergola
- 2.9 Bar bending/ detailed reinforcement schedule

3 Time Problem (3 hours)

Practical (60 hours)

1. Architectural working drawing: Site plan, location plan, basement and floor plans, sections, elevations, blow-up details, wall section details, door/windows details(openings), staircases details
2. Structural working drawing: Trench plan, foundation footing plan /section, typical beam cross/longitudinal section, column cross/longitudinal section, slab plan/section, roof, staircase plan/section and other structural details

References

1. Chudley, R., Greeno, R. (2024). Building Construction Handbook. Boca Raton, FL: CRC Press.
2. Wakita, O. A., Bakhoun, N. R., Linde, R. M. (2017). The Professional Practice of Architectural Working Drawings. Germany: Wiley.
3. Styles, K., Bichard, A. (2012). Working Drawings Handbook. United Kingdom: Taylor & Francis.
4. Spence, W. P. (1993). Architectural working drawings: Residential and commercial buildings (Latest Edition). New York, NY: John Wiley & Sons.