

Design of Buildings Structures

1. **Course number and name:** 020COSGS5 Design of Buildings Structures

2. **Credits and contact hours:** 4 ECTS credits, 2x1.25 hours

3. **Name(s) of instructor(s) or course coordinator(s):** Nadim CHOUERI

4. **Instructional Materials:**

- a. André Coin : Ossatures des Bâtiments – Eyrolles -
- b. Henri Thonier : Conception et calcul des structures de bâtiment – Presses Ponts et Chaussées –
- c. Marius Diver : Calcul pratique des tours en béton armé.
- d. Eurocodes
- e. Instructor’s Class Note

5. **Specific course information**

- a. **Catalog description:** The design of structures is an essential phase prior to any calculation; its aim is to teach students the techniques of design and analysis of real structures...
- b. **Prerequisites or co-requisites:** 020OSBGS4 Buildings and Frames
- c. **Required:** Required major course for Buildings and Engineering Management Specialty students.

6. **Educational objectives for the course**

a. **Specific outcomes of instruction:**

- The aim of the course is to treat the detailed elements of a structure (walls, short consoles, deep beams, tanks...)
- A detailed approach to the calculation of wind bracing of buildings in order to design the structures under the effect of wind and earthquakes...
- Remarks and notes mentioned during the lectures are based on discussions and deductions from actual execution projects.

b. **PI addressed by the course:**

PI	2.2	1.2	1.4	3.1
Covered	yes	yes	yes	yes
Assessed				

7. **Brief list of topics to be covered:**

- 1. Retaining Walls : 4 h
- 2. Bearing Walls : 4 h
- 3. Corbels : 4 h

4. Deep Beams:	4 h
5. Wind Bracing:	10 h
6. Tanks :	3 h
7. Fire Calculation of Structures :	2 h
8. Different Type of Slabs:	2 h
9. Preparation of Final Year Project And Final Summary :	2 h