

## Rehabilitation and Maintenance of Concrete Structures

1. **Course number and name:** 020REMG5 Rehabilitation and Maintenance of Concrete Structures
2. **Credits and contact hours:** 4 ECTS credits, 2x1.25 hours
3. **Name(s) of instructor(s) or course coordinator(s):** Nabil HENNAOUI
4. **Instructional Materials:**
  - a. Instructor's class notes
5. **Specific course information**
  - a. **Catalog description:** Provide the necessary background for the establishment of an operation to rehabilitate or transform the structure of buildings by the different processes of investigation and consolidation with the development of cases studied.
  - b. **Prerequisites or co-requisites:** None
  - c. **Required:** Required course for Buildings and Engineering Management Specialty and Public Works and Transportation Specialty students.
6. **Educational objectives for the course**
  - a. **Specific outcomes of instruction:**
    - Brief summary of structural acknowledgment.
    - Structural assessment of existing buildings including visual inspection, survey, site investigation and materials tests.
    - Initiation to write a technical report related to the structural assessment.
    - Various methodology of maintenance, repair and/or structural strengthening procedures.
    - Cases studied including explanation of the project and an interactive video.
  - b. **PI addressed by the course:**

|                 |     |     |     |
|-----------------|-----|-----|-----|
| <b>PI</b>       | 1.4 | 2.3 | 3.1 |
| <b>Covered</b>  | yes | yes | yes |
| <b>Assessed</b> |     |     |     |
7. **Brief list of topics to be covered:**
  - a. Introduction (3 hours)
  - b. Structural assessment (7 hours)
  - c. Maintenance, Structural repair and/or strengthening by various methodologies including seismic retrofitting (10 hours)

- d.** Case study No1 (5 hours)
- e.** Case study No2 (5 hours)
- f.** Case study No3 (5 hours)