

**Course Name:**

Seismic Retrofitting of Structures

Course Number: 20-167	Credit: 3
Program: Graduate	Course Type: Technical Selective
Prerequisite: -	Corequisite: -

Course Description (Objectives):

The seismic design and retrofitting of buildings, to achieve the desired performance level, must be carried out based on the principles of building assessment and retrofitting. This lesson examines the general principles of the building assessment and retrofitting process.

Course Content (outline):

- Chapter 1: Introduction
- Chapter 2: Structural Deterioration
- Chapter 3: Common Methods for Strengthening Existing Structures
- Chapter 4: Modern Methods for Strengthening Existing Structures
- Chapter 5: Durability and Long-Term Performance of Fiber Composites
- Chapter 6: Case Studies

References:

- ACI 222R-01: "Corrosion of Metals in Concrete."
- Transportation Research Board (TRB) Report 12-28(4), ERI. "Methods of Strengthening Existing Highway Bridges."
- National Cooperative Highway Research Program (NCHRP) Report 514: "Bonded Repair and Retrofit of Concrete Structures Using FRP Composites."
- ACI 440.02: "Guidelines for Design of Concrete Structures Externally Bonded with Epoxy Bonded FRP Composites."
- ACI 440.3R-04: "Guide Test Methods for Fiber-Reinforced Polymers (FRPs) for Reinforcing or Strengthening Concrete Structures."
- ACI 503.5R-92: "Guide for the Selection of Polymer Adhesives with Concrete."
- ACI 440.1R-03: "Guide for the Design and Construction of Concrete Reinforced with FRP Bars".