

# University of Jordan

Department of Civil Engineering

2nd, 18&19

COURSE: 09 31 741 - **Earthquake-Resistant Design** (3 Credits)  
INSTRUCTOR: Nazzal S. Armouti, Ph.D., P.E. (Room: CE 135)  
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Downloads: [Google Drive](#)

CLASS MEETINGS: Sn: 03:30 – 06:30 pm, Room: CE 002

## COURSE OUTLINE:

1. Introduction to earthquake engineering.
2. Characteristics of earthquakes.
3. Response of linear elastic structures to earthquakes.
4. Response of inelastic structures to earthquakes.
5. Behavior of structures under seismic excitation.
6. Design of earthquake-resistant building and non-building structures (IBC-code).
7. ACI-code provisions for seismic design.

GRADING: Course Work (including Quizzes) 60%  
Final Exam 40%

NOTE: Limit of absence 15%

## REFERENCES:

1. [Armouti, 15] Armouti, N. S., Earthquake Engineering, Theory and Implementation with the 2015 International Building Code, McGraw-Hill, 2015.
2. [Clough, 93] Clough, R., and Penzien, T., Dynamics of Structures. New York: McGraw-Hill, 1993.
3. [Park, 75] Park, R., and Paulay, T., Reinforced Concrete Structures. New York: Wiley, 1975.
4. [Wakabayashi, 86] Wakabayashi, M., Design of Earthquake-Resistant Buildings. New York: McGraw-Hill, 1986.
5. [Codes]  
IBC: International Building Code (Buildings)  
ASCE 7: American Society of Civil Engineers Standard, ASCE 7  
NEHRP: National Earthquake Hazard Reduction Program (Buildings).  
ACI 318: American Concrete Institute (Buildings).  
(Bridges).
6. [Downloads] [Google Drive Link](#) ( [below](#) ).  
Download homework and pertinent software;  
([Frame](#), [dynabil](#), [FREQmat](#), [FFTEQ](#)).

<https://drive.google.com/open?id=0By-ilu629rAFcjRLRkszMU05ODA>