ABET course syllabus (Structural Analysis II)

1. *Course number and name*
   0901342: Structure analysis II

2. *Credit and contact hours*
   3 credit hours
   Office Hours: Monday and Wednesday 11:00AM-12:30PM
3. *Instructors:*
   Dr. Ahmed Ashteyat (a.ashteyat@ju.edu.jo)

4. *Text book:*

- Structural Analysis R.C. Hibbeler Prentice Hall 9th edition (July 27, 2014)

- Fundamentals of Structural Analysis
  K.M. Leet, C.-M. Uang, A.M. Gilbert
  McGraw Hill
  4th ed., 2011
- Fundamentals of Structural Analysis
  H.H. West and L. Geschwindner
  J. Wiley & Sons
  2nd ed., 2002
- Structural Analysis by Aslam Kassimal
  CL Engineering; 5 edition (January 1, 2014)

5. *Course Information*
   a. *brief description of the content of the course (catalog description)*
   Indeterminate structures, force method, slope deflection method, three moment equation, and moment distribution method, influence line for first-degree indeterminate beams, stiffness method for trusses,
      a. *prerequisites or co-requisites*
         Prerequisite: Structure analysis I (0901341)

      b. *indicate whether a required, elective, or selected elective course in the program*
   Required for Civil Engineering

6. Specific goals for the course
      a. *specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*

- The student will be able to use the force method for the analysis of statically indeterminate beams, frames, trusses, and composite structures.
- The student will be able to analyze continuous indeterminate beams using three moment equation.
- The student will be able to use the slope deflection equations for the analysis of statically indeterminate beams and frames.

- The student will be able to analyze continuous beams and frames using the moment distribution method.
- The student will be able to analyze indeterminate trusses using Stiffness Method

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

Course addresses ABET Student Outcome(s): a, c, and k

7. Brief list of topics to be covered

- Analysis of Statically Indeterminate Structures by the Force Method
  - Beams
  - Frames
  - Trusses
  - Composite structures

- Influence line for indeterminate beams

- Three moment equation (for continuous indeterminate beams)

- Displacement Method of Analysis Slope-Deflection Equations

- Displacement Method of Analysis: Moment Distribution

- Truss Analysis Using the Stiffness Method