

**National Council of Examiners for Engineering and Surveying**  
**Principles and Practice of Engineering**  
**Vertical Forces (Gravity/Other) and Incidental Lateral Component of the**  
**Structural DEPTH Examination**

**Effective Beginning with the April 2011 Examination**

The 4-hour **Vertical Forces (Gravity/Other) and Incidental Lateral** depth examination is offered on Friday afternoon. The depth modules of the Structural exam focus on a single area of practice in structural engineering. Examinees must choose either the **BUILDINGS** or the **BRIDGES** module. Examinees must work the same module on both components. That is, if bridges is the module chosen in the Vertical Forces component, then bridges must be the module chosen in the Lateral Forces component. All questions are constructed response (essay).

**BUILDINGS**

The **Vertical Forces (Gravity/Other) and Incidental Lateral** Structural depth exam in **BUILDINGS** covers loads, lateral earth pressures, analysis methods, general structural considerations (element design), structural systems integration (connections), and foundations and retaining structures. This module contains four 1-hour problems in each of the following areas:

- Steel structure
- Concrete structure
- Wood structure
- Masonry structure

At least one problem includes a multistory building, and at least one problem includes a foundation.

**BRIDGES**

The **Vertical Forces (Gravity/Other) and Incidental Lateral** Structural depth exam in **BRIDGES** covers gravity loads, superstructures, substructures, and lateral loads other than wind and seismic and may test pedestrian bridge and/or vehicular bridge knowledge. This module contains one 2-hour **BRIDGE** problem and two 1-hour **BRIDGE** problems, as indicated below:

- Steel superstructure (2 hours)
- Concrete superstructure (1 hour)
- Other elements of bridges (e.g., culverts, abutments, retaining walls) (1 hour)