

ARCH 614. Study Guide for Quiz 3

This guide is not providing “answers” for the conceptual questions. It is a list of topical concepts and their application you should be familiar with. It is an *aid* to help prepare for the quiz.

Covers material of Lectures 6, 7 & 8

- Beam behavior (bending, shear, deflection, torsion, bearing)
- Beam stresses
- Prestressing and post-tensioning
- Beam styles
- Internal shear, axial force & bending moment
- Concentrated loads
- Distributed loads – uniform / non-uniform
- Beam supports
- Statically Determinate vs. Indeterminate
- Inflection point
- w vs. W
- Equivalent center of load area
- The Equilibrium Method
- The Semigraphical Method
- Areas under a curve and *change*
- Effect of forces on shear diagram
- Effect of moments on moment diagram
- Location of zero shear (x) and relation to maximum moment
- Slope relationships with integration
- Use of Beam Diagrams and Formulas
- Composite shape
- Centroid, moment of inertia, Q , radius of gyration
- Negative area method
- Parallel axis theorem
- Neutral axis, section modulus, Q , extreme fiber