ARCH 614. Study Guide for Quiz 2

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 4 & 5

- ☐ Normal stress (compression & tension)
- ☐ Shear stress (non beams)
- ☐ Single vs. double shear
- ☐ Bearing stress
- ☐ Bending & shear stress (beams)
- ☐ Torsional (shear) stress
- ☐ Relation of strain to stress & Modulus of Elasticity
- ☐ Brittle, Ductile & Semi-brittle material behavior
- ☐ Yield strength (or point & proportional limit)
- ☐ Ultimate strength
- ☐ Strength vs. stress
- ☐ Rupture / Fatigue behavior
- ☐ Orthotropic vs. Isotropic vs. Anisotropic materials
- ☐ Creep
- ☐ Stress concentration
- ☐ Thermal vs. elastic strains
- ☐ Geometric constraints
- ☐ Dynamics vs. Statics
- ☐ Serviceability
- ☐ Deflections & elongation
- ☐ Stiffness (relative to AE/L through δ)
- ☐ *Superpositioning*
- ☐ Allowable Stress Design
- ☐ Load and Resistance Factor Design
- ☐ Factored loads
- ☐ Resistance Factors
- ☐ "Design" values vs. "Capacity"
- ☐ Factor of Safety
- ☐ Moment of a force
- ☐ Varignon's Theorem
- ☐ Moment Couple
- ☐ Equivalent Force Systems
- ☐ Reactions at a support and relationship to motion prevented
- ☐ Short link or cable, roller, rocker, pin or hinge, smooth surface, rough surface, fixed
- ☐ "Best" location for summation of moment
- ☐ Statically Determinate vs. Indeterminate
- ☐ Concentrated loads
- ☐ Distributed loads – uniform / non-uniform
- ☐ Simply supported
- ☐ Overhang
- ☐ Cantilever
- ☐ Restrained
- ☐ Continuous
- ☐ w vs. W
- ☐ Equivalent center of load area