

## 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.

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### Covers material of Lectures 4 & 5

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|---|--|
| <input type="checkbox"/> Normal stress (compression & tension)                | <input type="checkbox"/> Moment of a force   |
| <input type="checkbox"/> Shear stress (non beams)                             | <input type="checkbox"/> Varignon’s Theorem  |
| <input type="checkbox"/> Single vs. double shear                              | <input type="checkbox"/> Moment Couple   |
| <input type="checkbox"/> Bearing stress                                       | <input type="checkbox"/> Equivalent Force Systems  |
| <input type="checkbox"/> Bending & shear stress (beams)                       | <input type="checkbox"/> Reactions at a support and relationship to motion prevented                             |
| <input type="checkbox"/> Torsional (shear) stress                             | <input type="checkbox"/> Short link or cable, roller, rocker, pin or hinge, smooth surface, rough surface, fixed |
| <input type="checkbox"/> Relation of strain to stress & Modulus of Elasticity | <input type="checkbox"/> “Best” location for summation of moment   |
| <input type="checkbox"/> Brittle, Ductile & Semi-brittle material behavior    | <input type="checkbox"/> Statically Determinate vs. Indeterminate  |
| <input type="checkbox"/> Yield strength (or point & proportional limit)       | <input type="checkbox"/> Concentrated loads  |
| <input type="checkbox"/> Ultimate strength                                    | <input type="checkbox"/> Distributed loads – uniform / non-uniform   |
| <input type="checkbox"/> Strength vs. stress                                  | <input type="checkbox"/> Simply supported  |
| <input type="checkbox"/> Rupture / Fatigue behavior                           | <input type="checkbox"/> Overhang  |
| <input type="checkbox"/> Orthotropic vs. Isotropic vs. Anisotropic materials  | <input type="checkbox"/> Cantilever  |
| <input type="checkbox"/> Creep  | <input type="checkbox"/> Restrained  |
| <input type="checkbox"/> Stress concentration                                 | <input type="checkbox"/> Continuous  |
| <input type="checkbox"/> Thermal vs. elastic strains                          | <input type="checkbox"/> w vs. W   |
| <input type="checkbox"/> Geometric constraints                                | <input type="checkbox"/> Equivalent center of load area  |
| <input type="checkbox"/> Dynamics vs. Statics                                 | <input type="checkbox"/> Method of Sections  |
| <input type="checkbox"/> Serviceability                                       | <input type="checkbox"/> “Best” location for summation of moment   |
| <input type="checkbox"/> Deflections & elongation                             | <input type="checkbox"/> Truss configurations and assumptions for analysis                                       |
| <input type="checkbox"/> Stiffness (relative to $AE/L$ through $\delta$ )     | <input type="checkbox"/> Zero-force member   |
| <input type="checkbox"/> <i>Superpositioning</i>                              | <input type="checkbox"/> Special truss member configurations at joints and conditions                            |
| <input type="checkbox"/> Allowable Stress Design                              | <input type="checkbox"/> Compound truss  |
| <input type="checkbox"/> Load and Resistance Factor Design                    | <input type="checkbox"/> Diagonal tension counters and solution method   |
| <input type="checkbox"/> Factored loads                                       |  |
| <input type="checkbox"/> Resistance Factors                                   |  |
| <input type="checkbox"/> “Design” values vs. “Capacity”                       |  |
| <input type="checkbox"/> Factor of Safety                                     |  |