

ARCH 614. Study Guide for Quiz 6

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 12 & 13

- Allowable Stress Design
- Load and Resistance Factor Design
- Working loads
- Factored loads
- Resistance Factors
- “Design” values vs. “Capacity”
- Factor of Safety
- Density of materials and relation to weight
- Load types (and directions) (*like D, L, S ...*)
- Load combinations
- Minimum Design Loads & Requirements
- Serviceability and limits
- Design vs. analysis
- Actions vs. reactions
- Load tracing & tributary width (vs. area)
- Lumber vs. engineered timber characteristics
- Various strengths (directionality, wood type, etc.)
- Design methodologies and obtaining allowed stresses (duration, multiple member use....)
- Creep
- Nominal dimensions of timber
- Maximum bending stress (& location along length and in cross section)
- Maximum shear stress (& location along length and in cross section)
- Maximum shear stress by beam shape (proper equations)
- Stress types in beams
- Self-weight
- Deflections & superpositioning (+ *units*)
- Use of Beam Diagrams and Formulas
- Lateral buckling (and bracing)
- Equivalent distributed load based on a maximum moment
- Use of Load Tables