ARCH 614. Study Guide for Quiz 8

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 16 & 17

- ☐ Design methodologies
- ☐ Steel grades (standard properties)
- ☐ Yield strength vs. ultimate strength
- ☐ Local buckling in web & flange
- ☐ Bearing on flange
- ☐ Plastic section modulus
- ☐ Plastic moment & plastic hinges
- ☐ Braced vs. unbraced length
- ☐ W (first number meaning) x (second number meaning)
- ☐ Area of web
- ☐ Load tracing & tributary width (vs. area)
- ☐ Self-weight
- ☐ Neutral axis, section modulus, *Q*, extreme fiber
- ☐ Use of Beam Diagrams and Formulas
- ☐ Deflections & superpositioning (+ *units)*
- ☐ Lateral buckling (and bracing)
- ☐ Allowable Stress Design
- ☐ Load and Resistance Factor Design
- ☐ Unified Design Method
- ☐ Factored loads
- ☐ Resistance Factors
- ☐ "Design" values vs. "Capacity"
- ☐ Factor of Safety
- ☐ Load types (and directions) *(like D, L, S ...)*
- ☐ Load combinations
- ☐ Minimum Design Loads & Requirements
- ☐ Serviceability and limits
- ☐ Economical selection by Z charts
- ☐ Design vs. analysis
- ☐ Use of beam moment capacity charts
- ☐ Equivalent distributed load based on a maximum moment
- ☐ Use of Load Tables
- ☐ Joist vs. beam vs. girder
- ☐ Plate girder
- ☐ Web stiffener plates
- ☐ Decking (composite vs. non)
- ☐ Open web joist
- ☐ Gusset plate
- ☐ Method of Sections
- ☐ "Best" location for summation of moment
- ☐ Truss configurations and assumptions for analysis
- ☐ Zero-force member
- ☐ Special truss member configurations at joints and conditions
- ☐ Compound truss
- ☐ Diagonal tension counters and solution method