Lesson Plan # 2:
Design Philosophies

Topics:

- Loads and load combinations
- Statistical basis of LRFD
- Load and resistance factors
- Fundamentals of ASD
- Organization of the AISC Manual and Specification

Learning Objectives:

- Students will be able to compute factored loads from tributary areas using appropriate load combinations
- Students will be able to assess the strengths and weaknesses of the different design philosophies
- Students will understand the development of the LRFD method
- Students will be familiar with the layout and organization of the AISC Manual and Specification

Textbook Sections: Ch. 2

Suggested Problems: 2-1, 2-2

Required Problems:

All problems are due on Tuesday, February 2, 2010.

1. Problem 2-1 of Segui
2. Problem 2-3 of Segui
3. Problem 2-4 of Segui
4. Problem 2-5 of Segui
5. Structural steel beams are to be placed 12-ft on center under a reinforced concrete floor slab. If they are to support a dead service load of 100 psf of floor area and a live service load of 60 psf of floor area, determine the factored uniform load per foot that each beam must support.