1.51 DESIGN OF STEEL STRUCTURES

Massachusetts Institute of Technology
Department of Civil and Environmental Engineering
Spring Semester, 1999

Instructors: Professor Shi-Chang Wooh (scwooh@mit.edu)
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Class:

MWF	12:00–1:00pm	Lecture (1-246)
Tue	3:00–4:00pm	Design project (1-375)
Tue	4:00–5:00pm	and/or Recitation (1-375)

TA: TBA (TBA@mit.edu)
Room: ? • Phone: ? • Office Hours: TBA

Prerequisite: 1.50 Structural Engineering

URL: http://web.mit.edu/1.51/www/

Description: This course shows how the principles of mechanics and structural analysis can be applied in practical design of steel structures. Five basic building blocks of steel structures will be studied: tension members, columns, beams, beam-columns, and connections. The lecture is based on the Load and Resistance Factor Design (LRFD) code from the American Institute of Steel Construction (AISC). In parallel with regular lectures, a number of analysis/design projects will be conducted in teams.

Textbook: (1) T. Burns, Structural Steel Design – LRFD, Delmar Publishers, 1995.
(2) *Manual of Steel Construction, Load & Resistance Factor Design*, AISC, 1994.
(3) Salmon and Johnston, Steel Structures: Design and behavior, 4th ed., 1996.

Homeworks: There will be approximately six to eight homework problem sets assigned throughout the term. You are allowed to solve them in a week (See updated term calendar on the web for due dates.) Note that late turn-ins will result in deduction of grade points. No credit if submitted after recitation.

Recitation: Examples and problem sets will be discussed in the recitation hours.

Projects: Two mini-projects will be assigned. The first project is a literature survey and/or case studies while the second project will be a real design/computer project.

Exams: Three one-hour quizzes plus a final exam will be given. Questions will include all the lecture materials covered up to the time of each exam. The final exam, given during the final week, will be a comprehensive one, covering the entire content. All exams are open notes and open books.

Grading: Homeworks and class participation — 25%
Quizzes and final — 50%
Project — 25% (Level of participation and oral presentation will be also considered.)