

**DESIGN ASSIGNMENTS for Fall 2008® Spring 2009**

Design Projects planning - -

Fri 11/ 14 { no class meeting } - - { work on Design Project }

Hybrid Battery team = meet with Prof. Dean Edwards { office is BEL 319 }

Wood Composite team = meet with Prof. Lou Edwards

Mon 11/ 17 { no class meeting } - - { work on Design Project }

Fri 11/21 Submit - - Team Code of Cooperation { see 433 lab Aug. 25 memo },  
Problem Definition Description & draft Workscope Statement

Fri 12/ 12 DESIGN Report  
 Problem Definition Description  
 Workscope Statement  
 Comprehensive literature survey  
 Project Management Plan:  
 Milestone timeline through May 1, 2009  
 Project budget estimate  
 Individual responsibilities

Ch. 11 pages 469 → 481 & ChE 433 reports manual:

Ch's 1, 2, & 4; section 2.3.3 DESIGN REPORTS

Each project could need the following expertise:

**PROJECT MANAGER** - { who will also do their share of the detail work }

**PROCESS DESIGNER** - { you should anticipate the needs of the specific project } Engineer specialist for equipment sizing details, might need a fluids (pumps & piping) expert, a solids handling expert, a heat transfer expert, various special unit operations experts (coal gasifier, water-gas shift reactor, spouted-fluidized bed, ozone generator, etc.).

**PROCESS CONTROL** - Quality control, chemical analysis, instrument selection, control scheme, control valves, P&ID drawings.

**COST ENGINEER** - Cost estimates, economic analysis, team accountant = budget & expense bookkeeping.

**LEGAL REGULATIONS** - { determine what laws apply and ensure design meets all regulatory criteria } various building codes and permit applications, OSHA = health & **safety**, EPA = environmental regulations, DOT = transportation of chemicals & wastes.

**ILLUSTRATOR** - preparation of final drawings such as PFD's, plant layout (to scale plot plans), specialized equipment fabrication drawings, PowerPoint slides, etc.