Project #02 (Interim Project)
Residential Floor Plan using CADD

Due: Wednesday, October 22, 2008, 5:00 pm (beginning of class)
- You may utilize Laboratory Class on October 15th as a work session for this assignment. The instructor will be available for reference and assistance.
- Late submissions will not be accepted.

Grading: 8% of overall grade

Description
This exercise will require you to apply your knowledge of the following concepts that were introduced in the previous labs and lectures:
- Paper space vs. model space
- Using layers
- Inserting a drawing border and other blocks
- Editing block attributes
- Developing a strategy for setting up and completing a drawing
- Creating notes on drawings
- Creating and using base drawings/xrefs
- Creating and working with graphic symbols

In addition, you will be introduced to the following:
- Interpreting a floor plan
- Using resources to make educated interpretations
- Using a scale
- Dimensioning

This exercise will require you to re-create the first and second floor plans from a group of home designs developed in 1925. You will select one (1) home design from the six (6) designs provided. These plans were draughted by hand and include the interior room dimensions for the major spaces on each floor. All home designs are two-stories. Your task will be to re-create the layout of each floor plan using the skills you have learned in AutoCad. Given that it is now 2008, you are therefore challenged to “update” these plans to current standards as follows:
- Exterior walls are of 2”x6” wood stud framing with ½” plywood sheathing, ½” gypsum wall board interior finish, and R-13 batt insulation in the wall cavity.
- Interior walls are of 2”x4” wood framing with ½” gypsum wall board finish on each side.
- Hallways shall not be less than 3’-0” clear width.
• The second floor bathroom shall have a 30”x60” standard tub/shower, a tank-type toilet, and a vanity or wall-mounted sink.
• The kitchen shall include a 36” sink base, an under-counter dishwasher, a 30” oven/range, and a 30” or 36” refrigerator. The refrigerator may be located in the rear/side mud entrance hall where indicated on plans. You are encouraged to “upgrade” the kitchen layout as you deem appropriate to include continuous counters with overhead cabinets.
• Stairways shall maintain 3’-0” minimum clear width for the stringer run and all interim landings.
• Each bedroom shall have at least one (1) window 3’-0” wide to comply with emergency escape requirements in the building code.
• Show all doors swings and indicate the thresholds at all exterior doors.
• Fireplaces may be masonry or vented gas insert units.
• You are to assume that there will be a full basement and therefore the stair access indicated on the plans must be accounted for. You may assume that there will be detached garages and unless indicated on the plans, the laundry will be located in the basement.

Product
You will submit two (2) D-size plots (24”x36”) using the AutoCad template and border block provided – you may download these files from the instructor’s CAD210 web page. One drawing will contain the first floor plan and the other the second floor plan. Floor plans should be drafted to ¼”=1'-0” scale, shall be fully dimensioned, and shall include all major room names. All appliances and fixtures shall be properly labeled, doors shall be numbered, and window types indicated – you will not be required to develop door or window schedules; this is a floor plan drafting assignment. The layering kit provided in Laboratory assignments shall be followed for this assignment. (The AutoCad template file provided automatically sets the layering necessary.) The following files should be created and saved to a project folder for your instructor to copy:

- 08P01-XAPLAN.dwg (base plans)
- 08P01-A2.1.dwg (first floor plan)
- 08P01-A2.2.dwg (second floor plan)

Instructions
Unlike previous lab assignments, you will not be given a detailed description of what you are asked to do. Instead, you will be required to review your notes, previous lab assignments, and the text for solutions to your problems. Everything you need to know to complete this assignment, at least from a production point of view, can be found in one of these sources. Before asking for help, try to figure out the solution on your own. If you still have difficulties, ask the instructor.

Depending on the floor plan you choose, the requirements may vary. However, ALL projects will strictly adhere to the following. You may treat this as a checklist:

- The floor plans will be drawn on the base (08P01-XAPLAN.dwg) drawing. There will be no notes, dimensions, or text of any sort on this base drawing. All notes and graphic symbols will be placed on the floor plan drawings.
The floor plans will be referenced as an XREF into the 08P01-A2.X.dwg files and placed on the appropriate layer. Organize your sheet by centering the floor plan within the border frame.

Draw everything you see on the floor plans, including walls, glazing/windows, doors, floor patterns, casework, furniture, stairs, special features, etc. If you feel doors are missing on the floor plans in the text, provide them in your drawing. Keep in mind, however, that the gaps may be cased openings. Use your judgment.

All objects should be placed on the appropriate layers with the color “BY LAYER.”

Use AIA Standard Layering guidelines. Use the template file provided on the instructor’s CAD 210 web page which you have used in previous lab assignments. If you need to create a new layer, use the layering methodology to establish the name.

Each floor plan will be dimensioned. Use a dimensioning method appropriate to the construction type. Provide both exterior and interior dimensions. You may choose actual or nominal dimensions to create your drawing, but be consistent.

Identify the name of each space, with the nominal size of the room below. The text should be center justified. You may use the Room Name/Number symbol block provided on the instructor’s CAD 210 web page which you have used in previous lab assignments.

Identify each door and window by providing a number using the symbol block provided on the instructor’s CAD 210 web page which you have used in previous lab assignments.

Use blocks wherever possible, even if there is only one instance. For example, if there is a toilet, either create a toilet block or import a toilet block. You may choose to save these outside (WBLOCK) or inside (BLOCK) the drawing. You should create blocks for your doors (remember to follow the layering system when creating blocks).

### Drawing Tips & Hints

- Keep in mind that the drawings you are using are only roughly to scale; approximate sizes and relationships to the best of your ability, using your judgment and the resources at your disposal. Unlike previous assignments, this project will place a great deal of emphasis on the technical, or architectonic components.
- Scale of drawing: ¼”=1’-0”.
- Paper space setup (typical for each plan):
  - Layout name: “A2.1” for first floor, “A2.2” for second floor, etc.
  - Paper size: “Arch D,” or 36.00 x 24.00
  - Plot device: none
  - Plot area: extents (be sure to “center the plot” as in previous projects)
  - Scale: 1:1
- Border: use the 210-BORD-D.dwg (“Arch D” size border), provided on the instructor’s CAD 210 web page.
- Text style: A-NOTE: ROMANS font (should be part of template drawing).
- Typical notes: 3/32” as seen in paper space; room names may be 1.5 or 2 times larger, whatever looks and fits better.
- Dimension style: A-DIMS (should be part of template drawing).
- Resources:
  - General: review previous lab assignments and homework
  - Floor plan symbols: Text, Chapter 14; notes from lectures.
  - Typical sizes of rooms and components: Chapters 14 & 15.
• Dimensioning: Chapter 15
  • Floor Plan Layout: Chapter 16
• Good projects will:
  • Be legible
  • Be neat and professional in appearance
  • Use layers effectively
  • Use blocks effectively
  • Use xref effectively
  • Be consistent
  • Be accurate and complete