ADC II TEACHING GUIDE

Begin Year Checklist
ROP PAPER work!!!

1. RESUME's to be updated and replaced in portfolio.
2. CELL PHONES should have all address and info saved in them.
3. JOB APPLICATION-go online to "TOPS" and print FORM 3285(92-8) and fill out new form but keep last years PAPA MURPHY so have more than one kind.
4. Make new Desktop & "L" drive folders for level I and level II. Make level I: SKETCHES, SKETCH UP and AUTOCAD. Make level II be AUTOCAD then add others later.
5. Retrieve and copy all ADC I files to level II folder then rename Floor Plan II so don't mess up level I.
6. PORTFOLIO UPDATE – have Architecture II & III update portfolios by adding in title pages and have them update ALL prints as each exercise is finished, **SEE REQUIREMENT SHEET FOR LEVEL II & III.**
7. WEB PAGE - have everyone start weebly or wix web page. Post resume then **SCAN all work from level I** portfolio and transfer all files you want to use, including job application. Maintain all year.

AUTOCAD – Start the year by having students finish AutoCAD plans from level one. Start where left off from last year in ADC I teaching guide.

<u>NOTE:</u> ELEVATIONS SHOULD BE THE END OF ADC I FOR THE FIRST YEAR. HAVE ALL STUDENTS SAVE THEIR WORK ON A FLASH DRIVE SO THEY CAN BEGIN ADCII WITH THE SAME PLAN. THEY WILL COMPLETE A FOUNDATION PLAN AND DETAIL, SECTION PLAN AND WALL FRAMING, SITE PLAN AND LEGEND IN LEVEL II. THESE THREE DRAWINGS WILL SERVE AS AUTOCAD REVIEW BEFORE CONTINUEING ON WITH THE OTHER ADC II ASSIGNMENTS. (May need to retrieve file for students from server). BE SURE TO DO THESE DRAWINGS WITH NEW LAYER CHART FOR ALL BLACK LINETYPES WITH PROPER LINEWEIGHTS. BORDER MUST BE ATTRIBUTE TYPE ALSO.

START semester by having students open LAYER CHART from "L" drive and put on 2nd screen. Then open AutoCAD and open floor plan file from level I. Save a second copy of floor plan file and call it, "Level II Floor Plan"(so they don't ruin original file). Explain the use of the LAYER CHART to create black drawings and then have them update all the layers for the floor plan, electrical plan and elevation plan on the Level II file only(do not adjust level I files). Check FND layers at step 16e to be sure we have them all.
NEXT go to the "PLOT MENU" and do a preview of each tab to see if the files are correctly updated. If so, they can make a small black and white print for their portfolio(or just wait till all plans are done and do it when we make large prints). Also show them how to make a, "pdf" from a, "dwg" file in the plot menu. The pdf files can be used to post as level II work on their web sites.
NEXT have them create the ATTRIBUTE TITLE BLOCK from the "L Drive" on the **floor plan tab** in paper space. Erase the old title block from ADC I. Create the attribute title block in its place. Go to the INSERT MENU and create a **block** out of it when finished. ERASE the **old title blocks** from the **other tabs** and insert the **attribute title block** on each one. **Update** the information for each tab.
FINISH the foundation, section and site plans and have the students post and print all work. A LARGE SET of PLOTS can be made of the entire set in black and white when done.

1. HOUSE PROJECT - **FOUNDATION PLAN - ADCII**
    1. Use SCAN TRON form to complete chapter questions 23, & 24 questions **foundation & framing info** in common folder.
    2. Review 23, 24 and 28 chapters orally. Write important page numbers on board for reference. **Pages 452, 453, 467, 471, 529, 530, 541.**

    3. Demonstrate steps d thru f in AutoCAD.
    4. **Make a copy** of the Level II FLOOR PLAN in model space with all **layers ON** to be used for the **foundation plan.** BE SURE all layers are ON when copying!!!
    5. **Check** to be sure they have added all FND LAYERS while in model space. The layers are listed on the LAYER CHART in "L" drive. The purpose for each is listed below. Review as directed.

    6. Go over **(verify)** the following layers are on.
        i. FND PIER LAYER- GRN- CONTINUE-.30
        ii. FND JOIST LAYER- YEL-CONTINUE-.60
        iii. FND NOTES LAYER- BLK- CONTINUE-.25
        iv. FND DETAIL LAYER that is BLK and CONTINUE-.25 for the section mark and the **detail.** Draw the entire FOOTING DETAIL and notes and dimensions on this layer and make a BLOCK out of it when done.
        v. FND FOOTING LAYER- YEL-HIDDEN2-.60
        vi. FND GIRDER LAYER- BLUE- CENTER2-.40
        vii. FND INTERIOR LAYER -GREY 8-CONTINUE-default
        viii. FND DIM LAYER-BLK-CONTINUE-.25
        ix. FND WALLS-YEL- CONTINUE-.60

    7. Set up the **linetype** and make the **FOUNDATION tab.**
        i. Turn VIEWPORT LAYER on to make it visible
        ii. LINETYPE SCALE can stay at 1.00 and unlocked VP.
        iii. NOW make a new TAB in PAPER SPACE and name it FOUNDATION by right clicking on the FLOOR PLAN tab and use **create/copy** and **move to end.**
        iv. **Update** all TITLE BLOCK info in paper space.
        v. PAN the **new copy** of floor plan into the viewport.
        vi. SET SCALE correctly to ¼"=1'-0."
        vii. LOCK VIEWPORT to do all work to foundation plan.

    8. **Modify the copy** IN the locked viewport.
        i. ERASE all items that are NOT needed on the foundation plan which are: **dimensions, notes, electrical, exterior doors and windows, roof lines,** leave walls, porches, decks, steps and all interior info.
        ii. Clean up all the walls where the doors and windows were so they are each a **single line** by erasing the short pieces and extending the long ones.
        iii. Change **ALL** interior data to new FND INTERIOR layer using the match properties tool.

1. Change ONE line to new layer
2. Go to FORMAT then LAYER TOOLS then LAYER MATCH to put the remainder of interior data on layer

iv. OFFSET all exterior walls 3 inches to create all the **footing lines.**

v. **Connect the footing lines** and use MATCH PROPERTIES to put them all on the new **footing layer.**

vi. Create footings for each **post.**

vii. Create the concrete pad for the **air conditioner.**

viii. Foundation Plan should be ready!

9. **GRADE CHECK 1 –** Basic layout
   i. Print window around plan. Add name period and seat #.

10. Make small print of foundation plan.

i. At this point **make a small print** of your plan (including porches) in order to pencil in all FLOOR FRAMING (piers-girders-floor joists) correctly. Use this print to do your AutoCAD plan.

ii. Use the I JOIST SPAN CHART on the **joist pdf** in the "L" drive to determine the size and type of joists you need across the shortest distance of your plan. **Allow for the overlap of the two longest joists.** Record the required height and length of the two overlapping joists.

Use the DAN Lund foundation plan in the "L" drive on the overhead to show how to draw floor joist. Turn off all the other FND layers. Draw the joists on your print and write the size you need next to one of the joists.

Use the DAN Lund foundation plan in the "L" drive on the overhead to show how to draw girders. Turn off all the other FND layers. Use the GIRDER SPAN CHART on page 452 to determine the size girders to use. Draw the girders on your print and write the size you need next to one of the girders.

Use the DAN Lund foundation plan in the "L" drive on the overhead to show how to piers. Turn off all the other FND layers. Draw ALL piers in place under the girders.

Review the FOUNDATION NOTES & DIMENSIONS. Have them place ALL notes and dimensions on sketch.

iii. **GRADE CHECK 2 –** Sketch
   1. Instructor check
   2. Sketch Grade

iv. In AutoCAD - complete the entire FOUNDATION PLAN after you have it all sketched properly. Be sure to include porch areas.

v. Create JOISTS with 2 INCH THICK POLY LINES on joist layer and offset every 2'

vi. Create GIRDERS with centerlines on girder layer. Use POINT STYLE SQUARES and the DIVIDE command to space girders

vii. Create PIERS with the DIVIDE TOOL and POINT STYLE on pier layer

viii. Complete all DIMENSIONS on Foundation Plan using two rows of dim's.

ix. Complete all FOUNDATION NOTES on Foundation Plan. Show them how to use the **MULTI_LEADER** tool again to add all notes in AutoCAD.

x. **GRADE CHECK 3 –** Foundation Plan
   1. Print entire sheet.
   2. Print window view of plan.

xi. Foundation Plan should be finished. Footing detail will be created next.

xii. OPEN the EXTERIOR FOOTING DETAIL pdf from the common folder

xiii. Create the DETAIL on the "0 LAYER" next to the Foundation Plan (just the parts, no text or dimensions yet).

xiv. Go to the FOUNDATION tab.

xv. Reduce the foundation viewport then make a new VIEWPORT for the DETAIL and scale: **1"=1'-0"** then LOCK the viewport.

xvi. Make a new DIMENSION STYLE called ARCH1.0 and change the scale to .25

xvii. Add **dimensions** to the detail on the "0 LAYER" so that they match the foundation plan.

xviii. Make a new LEADER STYLE called ARCH 1.0 and change the scale to .25.

xix. Add all **notes** to the detail on the "0 LAYER" so that they match the foundation plan.

xx. Go to the INSERT TAB and use WRITE BLOCK command to correctly make a block out of the detail. Be sure to be on the ZERO layer and retain the block on the screen.

xxi. Add a SECTION LINE for our TYPICAL EXTERIOR FOOTING detail. Explain different type of section marks. Use the bubble type with arrow on top and mark inside correctly. These will be covered in the next chapter.

xxii. Change the SCALE in the title block to NOTED. Place the TITLE and SCALE on each project in PAPER SPACE using ANNOTATIVE TEXT. Make the titles .25 tall and the scale .125 tall.

xxiii. Turn OFF the viewport to print.

xxiv. **GRADE CHECK 4 –** Detail
   1. Window detail and submit. Add name, period, seat #.

xxv. ZOOM ALL in paper space to be sure no garbage is floating.

xxvi. DEMONSTRATE how to make a BLACK plot in the plot menu. Scale the **lineweights** and set the plot style to **monochrome** then PREVIEW the drawing.

xxvii. **GRADE CHECK 5 –** Finished set.
Submit **3 small prints for grade** and the **sketch** of the foundation plan:
   1) Sketch
   2) Overall view w/ title block
   3) Window view enlarged foundation plan

4) Window view enlarged detail
5) "L" drive for grade.
    i. scan sketch
    ii. pdf of plans.

xxviii. **GRADE CHECK 6 - FINAL PLOT –** Large plot – Black and White with Lineweights.
    1. **Plot** one large copy of floor plan AFTER all small copies are graded and UPDATES have been completed. Be sure to update title block info too! Staple the small graded plan to the large print for verification of corrections. Half the point value can be earned if all corrections are made.

Foundation plan and details should be finished.
POST all six PLANS on web sites when finished.

2. HOUSE PROJECT – **SECTIONS – ADC II**
    1. Complete Chapter 17 questions for **Sections.**
    2. Review Chapter 17 pages 322-344. Section marks on 325 and symbols on 326 etc
    3. Review CUTTING PLANE pages 323-324.
    4. Review SECTION LINES & SYMBOLS page 325.
    5. Review MATERIAL SYMBOLS page 326-327.
    6. Have each student make an **8.5X11 print** of just their **floor plan** with a line drawn where they think the section should be. Bring the floor plan to instructor for approval. Sketch the proper cutting plane line and symbol from 325 **neatly** on the floor plan with. Put the proper numbers in each symbol.
    7. **SKETCH - tape the floor plan** to a second piece of paper and **Sketch** the entire **section** by projecting all the lines so the section is the same size/scale as the floor plan. Explain everything from the GROUND LINE to the ROOF for them. Look at the completed foundation plan and detail to correctly place footings, joists and girders. Explain the proper direction of the view. There may be a need to MIRROR it in AutoCAD to make it face the right direction. Use your **floor plan** and **elevations** to help determine what your section will look like. Sketch must be approved by instructor before starting AutoCAD.
    8. **GRADE CHECK 1-** Section Sketch
        i. Submit floor plan and section sketches.
    9. **AutoCAD - create** the **section** in AutoCAD in **model space**.
        i. Copy SECTION MARKS from foundation plan and properly place them on floor plan.
        ii. Temporarily turn off layers on floor plan that are in the way.
        iii. Switch to SC PROJECTION layer.
        iv. Project all features away from floor plan.
        v. Use layer chart from "L" drive to determine which layer to draw on.
        vi. Start with FLOOR and create all features.
        vii. COPY the footing detail and properly attach it to each end of the section plan using copy & mirror.
        viii. Extend the girders and copy the joists and create piers.

ix. Add required notes and multi-leaders.

10. Create a **new tab** in paper space and call it **SECTION PLAN.**
11. Create a new viewport and position the section plan in the viewport at **¼"=1'-0".**
12. **GRADE CHECK 2-** Section plan AutoCAD.
    i. Print window floor plan with section marks.
    ii. Print window of section drawing.

13. **WALL FRAMING DEATIL** on page 554.
    i. SKETCH complete framing detail on 8.5 X 11 lightly in construction lines.
    ii. Lecture and take notes on ALL revisions. *No diagonal braces, fix studs on right side of door, solid header above window, 2X6 ceiling joist, 5/8 sheathing.* ALSO *use our footing detail and change under floor area to match, explain blocking at corner posts, and explain fire blocking.* After the lecture use book and sketch to ask for clarifications. Add ALL NOTES and MULTI – LEADERS to sketch as well.
    iii. **GRADE CHECK 3 –** Wall Detail Sketch.
        1. Submit wall detail sketch and notes.

14. **AutoCAD - create** the **wall detail** in AutoCAD in **model space**.
    Have them draw the wall detail in real world **model space.** Then put the wall detail in a **viewport at 1"= 1'-0" and lock it**. If that scale is too large then have the students figure out the scale. Match the multi- leaders and notes based on the scale of the section plan on the same sheet. Make a new leader style if necessary to be sure all font on this page looks the same. Then add ALL the notes using the new leader style in the locked viewport.
15. **GRADE CHECK 4 –** Wall detail AutoCAD.
    i. Print window of wall detail.

16. **GRADE CHECK 5 - FINAL PLOT –** Large plot – Black and White with Lineweights.
        1. **PLOT - Plot** one large copy of floor plan AFTER all small copies are graded and UPDATES have been completed. Be sure to update title block info too! Staple the small graded plan to the large print for verification of corrections. Half the point value can be earned if all corrections are made.

Section plan and details should be finished.
POST all six PLANS on web sites when finished.
1) "L" drive for grade.
    a. scan sketch
    b. pdf of plans.

3. HOUSE PROJECT - **SITE PLAN - ADCII**

a. Complete Chapter 18 questions for Site **Plan.**

TAKE NOTES to prepare for site plan sketch (rough draft).

b. Review 18, note setback requirements on 348. Use 15 ft. from front and 5 ft from all sides for our project.

17. Review **sketch** on 349. Explain how to add symbols on page 356 and show examples on 366-376.
Open online – ***AutoCAD Tree Blocks.*** See complete list of standard 2D symbols used for site plans. *These can be downloaded directly into AutoCAD Site Plans.*

18. Review **site** on 362. Discuss **utilities and notes**. Provide the following from center of street to the proper location at the house:
    1. Water Line
    2. Gas Line
    3. Electrical
    4. Sewer line to septic tank to leach field. Provide 200 ft. of leach lines.
    5. Notes
        a. Property Line coordinates and lengths.
        b. Elevation marks and notations.
        c. Name of every item on site plan.

e. Discuss driveway (page 182) to street with apron and a 4' sidewalk, 6" curb and gutter with a 4' grass strip between the sidewalk and curb.

f. ALL ITEMS…..trees, pools, structures, sidewalks, pools, tennis courts, basketball courts, etc….must be looked up online and chosen by size, scale, maturity….etc.

g. FENCE and gates are required. See line types in AutoCAD.

h. PROXIMITY….location of pools, decks, sidewalks, recreation items, septic tank, leach fields, must be where they enhance your floor plan. DO NOT put items too far away. Think of your own house and where these items are.

i. DRAW STRUCTURES with hidden lines for exterior wall outlines. Draw solid lines for all roof lines, overhangs, ridges, hips and valleys.

START SKETCH:

a. Open and complete **directions** for SITE PLAN from "L" drive in **model space.**
Make a **print window** of the **site plan** to create a pencil copy of your layout. Be sure to leave space for the street at the bottom or side of the print by making a larger window.
    i. Make sure phantom lines show on print
    ii. Use **dash marks** every 10 feet to set off approximate scale on property lines at to help you **sketch to scale.**
    iii. **Sketch** all landscape features on print.

b. **GRADE CHECK 1 –** Site Plan Sketch.
    i. Submit Sketch for grade.

START AUTOCAD:

a. Create/copy floor plan tab and name it – SITE.

b. Create viewport and set scale at1/8"=1'-0" then LOCK viewport to complete plan.

c. Include **Coordinates and Distances** on each property line.

d. Place **survey marks** in corners and elevation of each corner.

e. **North Arrow**

f. Choose which side will be the front/street side. OK to do a corner lot.
g. Draw curb & gutter, grass area, sidewalk and property line.
f. **Setbacks** = 15ft in front and 5ft on other 3 sides.
g. Position a copy of the **outline of house** (misc. hidden layer) within proper setbacks. Add **roof lines** (structure layer) overhand, ridges, hips, valleys. Make copies from original floor plan.
h. Create **Utility lines** for Sanitary, Water, Electric and Gas. Attach at best location…ie..electrical where your service distribution panel is.
i. Create permanent **outdoor features** such as driveways, sidewalks, decks, pools,etc… then add trees and landscaping features as desired. **Any items** used such as trees, pools, basketball court, etc… must be to regulations.
j. Proper **fence lines.**
e. Add proper **dimensions (setbacks).**
f. Add proper **notes** (label ALL items so I can grade them by size)
g. UPDATE all title block attributes.

h. **GRADE CHECK 2 –** AutoCAD Site Plan.
1. Window Site Plan for Grade.

i. **GRADE CHECK 3 - FINAL PLOT –** Large plot – Black and White with Lineweights.
1. **PLOT - Plot** one large copy of floor plan AFTER all small copies are graded and UPDATES have been completed. Be sure to update title block info too! Staple the small graded plan to the large print for verification of corrections. Half the point value can be earned if all corrections are made.

Site plan and details should be finished.
POST all six PLANS on web sites when finished.
1) "L" drive for grade.
   a. scan sketch
   b. pdf of plans.

OPTIONAL FINAL SKETCH
Make a **final draft color sketch** after you are finished with AutoCAD by turning all line work to GREY, then print a copy, then use PRISMA PENS and BALLPOINTS to look like a real sketch with color.

3. PLOT all six PLANS when finished in black line weights. This includes Floor Plan, Electrical and Elevations from Level I class.
4. POST all scans of sketches and pdf's of plans on website.

URL ASSIGNMENT: optional
Review styles in text (chap 1 Pg. 14-29 and chap 2 pg. 30-42) then print and review a URL WORKSHEET and begin assignment on Internet.

5. **FRAMING ASSIGNMENTS**
6. Complete framing plans b-d & g on one "C SIZE" graph paper **(IF we do this at all, may skip hand sketching to save time).** All framing shown with double lines. All components labeled with .125 size letters. All components sized from charts. Use Dan Lund file to DEMO each phase by layers and explain how to start each plan. Plans a-c-e-f & h to be completed using SketchUp.

7. Create new folders in L & DESKTOP for FRAMING project. Make folders inside for ….jpgs from Sketch Up and an AutCAD folder for files and PDF's. Complete all FRAMING exercises below and add to PORTFOLIO when done. All sample files are in FRAMING FOLDER on the "L" drive to look at, except b–d & g. SAMPLES of each Sketch Up framing problem from past students are also in the framing folder by the assignment names. Finish each Sketch Up problem then save 10 jpg's (file, export, 2D jpg, desktop, your folder, framing folder). Pick BEST jpg's for final print in AutoCAD.
8. SKETCH UP – Turn off back – ups and auto saves……
9. AUTOCAD
   Make everyone set up AutoCAD. Talk them through opening AutoCAD and save a file called FRAMING TEMPLATE in the proper folder file. Then go to **Units**(use decimal), then **Draw Limits** and set 0,0 and 24,24, then make an **attribute text style** & use City Blueprint at 0 height and make the letters .25 when typing. Then make new **layers** (BORDER, TEXT, VP) all black. Then go to **Layout Tab One** and name it BORDER. Then go to **page set up manager** and modify it for the correct plotter, letter size paper, extents, center and fit. Then make Poly Line Border **7.5X10** and **.05 thick**, then make a title block area **.75 up** from bottom. Use **single line text** to type required text(assignment number on left side, assignment in the middle, your name on the right side). Then set up **Viewport** with 4 windows. Import the **SketchUp jpg's** into model space then into each correct viewport. Then show them how to MOVE or COPY the layout tab again to do the rest of the assignments without setting up the paper all over again or SAVE a copy as BORDER to use as your start up file. Do NOT save over this file.
10. FRAMING ASSIGNMENTS – **Watch Videos ? DIY network on Fridays?**
    a. Complete **Assignment 2 Stick Framing DECK – SketchUP.** Review text from Chap. 23 to Chap. 29. Write important pages & what they are on whiteboard for reference: 452, 471, 474(use nominal sizes), 529, 534,541(floor frame & labels),548&575&576(stairs). PRINT a copy of the problem for portfolio and write your NAME at the top and REVISIONS at the bottom and list all REVISIONS below on your paper while I show the example (in common folder) on the overhead. Print in AutoCAD on ARCH B template when done, four views as per example.
       a. Use nominal sizes for all lumber (474)
       b. Post Height = 5 feet. 3 ft. above deck and 2 ft. below
       c. Top Rail = 2X6 hang over outside
       d. Rails 4" apart
       e. Bottom Rail = 2X4 four in. from deck
       f. Joist (page 452) @ 24"OC = 2X12
       g. Use proper Simpson Joist Hangers on each end of joists
       h. Stringers (around deck & for stairs) = 2 - 2X12 dbl thick on sides to hang joists and Simpson Hangers.
       i. Planking = 2X6 and in even lengths under 25'-split seams on joists
       j. Planking notched at posts

k. Planking spaced .25" apart
l. Stair stringers to be cut evenly to end @ top of deck
m. Demo how to start:
  i. 15'X25' pad
  ii. Post 5'0" tall (make off to side so it is not stuck to deck).
  iii. Select post – right click – MAKE COMPONENT and copy – (then make group of ALL 4 later etc)
  iv. Open layer box and make a POST layer
  v. Select the post – right click – Change ENTITY INFO put on post layer
  vi. Continue for ALL parts and components and groups

b. **Floor Framing Sketch #1 – House:(optional due to time)** Review again Chap 23 pg 441-453 terms and spans. Chap 27 pg 519-523 disaster. Chap 28 pg 528-550 Span chart pg. 534 example solutions 541. Now sketch and label floor framing for **practice plan** on C graph (issue all students graph and show an example from last year). Use Dan demo in common folder to show layout on overhead.

c. WALL FRAMING Review Chap 29 Pg. 551-580. Complete **Assignment 2c Stick Framing WALL – SketchUP.** Print in AutoCAD on ARCH B template when done, three views as per example.
  a. REVISIONS to be written on printed copy of problem.
    i. 2X4 Bottom Plate
    ii. DBL 2X4 Top Plate
    iii. Solid HDR above D&W
    iv. 2X4 Trimmer Studs under HDR to Bottom Plate
    v. 2X4 Studs at ends of HDR's
    vi. 2X4 Sill for 4 ft. window (single)
    vii. 2X4 Studs 92 ¼ @ 16 in OC
    viii. 2X4 Cripple Studs under window sill
    ix. D/W do not interrupt stud pattern
    x. Include drawings of two corner posts
    xi. Lable ALL

d. **Wall framing Sketch #2 – House:(optional due to time)** Review again Chap 29 Pg. 551-580. Now graph and label entire front wall of **practice plan** on C graph. Use Dan demo.

e. ROOF FRAMING Review Chap 30 Pg. 581-613. Example solution pg. 593, span chart pg. 597. Gable/Hip example p. 600-603. Complete **Assignment 2e Stick Framing TRUSS – SketchUP.**
  a. REVISIONS to be written on printed copy of problem
  b. Change truss one to simple hand cut version with 2X6 ridge, 2X6 rafters, 2X6 ceiling joists. Draw example on board while they copy on paper.
  c. Other two trusses 2 X4 construction
  d. Tails 2'-0"
  e. All tails plum cut

f. Label ALL components on EACH rafter
- **i.** 2 X 4 rafters
- **ii.** 2 X 4 ceiling joists
- **iii.** 2 X 4 tension web
- **iv.** 2 X 4 compression web
- **v.** 2 X 4 king pin
- **vi.** Metal gussets

f. ROOF FRAMING – Review again Chap 30 Pg. 581-613. Example solution pg. 593, span chart pg. 597. Gable/Hip example p. 600-603. Complete **Assignment 2g Stick Framing ROOF SketchUP.**
- **a. REVISIONS** to be written on printed copy of problem
- **b.** 2 X 4 studs and plates
- **c.** Interlock top plates at corners and interior wall
- **d.** 2 X 4 gable studs @ 16" OC w/notches for rafters
- **e.** 2 X 6 ceiling joists @ 2'-0" OC notched at rafters
- **f.** 2 X 6 rafters @2'-0" OC w/bird mouth cuts & 1ft tails
- **g.** 2 X 8 fascia cover over ridge
- **h.** 2 X 8 ridge
- **i.** 2 X 4 lookouts laid horizontal & cut thru 1st rafter to butt into 2nd
- **j.** 2 X 4 collar beams @ 6'-0" OC
- **k.** Label all parts by size and name

g. **Roof framing Sketch #3 – House:(optional due to time)** Review again Chap 30 Pg. 581-613. Example solution pg. 593, span chart pg. 597. Gable/Hip example p. 600-603. Use FP on back of plan to draw outline of house and ROOF LINES first. Now sketch and label roof framing for **practice plan** on C graph. Use Dan demo.

h. (Moved this assignment here so they would know all the parts. It used to be at the beginning). Complete **Assignment 2b Stick Framing SHED – SketchUP.** Make ENTIRE project in SketchUp then make a COPY for the exploded view. Export the exploded view to AutoCAD and print in AutoCAD portrait or landscape. ALL notes on this project to be completed in AutoCAD using leaders.
- **a. REVISIONS** to be written on printed copy of problem
  - i. Subfloor = 4 X 8 X 1.125 T&G Hardiboard - 2 ½ sheets
  - ii. 2X6 JOISTS @ 2' OC
  - iii. Solid Block between joists at ends
  - iv. 4 – 6X6 PT Skids
  - **v.** Single Bottom Plate – 2X4
  - **vi.** Double Interlocking Top Plate – 2X4
  - **vii.** 8 ft walls top to bottom
  - viii. Solid Header above door
  - ix. Studs 2X4 @ 2' OC
  - x. Use either 2X4 Corner Post

xi. Trimmer studs at door 2X4
xii. Door Rough Opening 3'-0"
xiii. Siding – 3/8" T-1-11 Rough Sawn Siding
xiv. Pitch = 4/12
xv. Rafters 2X4 @ 2'0"OC
xvi. Plumb cut all rafters
xvii. Ridge 2X4
xviii. Collar Brace 2X4
xix. 2X4 Blocking between each rafter
xx. Gable Studs 2X4 with NOTCH CUT for rafters
xxi. Lable ALL in AutoCAD
xxii. Explain how to start wall & rafter framing so plywood hits centers

Add all projects to PORTFOLIO and to web sites.

STOP HERE
New curriculum jumps straight to REVIT at end of this outline.

11. **INTERIOR DESIGN**
12. Each student will design a kitchen and a bathroom. These designs may be incorporated in Level III design if desired. **Watch Videos? DIY network?** I hate my Kitchen or other programs on Fridays?

Kitchen Design: ALL handouts in common, ADC II, in the KITCHEN FOLDER.

- **Day One** – Show them everything in the KITCHEN FOLDER in detail. Start with the **AVI** examples and move on to **POWER POINT**, then each sample….budget, renderings, etc.
- Explain the size and scope of the project. College style **POWER POINT** presentation with an AVI at the end. (See the sample power point in the Kitchen folder).
- SketchUp must be in **groups and components** so we can make **exploded views.**
- POWER POINT must include the following:
  - Introduction
  - Kitchen Inspirations from the internet
  - Material Inspirations from the internet
  - Theme of your kitchen
  - Scanned Sketches
  - SketchUp Model in phases
  - SketchUp model exploded
  - AVI File
  - Final Budget in Excell (computer competency)

1. **BEGIN WORK HERE:**
   Start by creating TWO FOLDERS inside desktop folders. Gather ideas with any spare time.

1 – INSPIRATIONS folder
2 – MATERIALS folder

2. Kitchens Chap 10 pg 188-198. Review doors, drawers, appliances, sizes, work triangle etc.

3. REVIEW 21 rules for design-wise kitchen pdf. on computers as I discuss.
4. Print 21 Rules WK sheet and complete.

5. Review KITCHEN PLANNER pdf. & discuss.
6. Print KITCHEN PLANNER WORKSHEET and complete.

7. Scratch paper, jot down ideas, make note of specific features, bubble diagrams, preliminary sketches of kitchen and at least ONE 3D sketch. Make clean sketches with nice lettering. Use arrows and text to appear as if it was part of a discussion group. Must have a good progression of steps and ideas on plain white paper before starting on graph…SEE STEP L.

8. INTERNET research, Use GOOGLE or you may not be allowed to get to the site! BOOKMARK sites and keep track of anything you find that you may want in your POWER POINT or EXCELL SPREADSHHET so you do not have to locate them later….PLAN AHEAD!!!
   i. INSPIRATIONS FOLDER to collect Kitchen ideas
   ii. MATERIALS FOLDER to collect materials, colors, accent items…etc…
      1. **National Kitchen & Bath**
      2. **Thomasville canietry.com** - go to project planner
      3. **Kitchens.com** - go to kitchen design
      4. **www.kuler.adobe.com** for excellent color choices.
      5. **www.Lightinguniverse.com** for tons of lights and prices too.
      6. **Merillat.com** good interactive site for cabinet colors and hardware. Have them use this to look at different door styles and place different hardware on it to see what it looks like. Do this together on the overhead projector so I can teach them about cabinet styles and how to pick what they want.
      7. ???

9. Visit design sites to see styles and colors of cabinets and cabinet accessories:
   i. LOWES.com and select cabinet styles and drawer and door styles
   ii. SHERWIN-WILLIAMS.com and use the color visualizer
   iii. www.kuler.adobe.com for excellent color choices.

10. Print BUDGET worksheet and start to complete. Focus on cabinets, appliances, countertops/backsplashes, and trim (remind students about images/info in "kitchen planner pdf"). Sites to obtain sizes and prices, Use GOOGLE or you may not be allowed to get to the site!
    i. **Improvementsdirect.com** prices for all accessories.
    ii. **Build.com** prices for cabinet accessories.

iii. **Cabinetliquidators.com** easy site for cabinet sizes and prices.
iv. **Kitchenpro.com** another online cabinet pricing site.
v. **Lightinguniverse.com** for tons of lights and prices too.
vi. **Marblemaster.com** for granite countertops and pricing for countertops
vii. **Benjaminmoore.com** for paint pricing, use the PAINT CALCULATOR
viii. **???**

11. Refine preliminary sketches & 3D sketch good enough to be scanned and added to power point and PORTFOLIO then move to GRAPH….see next step.
12. Complete large graph of PLAN VIEW on "B SIZE" along with ELECTRICAL, NOTES & ELEVATION MARKS. Then completed DETAILED ELEVATIONS in every direction showing doors, drawers, countertops, backsplash, appliances, face frames etc. Use PAGE 195 to get ALL details correct.

13. SKETCH UP design. Mass model first then block in details. SAVE jpg's each day to show progression of project in power point.

14. EXCELL BUDGET worksheet. Calculate total cost of kitchen (see examples in common folder…include labor?).Use numbers from Preliminary Budget worksheet.

15. POWER POINT presentation(see requirements at beginning)
16. PORTFOLIO:
    i. Cover Sheet
    ii. Questions
    iii. Sketches
    iv. Preliminary Budget
    v. 2 SketchUp pictures
    vi. SketchUp exploded view
    vii. Final Budget

n. POWER POINT PRESENTATION - Presentations will be watched by the entire class & vote for the best to get a ROBOT!

BATHROOM IS NOW OPTIONAL
Not enough time to complete

Bathroom design: ALL handouts in BATH FOLDER.

a. Bathrooms Chap 12 pgs 220-227.
b. Print BATHROOM PLANNING worksheet then go to home.howstuffworks.com/bathroom-designs.htm site (on handout) and complete questions.
c. LOWES.COM web site. Pick styles, colors, materials and note door and drawer layouts.

d. www.kuler.adobe.com for excellent color choices.
e. Complete **Assignment 13a** BATH DESIGN.
f. Scratch paper, bubble diagrams, preliminary sketches good enough for PORTFOLIO.
g. Review BATHROOM CHECKLIST in common folder.
h. Complete large graph of PLAN VIEW on "B SIZE" along with notes & elevation marks and detailed elevations of all four walls and requirements from 13a.
i. Submit for grade: #1 completed planner pages printed from common folder #2 all diagrams and preliminary sketches, #3 large graph…… then add project to PORTFOLIO.
j. Sketch-Up complete design.
k. Create 10 jpg's of BATHROOM from different views and different display styles. When done place 5 best on B SIZED paper and PLOT for GRADE.

13. Revit

1. **Revit GarageTutorial**
2. **Floor Plan from Level I**