

CAD Unit 6

MAIN DESIGN PROJECT

You have spent the last 4 months learning the basics of both manual (pencil) and CAD drafting. It's now time to put all your knowledge to work in order to develop a set of drawings for a residence. You will be given the basic requirements and a list of required drawings. Furthermore, you will be given a list of drawings that you can complete in order to increase your mark.

Requirements:

- 1) the house will be a qpg'lwqt{
- 2) must have 3 bedrooms, at least 3 bathroom, f klpki 'tqqo 'tklpi 'tqqo .'cpf 'nksej gp
- 3) house must be between 300 sq. m (3000 sq. ft.) and 340 sq. m (3400 sq. ft.)

Step 1) Research Paper 2 classes (20%)

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You need to take some time to look at different designs on the web, books in the classroom, or other resources.

- 1) Put a title, your name, and date on top of the 1st page of your paper
- 2) Find images of (or sketch in your report) bathrooms, kitchens, stairways etc that you like and think will work for your house design. Add these to your report and comment on why you like them
- 3) Furthermore, I would like you to find a floor plan that you like, copy it to a document and tell me, in point form, why you like it, why it works.
- 4) Next find a floor plan that is poorly designed (there are many out there) and add it to your document listing why it is poor. It should go without saying that this document will have a title, name, date, and be formatted well.



Documentation needed: ON 8 1/2" x 11" paper

- 1) Title, name, and date at top of 1st page
- 2) Sketches or images of solutions for parts of house
- 3) Copy of poor design with listed deficiencies
- 4) Copy of good design with listed good qualities



Step 2) Scale Sketch 4-5 classes (30%)

Using your ideas you've gathered in Step 1, do a scaled drawing of your proposed house. You can scale measure the outside walls but hand draw the interior walls.

Make sure you have read again the 'House Rules' sheet in our space.

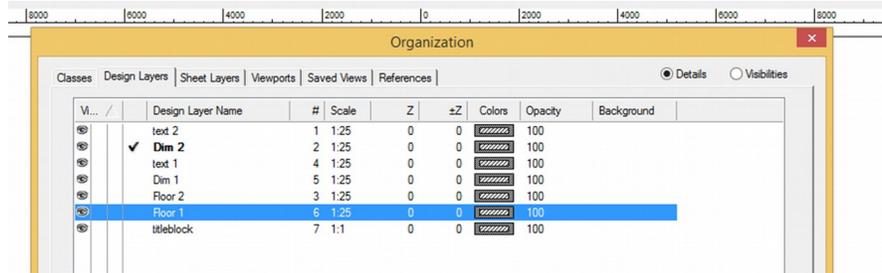


You will need to have his drawing approved before you can start on the computer.

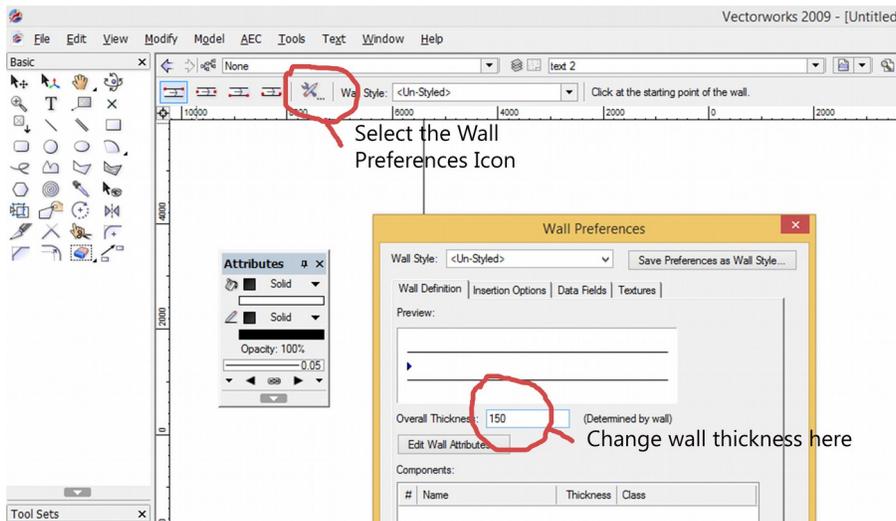
Step 3: Computer Drawings

Floor Plans: (30%)

- 1) Ugg"O cnkpi "Dki "Rcr gt)"f qewo gpv"ht"o cnkpi "{ qwt"dkl "r cr gt"vkrgrjren0
- 2) Add these layers to your drawing: *Floor 1*, *Dim 1*, *Text 10* These layers will probably have a scale of 1:25 or maybe 1:50. You should keep your *Title block* layer and delete (or rename your current *Dimension*, *object*, and *Text* layers)



- 3) Draw your walls - exterior walls are now 200mm and interior are 120mm. You can change this like this:

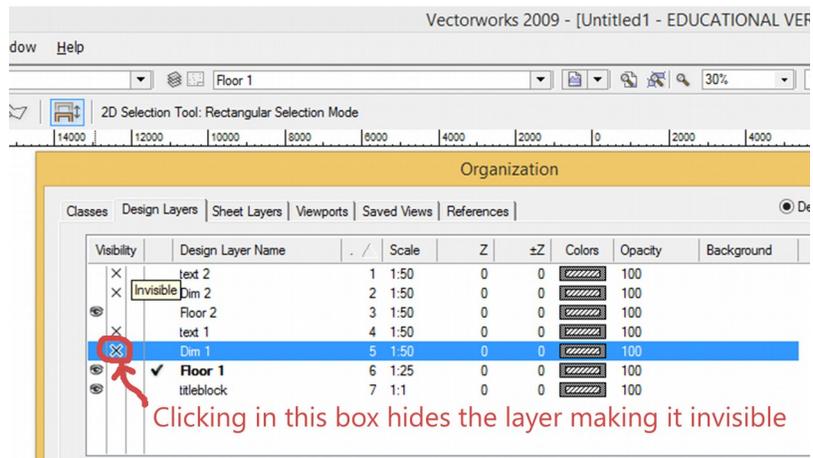


- 4) Add ALL fixtures in baths, and kitchens including cabinets (upper and lower), appliances, faucets, etc. from the various libraries.
- 5) Dimension (on the DIMENSION layer!) both layers as you did on your paper drawings.
- 6) SAVE your drawing

Elevations: (20%)

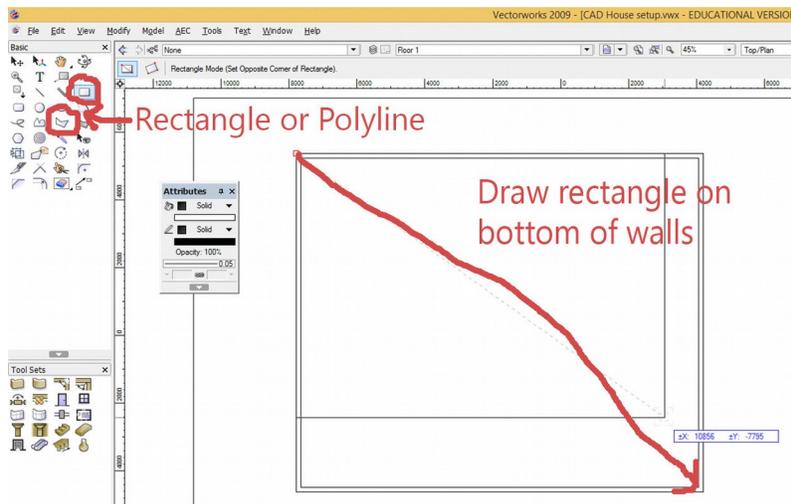
- 1) OPEN *House Floor Plans* (if not already open) and SAVE AS *House Elevations*.

2) Open your Layer window and **HIDE** (Turned off) all your *Dim*, and *Text* layers.

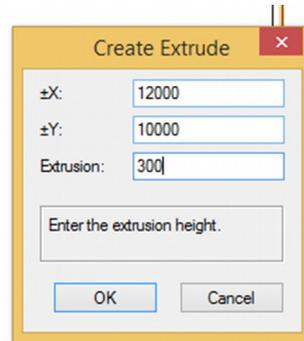
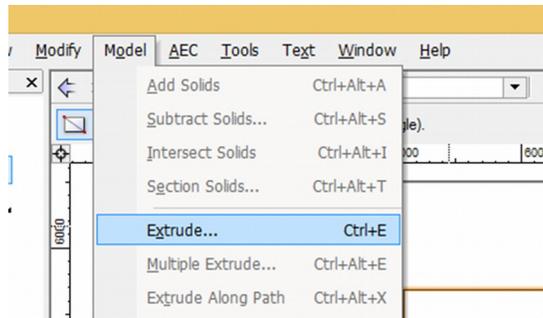


3) Now we need to add floors to the wall we've drawn.

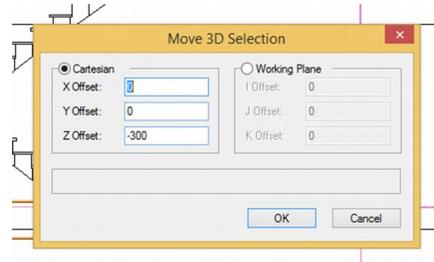
In Floor 1 layer, View Bottom in Wireframe, and draw using the *2D Rectangle Tool* (or trace your walls with the *Single Polyline Tool*).



Click the **Model** tab and select **Extrude**, in the Extrude pop up window set the *Extrusion* to 300.



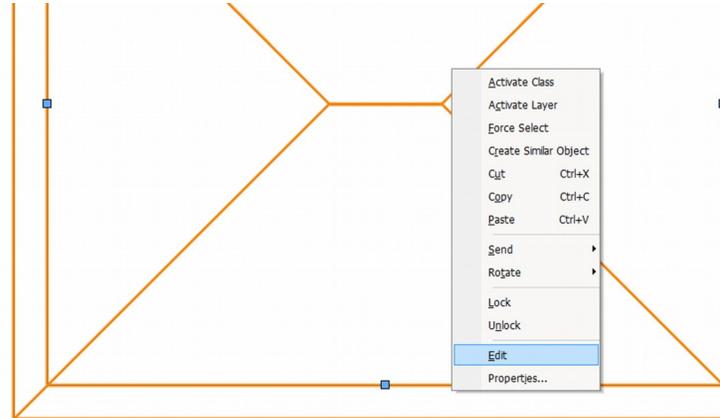
You will need to go to **Front** view to set the floor underneath the walls in stead of inside them. In front view select your *floor extrusion*, select the **Modify** tab, select **Move**, select **Move 3D**, enter **-300** in the **Z Offset** box. Your floor should drop down to the bottom of the walls.



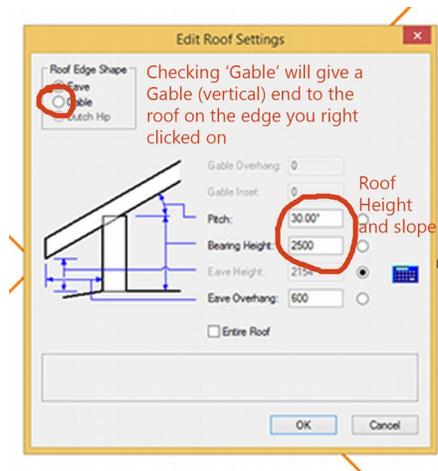
4) Add a roof to Floor 3 Layer. The roof can be edited to have different styles.

If you wanted to wanted gable ends instead of the default hip roof:

From a *Top/plan* view, right click near one of the blue squares and select **Edit**



In the *Roof Settings* pop up window, select *Gable*. This will give a gable end to the roof on the side on which you right clicked.



You should get something like this:



Edit your roof line (especially your garage) to suit.

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"
8+Qp'Nc{gt'3'vzwtg'cm'vjg'qdlgeu'qh'qwt'j'qwug0"
K'y kn'j gr "{qwt'tgpf gt'kpi 'hi'qwt'i q'kpvq"}qwt'j'qwug'cpf 'f grvg'cm'5F 'hkz wt'gu'kmg'ecd'kpgu.'ukpmu.'cr r'rkpegu.'gve0'
/'{qwt'j'qwug'y kn'tgpf gt'o vej 'hcvgt'y kj qw'cm'vjgug0
"
9+'Cff'5F'rcpf uecr kpi 'vq'qwt'j'qwug'uwej 'cu'i t'cuu.'t'guu.'f'kxgy c{u.'f'gemu.'r'qtej gu.'ectu.'gve0'
"
: +'UCXG'qwt'Grxcv'kqp'f tcy kpi (F Q'P QV'RT'K'V'GNGXC'VKQP U#Y J C'V'VQ'UWDO K'V"
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Y J C'V'VQ'UWDO K'V"

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c+'F qewo gpv'y kj 'dqj 'i q'qf 'cpf 'dcf 'j'qwug'r'rcpu'y kj 'c'ur'gek'le'rkv'qh'y j cv'ku'i q'qf 'cpf 'dcf 'cdq'w'vj'g't'gur'ge'v'x'g'r'rcpu'
cpf 'f tcy kpi u'qh'kf'gcu'hqt'ur'gek'le'ct'gcu'qh'y'g'j'qwug'uwej 'cu'h'k'ej'gp.'dc'vj.'. 'gp't'c'peg.'gve0'
d+'Rcr'gt'uecr'g'f tcy kpi 'qh'qwt'j'qwug'r'rcp'y kj 'cr r't'qx'cn'k'pk'k'c'rid'{'o'g0'
e+'R'k'p'v'y'g'H'q'qt'r'rcp"
f+'E'q'o'r'rg'v'g'f'gr'xc'v'k'qp'f tcy kpi 'qp'eqo'r'wgt'
g+'F'q'y'p'm'cf.'.r't'k'p'v'.'cpf'eqo'r'rg'v'g'y'g'U'g'n'h'G'x'c'n'v'k'qp'uj'g'v'h't'q'o' 'y'g'v'p'k'v'rk'v'0'
"C'w'ej' 'y'k'u'v'q'qwt'r'c'nc'i'g0'

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Optional Additional Drawings:

- Site Plan:**
- building must be at least 7m (23ft) from the front of the property
 - must have the same distance on either side and be at least 2m (6ft)
 - should include all fences, trees, shrubs, and gardens
- A Basement:**
- requires an additional floor plan
 - must be seen on sectional
- Electrical:**
- should be an additional layer on the floor plan
 - will show placement of switches, plugs, and wiring