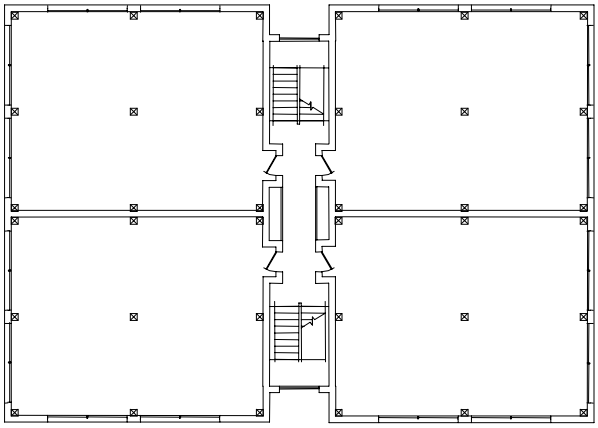
TCJ3C0 Grade 11 Construction

Condo Design Project

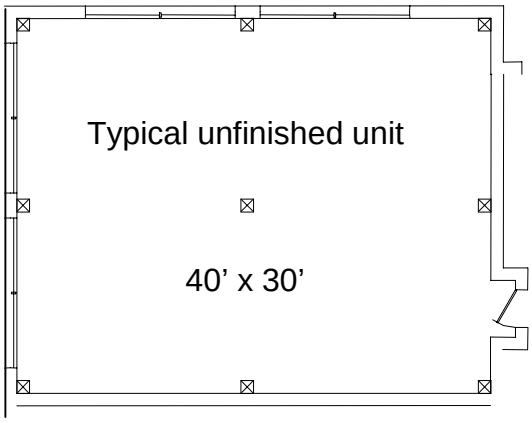
You have won the contract to design and build a residence within a factory loft conversion project. Each unit in the project has predetermined dimensions of 40'x 30' (1200 sq ft). There will be four units on each floor, which can be accessed from a common hallway in the centre of the building (see typical floorplan at right).



Typical floor plan showing four units

Each unit must have the following features:

- Two bedrooms (minimum)
- Two bathrooms
- Kitchen
- Living and dining area
- Laundry facilities
- Water heater
- Electrical panel
- HVAC unit (Heating, Ventilating and Air-Conditioning)



Before construction begins on the interior walls, you must submit a drawing of your proposed unit drawn at ¼" = 1' scale. The drawing may be produced using paper and pencil, or you may use AutoCAD LT. The function of each room must be clearly labeled on the drawing, and all walls must be dimensioned, so that any builder would be able to build the unit to your specifications.

When your drawings have been approved, you will then be responsible for building a scale model of your unit at ½"= 1' scale. The walls must be constructed to precisely the same dimensions as your floor plan. The walls will be constructed using 2" x 4" wood studs, following the standards for wood frame construction as set out in the Canadian Building Code.

Once your walls have been completed you will rough in the plumbing, ventilation ducts, and electrical wiring for the unit. Following that, wall board will be installed on the walls, and the kitchen and bathroom cabinets installed. The project manager has assured the purchasers that they will be able to move in mid-January 2008, so your unit must be completed no later than: **January 18th, 2008.**

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Factory Loft Drawing Evaluation

Complete either A or B Student: _____

A: Floor Plan Drawing

Criteria	Level 1 Limited Success (50% - 59%)	Level 2 Some Success (60% - 69%)	Level 3 Mostly Successful (70% - 79%)	Level 4 Highly Successful (80% - 100%)	Mark
Line	Lines not straight, sloppy, blotted or uneven	Lines too light and/or construction lines not used	Straight, clean lines. Use of construction lines evident.	Exceptionally precise work	**/5**
Lettering	Sloppy, not centered, wrong height or lowercase	One or two of the problems listed in level 1	Block letters, all CAPITALS, correct height, centered	Exceptionally well formed letters with a consistent style	**/5**
Proportion	Unbalanced, not to scale, inconsistent proportions	Most parts of the object drawn to appropriate scale	All items drawn to the appropriate scale	Exceptionally precise, accurately scaled drawings	**/5**
Presentation	Smudged, torn, or wrinkled. Careless and confused	Mostly clean, somewhat attractive drawings	Clean, attractive, accurate and understandable	Very clean, attractive, accurate, lucid drawings	**/5**
Dimensioning	No dimensions shown	Some dimensions shown but are mostly inaccurate	All dimensions shown with few errors	Exceptionally accurate dimensioning	**/5**
Total					**/25**

B: AutoCAD Floor Plan Drawing

Criteria	Level 1 Limited Success (50% - 59%)	Level 2 Some Success (60% - 69%)	Level 3 Mostly Successful (70% - 79%)	Level 4 Highly Successful (80% - 100%)	Mark
AutoCAD Tool Use	Used only the most basic tools from the toolbar.	Used most of the tools listed in the next panel correctly	Used these tools: Line, Construction Line, Double Line, Offset, Text, Trim	Demonstrates the ability to find and use the appropriate tool	**/5**
Title Block	Text not centered, wrong height or lowercase	One or two of the problems listed in level 1	Sans serif font, all CAPITALS, correct height, centered	Very well executed layout.	**/5**
Accuracy	Elements placed by guesswork instead of measurement.	Most elements located correctly	All walls, doors, windows, cabinets located correctly.	Exceptionally precise and accurately scaled	**/5**
Dimensioning	No dimensions shown	Some dimensions shown but are mostly inaccurate	All dimensions shown with few errors	Exceptionally accurate dimensioning	**/5**
Total					**/25**

Comments:

TCJ3C0 Grade 11 Construction

Factory Loft Design Evaluation

Student: _____

Criteria	Level 1 Limited Success (50% - 59%)	Level 2 Some Success (60% - 69%)	Level 3 Mostly Successful (70% - 79%)	Level 4 Highly Successful (80% - 100%)	Value
Required Rooms	Two or more required rooms are not included	One of the required rooms is not included on the plan	Two bedrooms, 2 bathrooms, kitchen living & dining area	Additional rooms provided within the allotted space	**6**
Required Utilities	Two or more required utilities are missing from plan	One of the required utilities is not included on the plan	Laundry, water heater, electrical panel, HVAC unit	Additional or exceptional features included	**4**
Space Utilization	Room sizes are inappropriate and space is wasted	Room sizes are inappropriate, or space is wasted	Appropriate room sizes, little wasted space	Optimal room sizes, no wasted space	**7**
Living Areas	Window space poorly used, and poor traffic flow and mixed living areas	Window space poorly used, or poor traffic flow, or mixed living areas	Rooms are grouped by use, living areas near windows, good traffic flow	Creative layout of rooms, optimal traffic flow, fine use of window locations	**8**

	Comments	Mark
Required Rooms		**/6**
Required Utilities		**/4**
Space Utilization		**/7**
Living Areas		**/8**
Total		**/25**

Factory Loft Model Evaluation

Student: _____

Criteria	Level 1 Limited Success (50% - 59%)	Level 2 Some Success (60% - 69%)	Level 3 Mostly Successful (70% - 79%)	Level 4 Highly Successful (80% - 100%)	Value
Post & Beam Construction Methods	Only butt joints used. Structure is weak.	Some lap joints used, structure has weaknesses	Uses lap joints to increase structural strength	Exceptionally accurate fit on all joints.	**5**
Post & Beam Construction Quality	Beams are not sized correctly & height, length wrong	Beams are not sized correctly, or height, length incorrect	Beams are sized correctly, accurate height, length	Exceptionally accurate machining of all lumber	**10**
Wood Stud Construction Methods	Many inaccuracies in wall framing technique	Wall framing sometimes incorrect	Stud spacing, door openings, headers, top plate, installed according to code	Very accurate and precise installation of wood stud walls	**10**
Wood Stud Construction Quality	No attempt to match floor plan, walls crooked, sloppy, wrong height	Some of the criteria in level three are not adequately followed.	Dimensions match floor plan, walls are plumb and square, wall height correct, good fit and finish	All of criteria for level three installed with care and precision.	**20**
Electrical Installation	Wiring roughed in but not complete	Lights in a few rooms.	Lights in all main rooms.	Lights installed neatly in ceiling	**5**

	Comments	**Mark**
Post & Beam Construction Methods		**/5**
Post & Beam Construction Quality		**/10**
Wood Stud Construction Methods		**/10**
Wood Stud Construction Quality		**/20**
Electrical Installation		**/5**
Total		**/50**