

**TCJ200    Grade 10 Construction**

# Model House Project

Your architectural firm has been asked to submit a proposal for a house to be built in a new development in Mississauga. Your proposal must include both a set of drawings for the building and a model of your design showing the wood frame construction methods to be used.

Your house design must have the following features:

- 1 story
- 1 kitchen
- 1 washrooms
- Living/dining area
- 2 or 3 bedrooms
- maximum floor area 1800 sq. ft.
- minimum floor area 1250 sq. ft.
- It must fit on a lot 40' x 64'
- Garages may not be included on the floor plan.



Before construction begins on the model, you must submit a drawing of your proposed unit drawn at  $\frac{1}{4}'' = 1'$  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  $\frac{3}{8}'' = 1'$  scale. The walls must be constructed to precisely the same dimensions as your floor plan. The walls will be constructed using wood studs, following the standards for wood frame construction as set out in the Canadian Building Code.

The developer plans to open the showroom to prospective buyers early in 2008, so your model must be completed no later than Friday, November 30<sup>th</sup>, 2007. If your model is completed prior to the deadline, you may proceed to build a second floor over all or part of the first floor. Or, if time permits, you may choose to add a garage to the first floor.

## TCJ200 Grade 10 Construction

**Floor Plan 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
<b>Line</b>	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
<b>Lettering</b>	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
<b>Proportion</b>	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
<b>Presentation</b>	Smudged, torn, or wrinkled. Careless and confused	Mostly clean, somewhat attractive drawings	Clean, attractive, accurate and understandable	Very clean, attractive, accurate, lucid drawings	/5
<b>Dimensioning</b>	No dimensions shown	Some dimensions shown but are mostly inaccurate	All dimensions shown with few errors	Exceptionally accurate dimensioning	/5
<b>Total</b>					/25

**B: CAD 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
<b>CAD Tool Use</b>	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
<b>Title Block</b>	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
<b>Accuracy</b>	Elements placed by guesswork instead of measurement.	Most elements located correctly	All walls, doors, windows, cabinets located correctly.	Exceptionally precise and accurately scaled	/5
<b>Dimensioning</b>	No dimensions shown	Some dimensions shown but are mostly inaccurate	All dimensions shown with few errors	Exceptionally accurate dimensioning	/5
<b>Total</b>					/25

**Comments:**

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# House 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
<b>Required Rooms/Floors</b>	One of the floors, or two or more required rooms are not included	One of the required rooms or floors is not included on the plan	Two floors, two bedrooms, two bathrooms, kitchen living & dining area	Additional rooms provided within the allotted space	8
<b>Space Utilization</b>	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	8
<b>Living Areas</b>	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
	<b>Comments</b>				<b>Mark</b>
<b>Required Rooms/Floors</b>					/8
<b>Space Utilization</b>					/8
<b>Living Areas</b>					/8
<b>Total</b>					<b>/24</b>

**TCJ200 Grade 10 Construction****House Model Evaluation**

Student: \_\_\_\_\_

<b>Criteria</b>	<b>Level 1 Limited Success (50% - 59%)</b>	<b>Level 2 Some Success (60% - 69%)</b>	<b>Level 3 Mostly Successful (70% - 79%)</b>	<b>Level 4 Highly Successful (80% - 100%)</b>	<b>Value</b>
<b>Wood Stud Construction Methods</b>	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	<b>10</b>
<b>Wood Stud Construction Quality</b>	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.	<b>20</b>
<b>Floor Joist Construction Methods</b>	Many inaccuracies in floor joist installation.	Some errors in floor joist installation.	Joist spacing, stair openings, headers, supporting walls built to code.	Very accurate and precise installation of floor joists	<b>10</b>
<b>Roof Construction Methods</b>	Many inaccuracies in rafter installation.	Some errors in rafter installation.	Rafter spacing, and supports installed according to code.	Very accurate and precise installation of rafters.	<b>10</b>
<b>Construction Completion</b>	First floor complete.	First floor and second floor complete.	First floor, second floor and roof complete, including interior walls.	First floor, second floor & roof done including stairs & interior walls.	<b>10</b>
	<b>Comments</b>				<b>Mark</b>
<b>Wood Stud Construction Methods</b>					/10
<b>Wood Stud Construction Quality</b>					/20
<b>Floor Joist Construction Methods</b>					/10
<b>Roof Construction Methods</b>					/10
<b>Construction Completion</b>					/10
<b>Total</b>					/60