MECH 431
Assignment #4

[20 marks]

You are looking to purchase a house to rent out as an investment property.

The price of the house is $1,200,000 (consisting of $1,050,000 in land value, and $150,000 in building value). You can finance 75% of this ($900,000) via a bank mortgage at a rate of 3.5% compounded annually (for simplicities sake, calculate all mortgage payments on an annual basis).

You will incur closing costs (land transfer tax, legal fees, etc) of $28,000. Additionally, you would like to spend $75,000 to renovate the house before renting it out. The down payment for the house as well as all the additional fees and renovations will come from your personal savings, which you would otherwise invest in some other manner. Your personal marginal income tax rate is 38%.

Determine a suitable MARR for this investment [2 of 20].

Based on this MARR, determine the after tax NPV (using net cashflows), including the effects of inflation. Assume you will purchase and amortize the house over 25 years, at which point you will sell it to fund your retirement in the Bahamas. **[12 of 20]**

Other relevant data:

- Building CCA Class 3 (4%)
- Maximum allowable rent increase in BC (this year): 3.7%
- Mortgage term: 5 years
- General Inflation Rate (last five years): 1.8%
- Housing Specific Inflation Rate (last five years): 15% (affects both land value and building value)
- Expected annual rent in year 1: $35,000
- Expected annual expenses in year 1: $17,000 (property tax, maintenance, tenant related expenses)

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What is your real rate of return on this investment? [2 of 20]

Points to consider – ensure these points are addressed in your calculations

- How should you establish your cost basis for depreciation/CCA? What factors should be included, and what should not?
- Be careful about what point your capital purchases and dispositions are accounted for in your cashflows.
- Do you expect the current rates of general and housing specific inflation to continue for the life of this analysis (25 years)? How did this consideration affect the rates you chose to use in your calculations?
- Remember the ½ year rule for CCA. Assume you purchase the house in year zero and claim the first year's CCA in year zero. Loan repayments begin in Year 1.
- When you sell, how much will you receive for the land, and how much for the building? How will this affect your CCA recovery and capital gains?
- What inflation rate should you use when determining your real rate of return and why? Would there be circumstances where it would make sense to use a different one?
- Assume tax credits (negative income taxes owed) are received in the year they occur.

Points to discuss [4 marks] – you do not need to do additional or multiple analyses for these, but briefly discuss how these items could affect your analysis and what you would to do account for them.

- The allowable increase in rent this year is 3.7%, and is based off of the general inflation rate. Do you expect this rate to continue? While this is the maximum rent increase, will you actually impose that consistently? Conversely, when tenants move out you can adjust the rent free of any constraint. How would that impact your analysis?
- Do you expect to renew your mortgage at the same interest rate? How would you account for this in your analysis?
- What factors is your investment most sensitive to? You do not need to do a full blown sensitivity analysis, but identify which factors have a major impact on your NPV. What risks do they pose and how could you mitigate them?

Bonus Question [1 mark]: **If you had the ability, would you buy a house in Vancouver today, and why?**