

MAP 4CI : Cumulative Project Creating a Financial Plan

In this project you will use the mathematical tools developed during this course to develop a financial plan and budget for yourself. Some of the mathematical tools that you will use include:

- Analyzing and interpreting data (create pie charts)
- Exponential growth (compound interest, annuities)
- Financial analysis, budget analysis

Part 1 - Determine a job and starting income and start your budget spreadsheet

Part 2 - Determine transportation expenses, and housing expenses (mortgage calculations).

Part 3 - Complete your budget spreadsheet, identify major spend categories, add remaining fixed and variable expenses, predict the amount of money you will have to retire on.

Your final hand-in will include your completed budget spreadsheet, and a document file with a description of your job, a description of how you calculated your mortgage payments, calculations for your vehicle payment and your analysis of your retirement funding, etc., as described below.

Part 1

A. Research and identify a job that you want to have after high-school or college/university. Imagine the job you want to have when you turn 25.

- Describe the job and identify any educational requirements - try the following website: www.careercruising.com Username: waterloo Password:47520.
- Research the starting salary (gross income) and any other benefits of your chosen profession
- Determine your net annual income - google "net pay calculator Ontario Canada" and select the website <https://www.icalculator.info/canada/tax-calculator/annual/2020/Ontario.html> and enter your gross annual income to determine your net annual income.

B. Create your budget spreadsheet (you may use the provided template as a starting point.) Enter your gross salary and net salary. Make sure your monthly salary is calculated properly. There is a sample budget on the website for you to use as a guide but that one is meant as a sample only - it is not a thorough assignment.

****SAVE your work if you are using word and excel rather than sheets and docs!!!**

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Part 2

A. Transportation Costs

Based on your personal needs (i.e. vehicle for work, occasional trips etc.) identify your transportation choice (car, truck, bike etc.) and identify the purchase price. In your "word" or "docs" report, describe the vehicle you plan to purchase. State whether you will buy or lease the vehicle.

Determine how you plan on paying for this vehicle and determine your monthly payments using an online payment calculator (Google fn calculator and select TVM Calculator). Enter the amount you plan to borrow as PV, be sure to state in your "word or docs file" the cost of the vehicle, the interest rate, the length of time you plan to take paying off your loan. You may find it easier to use a bank car loan calculator -- or google "CIBC car loan calculator". Identify and estimate any other vehicle expenses to be included in your monthly budget (insurance, licence sticker, gas, maintenance, etc.).

B. Housing Costs

Based on your salary determine the maximum mortgage you can afford and the monthly payments. Use the following website <https://www.ratehub.ca/mortgage-affordability-calculator> to help estimate the maximum mortgage. Include the cost of your car loan as your monthly debt payments. Allow the computer to estimate the other fees.

Record your Maximum Mortgage Value, maximum mortgage monthly payment, and the mortgage rate in your docs file.

Go shopping for a home on-line that would fit your budget. If you cannot afford to buy a home, you may "double up" -- assuming that you are married or purchasing a home with someone else so all your housing costs will be cut in half. Include a description of your home and the total cost of your home in your word file.

To calculate your mortgage payments once you find a home to buy, use the mortgage rate from your mortgage affordability calculation, assume you have a \$25,000 down payment and that you are amortizing the mortgage over a 25-year period. The following website will calculate this for you. <https://www.cmhc-schl.gc.ca/en/finance-and-investing/mortgage-loan-insurance/homebuying-calculators/mortgage-calculator>

State the amount of the monthly mortgage payments in your word file and whether you are buying the home alone or splitting the costs in half.

Record your monthly mortgage payment in your budget spreadsheet.

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Using the internet or by interviewing adults who own a home, research other costs (property taxes, heating, hydro, water, life insurance on mortgage, home insurance, etc.) associated with accommodations; add these costs into your budget spreadsheet. You may need to add rows or columns to your spreadsheet as you enter more expense categories. In "Excel", Click on a row then from the 'home menu' choose the 'down arrow' beside 'insert' then click on "sheet rows", in "Sheets", put curser where you want to insert a row, then click on "insert", and choose "insert row above" or "insert row below".

Rent	Mortgage, property taxes, life Insurance, home insurance
Tenant Insurance	
Utilities	Heat, Hydro, Water
Phone	
Satellite/cable	
Internet	
Netflix	
Spotify	
Groceries	
Dining Out	
Pet – food, toys, vet, grooming	
Cleaning – dish soap, laundry detergent, bathroom, kitchen, floor cleaners, dustings supplies, etc.	
Coin Laundry	
Entertainment – movies, theatre, flights to sports games, sports, books, concerts, hobbies, gaming	
Gifts	
Clothing	
Vices – lottery, alcohol, cigarettes,	
Charitable Donations	
Medical (prescriptions – most free until age 25, eye care, dental) Tylenol, other medications	
Personal care – haircuts, massage, physio, Cosmetics – shampoo (stuff for hair), soap, make up, toilet tissue, Kleenex, paper towels	
Savings – short term (less than one year), long term	
Transportation – car loan, insurance, licence, gas, maintenance, repairs, parking, tickets (or bus)	
Vacation	

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Part 3

A. This is the final part of your summative. In this part, you must complete your budget spreadsheet, by adding other expenses into your excel or sheets budget sheet. Key items to include are listed at the end of part 2.

Ensure your budget is balanced (total expenses equal net income) any budget surplus should be put into savings.

More marks will be awarded for realistic values and thoroughly considering all expenses.

B. Identify the key expense categories

- Auto expenses (lease or loan, licence sticker, insurance, gas, repairs, maintenance, etc.)
- Housing (mortgage, property taxes, life insurance, home insurance, heating, hydro, water, repairs, etc.)
- Food
- Recreation
- Savings
- Other -- Remember to include items such as shampoo, other cosmetics, toilet tissue, cleaning supplies, vices, etc.

Create a pie chart to illustrate where the percent of monthly expenses are being spent. All transportation costs should be combined in your pie graph, all housing costs should be combined, etc., (Use the grouping categories stated above.)

C. Using a TVM calculator (Google "fn calculator" then choose the TVM calculator then choose the advanced version)

<http://www.fncalculator.com/financialcalculator?type=tvmAdvancedCalculator>

determine how much your monthly savings (or surplus) will grow to if you start saving at age 25 until 55. For your savings plan, assume you will get a rate of 3.5%/a, compounded monthly.

State the total "future value" from the TVM calculator.

State whether you think your total savings will be enough money to retire with or if additional funds would be required.

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Final Hand-In

Your final hand-in should include the following:

- Description of career and starting salary (Part 1)
- Description of house (Part 2)
- Description of car (Part 2)
- Completed budget spreadsheet including pie chart (Part 3)
- Analysis of savings and discussion on retirement (Part 3)

Hand in a print out of your written report and your spreadsheet OR share your 'Docs and Sheets' files with Linda Behnke OR email your "Word and Excel" files as attachments Linda Behnke

Compare the marking rubric to your assignment to ensure that you did not forget anything.

The absolute Final date to hand in your Report (including Parts 1, 2 & 3) is posted on Mrs. Behnke's web-site. If your project is not handed in at that point, your exam will weight the full 30% of the summative portion of your exam.