

## FINC 3511 – Project 2 - Buying a New Car

Due Date Listed in Syllabus - Submit the completed project in CourseDen through the Assignment Dropbox

### Introduction

This class is “Corporate Finance,” but many of the techniques we study (such as time value of money) are directly applicable to personal finance. This exercise is intended to introduce you to calculating payments and locating consumer financial information. While the information pertains directly to purchasing a vehicle, much of the same type of information is available for other major consumer items. Being informed is the key to receiving the “best deal” available whether you are purchasing a stereo system, an automobile, or a home.

### General Vehicle Purchase Process

You should be aware of several items before entering a showroom. First, research the dealer’s invoice and other indicators of the price you should pay for the new vehicle. Second, estimate the value of any vehicle you plan to trade. Third, determine the interest rate you should expect to pay if you finance a portion of the vehicle’s cost. Fourth, understand the “games” that salespeople play. Sometimes their compensation is based on commissions or bonuses that may be tied to the sales price of the vehicle. The “best price” for them is the highest price you will pay. This does not make them “evil.” It is simply a fact that you should understand.

### Financial Information Sites in the Project

The sites listed in this project are but a few of the ones available. I cannot guarantee that the information from these sites is the “best” available, but I do believe it is helpful. Keep in mind that the project is more useful if you choose a vehicle that you may consider purchasing in the foreseeable future.

### Sample Project

A sample project is included in this document. The sample does not indicate a particular vehicle but instead indicates the information you should include in the project. Be sure to update all the values.

### Project Instructions

Create a Word document that follows the format of the sample project included in this document. The document name should include your first initial, your last name, and Project 2 (for example, RBest Project 2). The first line should have the title, FINC 3511 – Summer 2025 – Project 2. The second line should include your full name and the date. Each of the following steps should be completed in order using appropriate headings for each step.

**STEP 1: Choose a 2025 (or beyond) vehicle.** List the vehicle make, model, and year. Explain why you chose this vehicle.

**STEP 2: Read “The Car Buying Process” and write a four or five sentence summary.**

It is important to understand how to negotiate with a salesperson. Several books, magazines, and internet sites give information about the car buying process. I have summarized information from various sources into a short article entitled, “The Car Buying Process.” ***The “article” is included as the last two pages at the end of this document.***

**STEP 3: Research the safety characteristics of your chosen vehicle.**

1. Go to the website for the [Insurance Institute for Highway Safety \(https://www.iihs.org/\)](https://www.iihs.org/).
  - a. Click on Vehicle Ratings, select the make and model of your vehicle, or choose the vehicle class to which it belongs, and click on the model of your vehicle.
  - b. Record available results for small overlap, moderate overlap, and side.
    - i. If your vehicle has not been tested, either: (a) report results for an older model of your vehicle; or, (b) report the test results for another vehicle made by the same manufacturer which you believe is closest in construction to your choice.
    - ii. You may not have results for all tests.

2. Go to the website for the [National Highway Traffic Safety Administration \(https://www.safercar.gov/\)](https://www.safercar.gov/).
  - a. Click on “Ratings” and find your vehicle by using the year/make/model/ search option.
  - b. Record the overall, frontal crash, side crash, and rollover ratings for your vehicle.
    - i. Note: 5 stars is the best rating.
    - ii. If your vehicle is not listed, choose the nearest available model year or the nearest vehicle by the same manufacturer.
3. Summarize in a few sentences the safety characteristics of your vehicle. Indicate whether these ratings would affect your decision if you were really planning to buy.
4. You do not have to include this information in your project, but if you were actually planning to purchase a vehicle, I would also suggest that you consider its reliability record.

#### **STEP 4: Get pricing information from Kelley Blue Book.**

Get the dealer’s invoice price (what the vehicle costs the dealer) for the new vehicle and get an estimate of the value of your trade-in. There are numerous sites which give “Dealer Invoice” information. We use Kelley Blue Book’s site since it is free. (Another free site is [Edmunds \(https://www.edmunds.com/\)](https://www.edmunds.com/).)

1. Go to the [Kelley Blue Book \(https://www.kbb.com\)](https://www.kbb.com) website.
  - a. Click on “Price New/Used” and choose the year, make, and model for the new vehicle.
    - i. Click “See Pricing” and enter the style and options for the new vehicle and choose “See Fair Purchase Price.”
    - ii. Record the Fair Purchase Price and MSRP.
  - b. Go back to the initial kbb.com page and choose “Get My Car’s Value.”
    - i. Select your car’s style, options, and condition and follow the “trading in” your car path.
    - ii. Follow the Get your trade-in value links and record the trade-in value for your car’s condition. (Note: You do not have to enter your email address to get the value.)
  - c. *NOTE: Some people prefer to sell their vehicle instead of trade it. You can also use the site above to get an estimate of the value of your car if you were to sell it by following the selling my car path.*

#### **STEP 5: Get current sales price information for the new vehicle.**

There are numerous sites where you can purchase a vehicle online and others that give you information about the prices people are actually paying for vehicles. Using information from these sites can help you when you are negotiating.

1. One site with prices for new vehicles is [CarsDirect.com \(https://carsdirect.com\)](https://carsdirect.com). For some cars it gives you a firm price quote, while for other vehicles it gives you a target price. Regardless, the listed prices are good “ballpark estimates” of the price you could get at a dealer.
  - a. Go to [CarsDirect.com \(https://carsdirect.com\)](https://carsdirect.com).
    - i. Click “New Cars,” select the manufacturer of the vehicle, choose the model you want, and click “See New Car Review.” Scroll down and pick the trim level you want.
    - ii. Choose “Build & Price Your Car.”
    - iii. Choose the options for your vehicle and record the “Target Price.”
    - iv. Note 1: If you were purchasing a vehicle, you should compare the price to Kelley Blue Book’s “Fair Purchase Price.” You may also want to check prices on other sites like [TrueCar.com \(https://www.truecar.com\)](https://www.truecar.com). Many dealers post internet prices, but be sure to call and ask if there are additional fees that are not included in the listed price.

#### **STEP 6: Get current interest rates for car loans.**

Use Bankrate.com to get an estimate of current auto loan rates.

1. Go to <https://www.bankrate.com/loans/auto-loans/rates/>
  - a. Scroll down the page and find the section labeled “Current car loan interest rates.”
  - b. Record the most recent average 60-month new car and 48-month new car rates.
  - c. For this project, assume the rate for 72 months is the 60-month rate plus 0.50%.
2. When you are buying a vehicle, always check with your bank or credit union for their car loan rates. Also, check to see if the car manufacturer is offering special financing and/or rebates. Often, the special manufacturer rates

are better than the rates available elsewhere. However, note that if you take special financing offers, you sometimes do not get cash rebates or dealer incentive discounts.

#### **STEP 7: Calculate total cost of car.**

Now, calculate an estimate of the total cost of the vehicle and the amount to be financed. Follow the format in the sample project using the following information. **(The Excel template available in CourseDen with the project instructions will make the calculations for you.)**

1. Start with the price you expect to pay for the new vehicle (the Target Price from CarsDirect or another source).
2. Assume that Registration will cost \$99 and Document Preparation Fees will be \$699.
  - a. Most dealers charge purchase fees. The document preparation and associated fees vary across dealers. (Watch these fees carefully. They can have a big impact on your total price.)
3. Add Registration and Document Preparation fees to the New Car Price to get Total New Car Price Before Taxes.
4. Subtract the Trade-In Value of your current car to get the Net Cost of New Car after Trade-In.
5. Calculate taxes (you can round to dollars & assume they equal 7% of the Net Cost of New Car after Trade-In).
6. Assume Tag, Title, and Related Charges & Fees will equal \$50.
7. Add the Net Cost of New Car after Trade-In to the Taxes and Tag, Title, and Related Charges & Fees to get the Total Before Payoff of Trade-In Vehicle.
8. Assume that the Payoff on Trade-in is equal to 50% of your current car's Trade-In value that you listed above. (I do not want you to list your personal financial information in this project.)
9. Calculate the "Balance Due ("amount to be financed") as the Total Before Payoff of Trade-In Vehicle plus the Payoff on Trade-In (which we assume is 50% of the Trade-In value of your current car). Note: If you were also making a cash down payment, you would also subtract it to determine the amount to be financed.

#### **STEP 8: Calculate monthly payments.**

Use interest rate and pricing information from Steps 6 and 7 to estimate the monthly payments you would make if you financed the Balance Due ("amount to be financed") for your new vehicle. **(The Excel template available in CourseDen with the project instructions will make the calculations for you.)**

1. Calculate the payments based on financing the balance for 48, 60, and 72 months using the rates you gathered in Step 6 and interest rates that are 1%, 2%, and 3% higher than the original rates. The interest rate you pay depends both on the length of time you finance the vehicle and your credit worthiness. If your credit is weak, you will pay a rate that may be several percent higher than the "normal quoted rate."
2. Note: You should have a total of twelve calculated payments.
  - a. There are several sites with loan calculators available that can be used to calculate the payments. One can be found on the website listed in Step 6.
  - b. Calculator: Set:  $n$ =number of monthly payments;  $i$ =quoted interest rate (in % form) divided by 12;  $PV$ =Amount to be Financed;  $FV=0$ ; Calculator in End Mode. Calculate PMT.
  - c. Excel:  $=\text{pmt}(\text{rate}, \text{nper}, \text{pv}, \text{fv}, \text{type})$ . Here:  $\text{rate}$ =quoted interest rate (in decimal form) divided by 12;  $\text{nper}$ =number of monthly payments;  $\text{pv}$ =Amount to be Financed;  $\text{fv}=0$ ;  $\text{type}=0$ .
    - i. Example: 48 payments; Interest rate=3.25%, Amount to be Financed = \$19,706
    - ii. Excel entry:  $=\text{pmt}(0.0325/12, 48, 19706, 0, 0)$  with answer=438.36

#### **STEP 9: Calculate total interest paid.**

Answer the following questions. Hint: Total int. paid = (monthly payment)(number of payments) – Amount borrowed

1. How much total additional interest over the life of the loan will the person who finances the vehicle for 72 months pay versus the person who finances the vehicle for 48 months?
2. How much total additional interest over the life of the 48-month loan must a person pay who has weaker credit and is required to pay the +3% rate versus a person who receives the lowest current interest rate?

## FINC 3511 – Summer 2025 – Project 2

Your Name

Date

STEP 1: Vehicle Make, Model, & Year and Why It Was Chosen (Must be a New Vehicle)

STEP 2: Car Buying Process Summary

STEP 3: Vehicle Safety Summary and Discussion

STEP 4: Pricing Information

New Car: List Year, Make, and Complete Model Description

Fair Purchase Price

Total Dealer Retail (MSRP)

Used Car: List Year, Make, and Model

Trade-In Value: Indicate the condition you chose for your car (Excellent, Very Good, etc.)

STEP 5: List CarsDirect.com Price (or price from similar source)

STEP 6: List Current Interest Rates: 48 months – 6.00%; 60 months – 6.25%; 72 months – 6.75%

**(List the most current interest rates you found, not the ones listed here as examples.)**

STEP 7: Amount to be Financed Calculation (can be copied from Excel template)

New Car Price	\$25,499
Registration	99
Document Prep and Related Fees	699
Total New Car Price Before Taxes	\$26,297
Trade-In Credit for Current Car	5,400
Net Cost of New Car after Trade-In	\$20,897
Taxes	1,463
Tag, Title, and Related Charges & Fees	46
Total Before Payoff of Trade-In Vehicle	\$22,406
Plus Payoff on Trade-In Vehicle	2,700**
Balance Due ("amount to be financed")	\$25,106

\*\*Assumes the payoff on the trade-in vehicle is 50% of its trade-in value.

STEP 8: Payments, Total Amount Paid, and Total Interest Paid (can be copied from Excel template)

**(Do not use the interest rates below. Use the ones you found in Step 6 above.)**

Months	Interest Rates and Payments			
48	6.00%	7.00%	8.00%	9.00%
	\$589.62	\$601.19	\$612.91	\$624.76
60	6.25%	7.25%	8.25%	9.25%
	\$488.29	\$500.10	\$512.07	\$524.21
72	6.75%	7.75%	8.75%	9.75%
	\$425.02	\$437.13	\$449.44	\$461.95

STEP 9: Answer Interest Questions

Total Interest Paid (48 months at 6%) =  $(\$589.62)(48) - 25106 = \$3195.76$

Total Interest Paid (72 months at 6.75%) =  $(\$425.02)(72) - 25106 = \$5495.44$

**\$2,299.68 more**

Total Interest Paid (48 months at 9%) =  $(\$624.76)(48) - 25106 = \$4882.48$

**\$1,686.72 more**

## The Car Buying Process

### Introduction

Various “methods” are used by car salespeople. A general description of the process can be condensed into a simple set of steps (which are actually taught to many salespeople during their training sessions). The number of steps varies according to the source, but the basics are virtually the same. Remember, car salespeople are not “evil.” They are simply doing their job. To get the “best deal,” you must also work.

### Step One: Establishment

People are more likely to buy if they feel comfortable with the salesperson. For that reason the salesperson is urged to quickly establish a “relationship” with you. A firm handshake, name exchange (usually including the repeating of your name), and an introduction to any other parties with you is compulsory. A good salesperson will pay equal attention to spouses (or significant others), but often will pay less attention to someone brought along to “help you” (unless the other person is a party to the deal such as a co-signer).

### Step Two: Investigation

Here the salesperson will try to determine your interests. A good salesperson will ask questions to assess your tastes, financial characteristics, and intentions regarding time of purchase. Beyond an assessment of your tastes, questions may include some of the following. How much do you want your payments to be? How much do you want to pay? How much do you want for your trade-in? How much do you plan to pay down? (Usually the less information you give at this stage, the better off you will be.)

### Step Three: Presentation and Demonstration

This step usually starts with the isolation of the vehicle. This is done to focus your interests. The salesperson will often lead you around the vehicle pointing out its styling, safety, and convenience features. This is to let you know as much about the vehicle as possible before you drive it.

The demonstration phase consists of your driving the vehicle. Usually, the salesperson will go with you, but many dealers will let you drive the vehicle alone. Driving the vehicle without the salesperson allows you and any others in your party to talk openly about what you like about the vehicle without fear that it will later be used against you in negotiations. During this phase, carefully check the sticker price and look for any “dealer add-ons.” Common add-ons include fabric protection, paint sealant, dealer prep, etc. Many of these items can be negotiated down to near zero if the vehicle is in sufficient supply.

### Step Four: “If I, Would You?” (Negotiation and Write-up)

If you indicate that you want to think about the purchase or leave to drive a competitor’s vehicle, the salesperson will usually try to move negotiations forward by asking if you are willing to buy the car today if you are offered a great deal. This is the true start of the negotiation phase. If you are really interested, tell them that you will buy if the deal is good enough. Otherwise, you usually will not be offered the “best deal possible” because the dealer is afraid you will take the offer elsewhere to use as a bargaining chip.

Often at this point the salesperson will ask for the keys to a potential trade-in vehicle. Be smart regarding what you leave in a vehicle. Most dealers will not allow employees to search through your belongings, but they are trained to notice all that is “in plain view.” Don’t be surprised if after the test drive the salesperson begins to talk about fishing or camping if you leave a copy of Field and Stream in your seat. (Sometimes copies of flyers or printouts with information for competing vehicles may be strategically left in view to let the dealer know that you are not “locked-in” on their vehicle.) Often, you will not see your keys again for a while. Dealers know that holding your keys slows your leaving. It also gives them time to send the manager to ask what they can do to restart negotiations if you start to leave. If this bothers you, remember that the keys are yours and you have every right to ask for them. If the salesperson returns and

says something about the value of your car, the test drive is over. You can ask for the return of your keys and negotiate only when they are returned.

In most instances, expect that the salesperson will constantly go back and forth to the “sales manager” for approval in the negotiation stage. Although some of this is necessary, much of it is grandstanding. Again, this makes it appear that the salesperson is “on your side” since they are battling so hard with the sales manager to get you a great deal. Also, it is common during negotiations for the “sales manager” to make an appearance and tell you how tough a negotiator you are. Do not fall prey to this form of flattery. Stick to your guns. One strategy often used by customers is getting up to leave because they are tired of negotiating. Remember, this only works if you are willing to walk away. If your bluff is called and you stick around, the salesperson knows that you are interested and probably will pay a price close to that currently “on the table.”

One method of negotiation is to deal only on the basis of the “bottom-line” or “drive-out” price. Dealing in this manner requires that all fees are included. Always be wary of any “add-in” fees that “appear” when the pricing documents are created. Make it clear that you want all fees included in the quoted “drive-out” price.

Finally, never sign anything until the deal has been clearly defined. When the written deal is placed in front of you, ask questions about anything that appears different from what you negotiated. Sign the documents only if you are completely satisfied that the numbers reflect your negotiations. You may choose to sign only after adding a line that the deal is contingent upon receiving financing terms that you deem acceptable. In effect, you can always still walk away from the deal by indicating that you are unhappy with the financing terms offered. This also makes the dealer more inclined to offer you the best interest rate possible.

(Note: Keep in mind that how much a dealer will negotiate depends on supply of and demand for the vehicle. These factors are often affected by the overall economy, newness and popularity of the model, and overall company strategy. Luxury brands are often less likely to negotiate much on price. Recessions often lead to rising inventories that work in a car buyer’s favor. On the other hand, COVID eventually led to many supply chain issues that limited vehicle supply and made it much more difficult to get dealers to negotiate. Know the current market before entering the dealership.)

### **Step Five: Closing**

At this point you are usually escorted to the Business Office (or finance manager). Often the first loan rate you are offered is not the best available. If you have done your homework and checked rates from other sources, you will know. If you are offered a rate you deem too high, simply tell the finance representative that you can do better elsewhere. Usually, they will try to at least match the rate you quoted.

During this time you are often offered numerous additional items like insurance, extended warranties, tire warranties, service contracts, etc. The rates for such products are often high. In the case of credit life, health, accident, and disability insurance, you can often get better rates (or higher coverage limits) by visiting your insurance agent. You may also already be covered by other policies. Extended warranty contracts are a personal choice. Do keep in mind that the price of these contracts is negotiable. On a recent purchase, the initial quoted price was \$2,100. The final agreed upon price was \$895. In general, the “true value” of many “add-ons” is open to debate. Do not allow yourself to be pressured into buying something you do not want. A quick internet search can provide much information.

At the end of the process, “final” documents are presented and you are asked to sign. Read everything carefully and be sure that the documents reflect exactly what you expected. If there are questions, clear them up before you sign.

### **Note**

Never change from a plan to purchase to a leasing arrangement simply to have lower monthly payments. A lease may make sense, but you should carefully consider this alternative based on all its characteristics.