

Finance 5210
Investment Analysis and Management
Spring 2022

Instructor: Takeshi Nishikawa, Ph.D.
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Office Hours: Monday 5:00pm – 6:00pm or by appointment through Zoom virtual meeting
Class Time: Monday 6:30pm – 9:20pm
Classroom: BLB 255

Course Catalog Description:

3 hours. Economics and industry studies, company analysis, selection of senior securities, theory and application of common stock valuation models, security markets and timing, portfolio management, options and futures markets.

Course Prerequisites:

FINA 5170 or equivalent
ECON 1100 or ECON 5000 or equivalent
ACCT 2010 or ACCT 5020 or equivalent
MATH 1190 or equivalent

Course Objectives:

- Be able to describe how the securities markets function
- Be able to describe the risk-return relationship and to apply the asset pricing models based on this concept in analyzing investment opportunities
- Be able to conduct an investment analysis using a top down approach with financial and economic data
- Be able to perform security valuation
- Be able to apply financial models to value derivative securities
- Be able to describe the concept of market efficiency and evaluate investment strategies based on this concept
- Be able to explain irrational investors and evaluate investment strategies based on this concept

Textbook and readings:

Zvi Bodie, Alex Kane, & Alan Marcus, *Investments* (12th Ed.), McGraw-Hill (2020)
ISBN: 978-1-260-81938-0

The Wall Street Journal:

As a finance student, it is important to keep up with current market/financial information. *The Wall Street Journal* is an excellent source of current information related to investment analysis. Current MBA and MS students at UNT may request the subscription to *The WSJ* at this website:

<https://cob.unt.edu/masters/wall-street-journal-online-subscription>

Excel:

There will be assignments that you are required to use Excel. Please have Excel available for this class.

Financial Calculator:

You might need a financial calculator (such as TI BAII Plus and HP 10BII). While most of the problems and assignments are solved with Excel, it might be easier for some of you to do so with the financial calculator.

Student Investment Group (SIG):

Each student enrolled in Finance 5210 is encouraged to participate in the Student Managed Investment Fund. As a minimum, you are to conduct investment research that can be utilized by the SIG in selecting investments. Beyond that, I encourage you to take an active role in the organization by participating in their meetings and serving on their subcommittees.

For more information about SIG, please go to the following website: <https://www.untsig.com/>

Canvas:

Most of the class materials including lecture notes, additional readings and assignments will be available on Canvas. (<https://unt.instructure.com/>) Also, announcements related to this class including schedule changes and due dates changes will be posted on Canvas. It is student's responsibility to check Canvas frequently for any changes related to this class.

Grading:

Course grades will be calculated using the following weights:

Individual Virtual Stock Game with report	20%
Individual project	20%
Group project	30%
Quizzes	30%

The grading scale in this class is as follows:

A	90% or greater
B	80% to 89.99%
C	70% to 79.99%
D	60% to 69.99%
F	Less than 60%

- ✓ Your grades will not be discussed through e-mails or over the phone.
- ✓ Grade appeal will be accepted only in writing within one week after grades become available to students. You are required to specify why the grade needs to be re-evaluated in your writing. Please note that grade re-evaluation may result in a lower grade.

Quizzes:

Quizzes will be administered through Canvas. This means these are online quizzes. Tentative quiz schedules are on the class schedule below. However, the formal announcement about the quiz will be made both in class and online. Quizzes should be available for you to take online from Tuesday till Sunday of the assigned week. So, please make sure to pay close attention to the announcement of quizzes. On each quiz, you have one attempt. These quizzes are individual assignments, and as such please take it on your own. However, these quizzes are open-book and open-notes. The goal of these quizzes is to make sure that you understand the materials we cover in the class. There are 8 quizzes on the schedule.

Make-up Quizzes:

In general, no make-up quiz will be provided unless you inform me in writing in advance of the university approved event related conflict with the exam dates (please refer to the following website for the university approved absence: <https://deanofstudents.unt.edu/resources#Absence>).

Individual Virtual Stock Game (due date 5/9/2022 at 5pm)

You will need to register with the website at <https://www.howthemarketworks.com/login>. After creating your login, please find a game “UNTFINA5210“. You will need to use the password “Denton“ to join the game. The registration opens from 1/24/2022 to 1/30/2022. Please make sure to register before it is closed. The game starts on 1/31/2022 and ends on 4/29/2022, a total of 13 weeks. In this game, you will have an initial amount of \$100,000. You are asked to make trades to achieve your investment objectives. In this game, you are allowed to short sale, trade on margin account. Each trade will cost you \$5.00 commission. No more than 50% of your total portfolio value is invested in a single security or a single mutual fund. No stock with price less than \$5.00 can be purchased and no stock with price less than \$5.00 can be shorted. No trade means no credit for this assignment. Each Friday, please keep the portfolio value during the game. With this end of the week portfolio values, you will answer the following questions in a report in lieu of the final exam. Please make sure to pick your benchmark index for your report.

Here are the questions you need to answer in the report:

1. What was your original goal (or strategy) of this trading game?
2. How did you accomplish the stated goal in question 1?
3. What was the most successful trade? Why did you invest in this security?
4. What was the most disappointing trade? Why did you invest in this security?
5. Please calculate the arithmetic average return of your portfolio based on the weekly returns. Also please do the same for your selected benchmark index (e.g., S&P 500 index, DJIA, NASDAQ)
6. Please calculate the standard deviation of your portfolio returns based on the weekly returns. Also please do the same for your selected benchmark index (e.g., S&P 500 index, DJIA, NASDAQ)
7. Please calculate the beta, β , of your portfolio using your selected benchmark index as “the market.”
8. Please calculate the alpha, α , of your portfolio using your selected benchmark index as “the market.”
9. How did you think you performed? Please discuss based on the calculations you performed on points 5-8.

Individual Project

This project has multiple parts. You will be turning in your Excel sheet, along with word document, as your project. (due date: 4/25/2022 at 9:20pm)

1. From the list of firms with historical return data from January 2011 to December 2015 (please note that some firms do not have complete data between these periods), you need to choose *at least 5* firms as your portfolio choices. You need to think why you are choosing these specific firms as your portfolio. You can imagine that you are now a fund manager. Once you pick your firms, you need to extract the data of these firms along with market information from the dataset.
2. Based on the Markowitz portfolio optimization, what are the weights of your stocks if you are allowed to short sale? What are the weights if short sale is not allowed?
3. Based on the Single Index model, what are the weights of your stocks if you are allowed to short sale? What are the weights if short sale is not allowed?
4. Now you need to use the data from January 2016 to December 2019 for your firms. Please extract the data.
5. Let's see how your portfolio performed from January 2016 to December 2019. What is the performance of your Markowitz optimal portfolio with short sale?

6. Compare your Markowitz optimal portfolio with an equally-weighted portfolio of your stocks. Does it show your optimal portfolio outperformed the equally weighted one?
7. Now, you have a file for Berkshire Hathaway holdings as of December 2015. Using the data file of these portfolio with their weights as of December 2015, please check if your portfolio outperformed this Berkshire Hathaway's portfolio? In other words, did you beat Mr. Warren Buffet?
8. Please make a report to summarize what you find in this project along with the motivation of your stock picks and other questions in earlier parts in a separate word file. Please turn in your Excel sheet as a supplement to show your work.

Group Project (due 4/4/2022 at 9:20pm)

In this assignment, you will form a group of 3-5 students to perform a valuation of a firm or its equity using one of the cash flow discount approaches and one of the relative valuation approaches. Your group can pick a publicly traded firm to analyze (Please make sure the company you choose have enough information for you to perform this valuation analysis).

The format of the report:

- I. Executive Summary of your analysis: provide a summary of your report with simple numbers. Items you can include are such as Report date, market index value, last price of the stock, intrinsic value from your DFC analysis, relative value from your relative valuation, and recommendation.
- II. Business Analysis: The key for a good valuation is knowing the business of the firm you are valuing. So, you need to understand what the firm is doing as its business.
 - a. Description of the firm (please use your own word. Also, assume that readers of your report have very limited knowledge about the firm)
 - b. Economic and industry analyses
 - c. Company analyses, such as SWOT analyses, major recent news of the firm, any significant development of the firm, and etc.
- III. Financial analyses:
 - a. Perform discounted cash flow approach: free cash flow estimation, growth estimation, and cost of capital (equity) calculation. All this to find the intrinsic value of the firm or equity. Please clearly state your assumptions that you employ in your valuation.
 - b. Perform relative valuation: finding the relative price of the firm based on your comparable.
 - c. Perform any sensitivity analyses: what is the key variable in your valuation? If that key variable changes, how does your intrinsic value change?
- IV. Recommendation: You make a recommendation of the firm based on your financial analysis in part III. Please tie in what you talk about in Part II as part of your findings in Part III to highlight your recommendation.
- V. References and appendix: provide all the sources you used in your valuation report. Also, any detailed calculations that was not shown in Part III can be shown in this section as appendices.

Late Assignments:

No late assignment will be accepted. The assignments are available well in advance of the due date.

Disability Accommodation:

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to initiate a private discussion regarding your specific needs in a course.

You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them via phone at (940) 565-4323.

Academic Integrity Policy

The G. Brint Ryan College of Business takes academic honesty seriously. Ethics and integrity are important business values, essential to building trust and adhering to both professional and legal standards. Academic dishonesty destroys trust, damages the reputation and the value of the degree and is unacceptable.

According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions from admonition (a warning) to expulsion from the University.

Some of the most common examples of academic integrity violations include plagiarism or cheating, such as unauthorized assistance on examinations, homework, research papers or case analyses. Your work must be entirely your own. When working on assignments, you should not discuss your work with others unless approved by the course instructor. Group assignments should only be discussed with members assigned to your group, and all group members may be held accountable in some way for known academic integrity violations in a group assignment.

Another example of academic dishonesty relates to improper attribution. When preparing your assignments, you must cite all outside sources in the manner requested by your instructor. Copying or using material from any source prepared by or previously submitted by others, at UNT or other institutions, or downloaded from the Internet, is plagiarism. Unless directed otherwise in an assignment, large scale “cutting and pasting” from other sources, even if properly footnoted, is not appropriate. You should synthesize this material in your own words and provide a footnote.

Your instructor will specify what materials, if any, may be used on the tests and exams.

Using materials other than those permitted, talking with other individuals during the exam, individuals exchanging information about an exam when one has taken the exam and the other has not, or copying or using material from another individual’s exam is academic dishonesty and will result in a meeting to discuss academic integrity violations and potentially issue sanctions mentioned above, and may result in ineligibility for academic scholarships. The use of online assistance, such as sites commonly used for finding homework solutions, group chat, cell phones, smart watches, and similar tools during exams is not allowed for any reason unless specifically permitted. No portion of an exam may be copied or photographed without permission.

Students are expected to conduct themselves in a manner consistent with the University's status as an institution of higher education. A student is responsible for responding to a request to discuss suspected academic dishonesty when issued by an instructor or other University official. If a student fails to respond after a proper attempt at notification has been made, the University may take appropriate academic actions in the absence of the student’s participation.

Emergency Evacuation Procedures for Business Leadership Building:

- **Severe Weather** In the event of severe weather, all building occupants should immediately seek shelter in the designated shelter-in-place area in the building. If unable to safely move to the designated shelter-in-place area, seek shelter in a windowless interior room or hallway on the lowest floor of the building. All building occupants should take shelter in rooms 055, 070, 090, and the restrooms on the basement level or in rooms 170, 155, and restrooms 122, 182 or 183 on the first floor.

Bomb Threat/Fire In the event of a bomb threat or fire in the building, all building occupants should immediately evacuate the building using the nearest exit. Once outside, proceed to the designated assembly area. If unable to safely move to the designated assembly area, contact one or more members of your department or unit to let them know you are safe and inform them of your whereabouts. Persons with mobility impairments who are unable to safely exit the building should move to a designated area of refuge and await assistance from emergency responders. All building occupants should immediately evacuate the building and proceed to the south side of Crumley Hall in the grassy area, west of parking lot 24.

Attendance

While attendance is expected, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to attend class because you are ill, or unable to attend due to a related issue regarding COVID-19. It is important that you communicate with me *prior to being absent* so I may make a decision about accommodating your request to be excused from class.

If you are experiencing cough, shortness of breath or difficulty breathing, fever, or any of the other possible symptoms of COVID-19, (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>), please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider. UNT also asks that you contact the UNT COVID Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

The updated COVID guidelines are available at <https://healthalerts.unt.edu/covid-guidelines>.

The class lecture will be recorded using Zoom. The recorded lecture will be made available through Canvas when it is ready.

Face Covering

Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to disability, please contact the Office of Disability Access to request an accommodation. Face covering recommendations for the UNT campus are subject to change due to community health guidelines. Any changes will be communicated via the instructor.

Required equipment

A web camera or a laptop with integrated camera is required for all remote exams. It is your responsibility to obtain a properly functioning camera for remote exams. Your test score will be invalid without a functioning camera. All remote exams will be administered through Canvas using Respondus Lockdown Browser with Camera option. Respondus Lockdown browser can be downloaded through your Canvas account.

Tentative Class Schedule

Week	Topic	Reading	Quiz
1/24/22	Introduction to investments	Chapters 1 and 2	
1/31/22	Financial markets Mutual funds and other investments	Chapters 3 and 4	Quiz 1 (2/1-6) Chaps 1-4
2/7/22	Fixed income valuation	Chapter 14	
2/14/22	Term structure	Chapter 15	Quiz 2 (2/15-20) Chaps 14-15
2/21/22	Equity Valuation	Chapters 17, 18, and 19	
2/28/22	Equity Valuation	Chapters 17, 18, and 19	
3/7/22	Equity Valuation	Chapters 17, 18, and 19	Quiz 3 (3/8-13) Chaps 17-19
3/14/22	Spring Break		
3/21/22	Risk and return and portfolio theory	Chapters 5 and 6	Quiz 4 (3/22-27) Chaps 5, 6
3/28/22	Efficient diversification	Chapter 7	
4/4/22	Index models	Chapter 8	Quiz 5 (4/5-4/10) Chaps 7, 8
4/11/22	Asset pricing models	Chapters 9 and 10	Quiz 6 (4/12-4/17) Chaps 9, 10
4/18/22	Efficient markets vs. behavioral finance	Chapters 11 and 12	Quiz 7 (4/19-4/24) Chaps 11, 12
4/25/22	Option markets intro	Chapter 20	
5/2/22	Futures markets	Chapter 22	Quiz 8 (5/3-5/8) Chaps 20, 22
5/9/22	Final Exam Week		

This course outline is tentative and is subject to change during the semester. Any changes in schedule will be announced via Canvas and in class.