

33:390:300:01

Spring 2025

Tuesday and Thursday 2:00 – 3:20 pm

Office Hours: by Appointment

Lecturer Guo Chen

Room 1117D (NWK)

guo.chen@rutgers.edu

Course Description

This course is designed to provide a foundation in the key concepts underlying the analysis and execution of financial decisions. The course will blend theory and practice.

Course Objectives

Learn concepts and tools for valuation of assets and financial products

Study diversification and risk preferences

Develop an understanding of modern portfolio theory and investments.

Examine approaches for capital budgeting and other corporate finance decisions

Integrate course material and develop proper financial decision-making tools

Course Learning Outcomes

- 1) By the end of the course, students will know how to :
- 2) Calculate present values and future values for single sum payments, annuities and multiple cash flow streams
- 3) Describe different types of securities and identify the key features of each.
- 4) Apply discounted cash flow (DCF) analysis in different asset and security valuation contexts
- 5) Characterize key elements involved in the capital budgeting process
- 6) Solve capital budgeting problems and differentiate among different decision criteria
- 7) Formulate the trade-off between risk and return
- 8) Debate Market Efficiency
- 9) Demonstrate knowledge of diversification and portfolio theory
- 10) Demonstrate a command of the Capital Asset Pricing Model

Learning Goals

1. Students must have a fluent, working knowledge of how to apply Time Value of Money (TVM) concepts to complex asset valuation and project valuation. For example, students should be able to face a very complex cash flow stream and value it.
2. Students must have a solid understanding of capital budgeting techniques and usage, and be able to apply capital budgeting criteria to complex situations (and incorporate risk).

3. Students must understand the working knowledge of the capital asset pricing model and be able to estimate beta and use it to determine required rates of return.
4. Students must have a working knowledge of the concept of diversification, market efficiency, portfolio statistics and asset statistics. Students must be able to explain risk aversion and its relation to portfolio theory.

Course Materials and Other Study Aides:

I do not require textbooks. However, if you feel you need a textbook, I recommend one of the following textbooks:

- 1) Investments – by Zvi Bodie, Alex Kane, Alan J. Marcus
- 2) Corporate Finance – by Bradford D. Jordan, Stephen A. Ross, Randolph W. Westerfield, Jeffrey Jaffe
- 3) Course Web Site (MANDATORY): CANVAS There is a class website that will include the syllabus, assignments, grades, and various reading materials. Please always check the class website at least a day prior to each class session: **YOU ARE RESPONSIBLE** for downloading all class materials, and handouts for a session.
- 4) It is also important for you to purchase a calculator.

Grading Policy

This course is the foundational class for finance majors. Students must earn a final grade of "B" or higher in this class to take upper-level classes. If a student fails to earn a "B" grade in this course but wishes to continue with upper-level finance classes, then they must retake this course.

Additionally, we have the following grading policy for this course.

There will be class quizzes/assignments, a midterm exam, and a final exam. The final average that determines your letter grade is based on quizzes/assignments (33%), midterm exam (33.5%), and final exam (33.5%). If you fail to take a quiz, submit an assignment or midterm exam, or final exam on the day indicated in the syllabus, you will receive a zero for the exam unless you have a valid excuse (e.g., medical emergency, family emergency, and religious observance) with appropriate documentation. The midterm exam and the final exam are open-book exams.

For your information, this is my grading scale:

90 – 100	A
85 – 89	B+
78 – 84	B
75 – 77	C+
60 – 74	C
50 – 59	D
< 50	F

During exams, the following rules apply:

- If you have a disability that influences testing procedures, provide me an official letter from the Office of Disability Services at the start of the semester.
- No cell phones or other communication devices are allowed in the testing room.
- Alternate seating; do not sit next to another student; I reserve the right to rearrange seating.

Academic Integrity: *I do NOT tolerate cheating.* Students are responsible for understanding the RU Academic Integrity Policy (<https://studentaffairs.newark.rutgers.edu/support-services/community-standards/code-conduct-academic-integrity>). I will strongly enforce this Policy and pursue *all* violations. Don't let cheating destroy your hard-earned opportunity to learn.

Prerequisites: There are no formal prerequisites.

Accommodation and Support Statement

Rutgers University Newark (RU-N) is committed to the creation of an inclusive and safe learning environment for all students and the University as a whole. RU-N has identified the following resources to further the mission of access and support:

For Individuals Experiencing Disability: The Office of Disability Services (ODS) works with students with medical, physical, and/or mental conditions who encounter disabling barriers in order to determine reasonable and appropriate accommodations for access. Students who have completed the process with ODS and have approved accommodations are provided a Letter of Accommodation (LOA) specific to each course. To initiate accommodations for their course students must both provide the LOA to and have a conversation with the course instructor about the accommodations. This should occur as early in the semester as possible. More information can be found at the [RU-N ODS website \(ods.newark.rutgers.edu\)](https://ods.newark.rutgers.edu). Contact ODS at (973) 353-5375 or via email at ods@newark.rutgers.edu.

For Individuals who are Pregnant: The Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy. Students may contact the Office of Title IX and ADA Compliance at (973) 353-1906 or via email at TitleIX@newark.rutgers.edu.

For Short-term Absence Verification: The Office of the Dean of Students can provide assistance for absences related to religious observance, emergency, or unavoidable conflict (illness, personal or family emergency, etc.). Students should refer to [University Policy 10.2.7](#) for information about expectations and responsibilities. The Office of the Dean of Students can be contacted by calling (973) 353-5063 or emailing deanofstudents@newark.rutgers.edu.

For Individuals with temporary conditions/injuries: The Office of the Dean of Students can assist students who are experiencing a temporary condition or injury

(broken or sprained limbs, concussions, or recovery from surgery). Students experiencing a temporary condition or injury should submit a request using the following link: <https://temporaryconditions.rutgers.edu>.

For Gender or Sex-Based Discrimination or Harassment: The Office of Title IX and ADA Compliance can assist students who are experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking. Students can report an incident to the Office of Title IX and ADA Compliance by calling (973) 353-1906 or emailing TitleIX@newark.rutgers.edu. Incidents may also be reported by using the following link: tinyurl.com/RUNReportingForm. For more information, students should refer to the University's Title IX Policy and Grievance Procedures located at <https://uec.rutgers.edu/wp-content/uploads/60-1-33-current-1.pdf>

For support related to Interpersonal Violence: The Office for Violence Prevention and Victim Assistance (VPVA) can provide any student with confidential support. The office does **not** have a reporting obligation to Title IX. Students can contact the office by calling (973) 353-1918 or emailing run.vpva@rutgers.edu. There is also a confidential text-based helpline available to students; students can text (973) 339-0734 for support. Students do not need to be victims/survivors of violence; any student can receive services, information, and support.

For Crisis and Concerns: The Campus Awareness Response and Education (CARE) Team works with students in crisis to develop a plan of support plan and address personal situations that might impact their academic performance. Connect with the CARE Team by using the following link: tinyurl.com/RUNCARE or emailing careteam@rutgers.edu.

For Stress, Worry, or Concerns about Well-being: The Counseling Center has confidential therapists available to support students. Students should reach out to the Counseling Center to schedule an appointment: counseling@newark.rutgers.edu or (973) 353-5805. If students are not quite ready to make an appointment with a therapist but are interested in self-help, check out *Sanvello* for an easy, web-based approach to self-care and support. Visit <https://my.rutgers.edu/>, click on Sanvello: Wellness @ RUN, and log in with your need to begin your journey toward wellness.

For emergencies, call 911 or contact the Rutgers University Police Department (RUPD) by calling (973) 353-5111.

If you are in need of additional *academic assistance*, please use our readily available services—Rutgers Newark Learning Center: <https://sasn.rutgers.edu/student-support/tutoring-academic-support/learning-center>

Course Syllabus

A. Time Value of Money

- a. The students should be able to solve computational problems on

- i. Present Value and Future Value problems for both annual and periodic compounding
 1. Lump Sum
 2. Annuities
 3. Annuities Due
 4. Perpetuities
 5. Growth Models
 6. Uneven cash flows
- ii. Solve computational problems for all of the above 6 where the student has to find:
 1. The Annuity that gives the PV
 2. The yield of a set of future cash flows
 3. Number of periods needed to obtain either the future or present value
 4. Nominal vs Effective Rates unless taught with the bond segment

B. Bonds

- a. Description and pricing of Treasury bonds (computational problem solving required)
- b. Description and computation of the price of Corporate Bonds, Debentures and a discussion of Subordinated Debentures
 - i. Pricing
 - ii. Yield to Maturity (Bond-Equivalent vs Effective Annual Yield)
 - iii. Relationship between coupon rate and yields

C. Equity

- a. Dividend Growth Model
- b. Valuation of firms with supernormal and sub-normal (non-constant) growth
- c. Problem solving evaluate a and b

D. Time of Value of Money Application (solve problems computationally)

1. Mortgage
2. Loan Amortization

E. The Review of (Portfolio) Statistics – students should be able to calculate either using Excel or financial calculator

- a. How to find the return of a stock
- b. Mean, variance, standard deviation of a single asset and a portfolio of assets
- c. Covariance and Correlation of returns between two assets
- d. How to measure the diversification in a portfolio
- e. Diversification of two assets and more asset portfolios

- F. Capital Asset Pricing Model
 - a. Key assumptions behind the CAPM
 - b. Construct the Efficient Frontier
 - c. How to calculate Beta and Market Risk Premium
 - d. How to find the yield or cost of equity

- G. Financial Statement Analysis
 - a. Review of Balance Sheet
 - b. Review of Income Statement
 - c. Review of Cash Flow Statement
 - d. Financial Ratios
 - i. Profitability
 - ii. Asset Efficiency
 - iii. Leverage

- H. Capital Budgeting
 - a. Capital Criteria (NPV, IRR and Payback)
 - b. Mutually Exclusive Projects
 - c. After-Tax Weighted Average Cost of Capital
 - i. Finding the cost of debt when debt is priced at par and when it is not
 - ii. Finding the cost of equity using the dividend growth model and CAPM
 - d. Compute Capital Budgeting problems and make financial decisions

- I. Lessons from Market History and the Efficient Market Hypothesis
 - a. Examine the historical record of risk and return
 - b. Articulate the risk/return trade-off
 - c. Summarize the implications of market efficiency
 - i. Weak Form
 - ii. Semi-Strong Form
 - iii. Strong Form
 - d. Summarize empirical tests