

**Econ 425-001: Financial Economics
Economics Department, UNC at Chapel Hill
Spring 2023**

**Class: T-TH: 2:00-3:15 pm
Gardner 309**

Instructor:	Christopher Roark
Email:	cjroark@unc.edu
Office:	305B Gardner Hall
Office Hours:	Mon 3-5pm via Zoom
Course Site:	Can be found at http://canvas.unc.edu
Text:	Bodie, Zvi. Kane, Alex. and Marcus, Alan J. <i>Investments</i> . Twelfth Edition. McGraw Hill. 2021
Prerequisites:	1.) Econ 400, Econ 410 and Econ 420. A grade of at least a C or better in ECON 400 and 410

Course Description: How does a risk averse individual allocate their funds? Students begin by defining and measuring risk, making connection to their microeconomics training. They then develop and use asset pricing models to explore the interplay between risk and return. Finally, students use these tools to develop a mean-variance optimal portfolio allocation. Students are introduced to basic quantitative tools and participate in myriad practical applications.

Learning Goals: The purpose of this course is to give you a fundamental understanding of finance and financial economics. In particular, the ways in which we quantify and think about pricing risk. By the end of this course you should be able to:

- 1.) Summarize various financial instruments and the market structure with which they are traded
- 2.) Calculate prices and returns based on fixed-income and basic pricing models
- 3.) Examine various equity pricing models and equity valuation techniques
- 4.) Assemble a portfolio that lies on the efficient risk-return frontier and justify changes to the portfolio composition
- 5.) Evaluate portfolio performance based on various criteria

Syllabus Changes:

The professor reserves the right to make changes to the syllabus including project due dates and test dates. These changes will be announced as early as possible.

Contact Information

Emails that have private or sensitive information or concerning your grade or performance in the course should be sent to the instructor directly at cjroark@unc.edu

Any questions relating to the material of the course or procedural questions should be posted to Campuswire. I or one of the instructional team will answer there.

Grading Scheme and Policies

Grading Scheme:	Polls	5%
	Problem Sets (6):	15%
	Investment Project:	15%
	Midterm:	30%
	Final:	35%

I will drop your 4 lowest in-class polls, and your lowest problem set grade then calculate your average for each category with the remaining grades.

Your letter grade will be determined by calculating your aggregate course grade according to the following formula:

$$0.05 * (\text{Polls avg}) + 0.15 * (\text{Homework Avg}) + 0.15 * (\text{Investment Project Average}) + 0.3 * (\text{Midterm Score}) + 0.35 * (\text{Final Exam Score}) = \text{Aggregate Grade}$$

At a minimum your letter grade will then be given by the following table:

Aggregate Score	Letter Grade
≥ 93	A
92 – 89	A-
88 – 85	B+
84 – 82	B
81 – 78	B-
77 – 75	C+
74 – 71	C
70 – 67	C-

66 – 63	D+
63 – 60	D
≤ 59.99	F

a.) Attendance/In-class polls:

We will spend time in class learning by doing. This will include in-class activities and answering some poll questions. Almost all polls will be for participation. You will earn full credit for answering the poll whether correctly or incorrectly. Your attendance average will be the average of all the scores from the polls. You must be present in class to answer polls and doing so out of class is an honor code violation. **As a reminder I will drop your 4 lowest polls.**

b.) Homework Assignments

There will be 6 homework assignments throughout the length of the course. They will be posted approximately a week before each is due and will be due at 11:59 pm at night on the due date via gradescope. Submission instructions will be on the cover page of each homework. You are **strongly encouraged to** work in groups with other students, but sharing answers and looking up answers online is a violation of the honor code. In addition, each student is expected to do their own computational work and not share code or the output from answers. You are also expected to at least attempt each question before seeking help from anyone on the instructional team. In addition, I will **drop your lowest problem set** in calculating your final score

c.) Investment Project

The investment project will be a project that takes place over several weeks. In it you and a small group of 4 to 5 others will manage a portfolio. You will turn in three deliverables over the course of the semester. In this report you will readjust your portfolio and justify your changes in weights as well as your relative performance. You will be graded primarily based on your justification for trades and your participation based on feedback from your group mates. More details and a comprehensive rubric will be posted on canvas closer to the beginning of the project.

d.) Midterms/Final Exam

There is 1 in-class midterm. It will consist of multiple choice and long-form questions. The midterm will be closed book and closed note though you will be permitted the use of a financial calculator or non-programmable scientific calculator.

The final exam is a cumulative final exam and will consist of both multiple choice and long-form questions. You can only take the final exam at an alternate time if you present me an official exam excuse. The alternate will be to take it with the other section. Outside of this no alternate times for the final exam will be granted.

e.) Calculator:

If you plan on continuing in finance it is highly recommended that you purchase a financial calculator. For the course and for most applications a simple financial calculator such as a TI BAII Plus will suffice. There are certainly cheaper versions of the same

functional calculator available. You will not be permitted anything beyond a basic financial calculator and non-programmable scientific calculator on exams.

e.) Computational Assignments and Statistical Software:

Occasionally some problem sets will require the use of data. I will provide specific instructions prior to the first assignment about how to access the data and what data you should be utilizing as well as how to present or turn in the solutions. Since 400 is a prerequisite for the course you will be expected to calculate statistics and run basic regressions on this data. You can utilize whatever software with which you feel most comfortable, be that R, Stata, Matlab, Excel or others. Of note all computational work for this course will be able to be completed in Excel. **There will be no data work on exams beyond being able to calculate with a basic financial calculator (I can't assume you are able to bring a computer and do statistical analysis under a strict time constraint)**

f.) Late and/or Makeup Policy

All due dates are non-negotiable and no extensions or makeups will be given. I recognize that people fall ill or have family or other emergencies or something glitches and you're unable to turn in something. It is for all of these reasons that I put drops into the course. That means that these drops are to cover all life events and including whether a conflict or absence is university excused or not. With two large sections and another very large course it will become far too difficult logically to keep track of exceptions and I run the risk of not treating all students to the same standard for relatively minor episodes. A general rule to avoid being late is to turn it in on time, and if gradescope will still accept it we will also accept it.

Exceptions can be made in the event of ongoing or severe illnesses or other events that will last greater than one week. In this event you must provide a University Excused absence and then communicate with me before or during the week you return to class so we can make a plan to help get you back on track.

No makeup midterm exams will be offered! In the event of a University Excused absence the weight of the missed midterm will be placed on the final exam your final will be 65% Any other reasons for missing an exam that do not have a University Excused Absence will result in a zero for the exam.

g.) Extra Credit

I do not offer extra credit for the course, nor can I offer any ex-post. Once again this is a fairness issue and would need to offer it for all students.

h.) Honor Code

All students are expected to follow the guidelines of the UNC Honor Code. In particular, students are expected to refrain from “lying, cheating, or stealing” in the academic context. If you are unsure about which actions violate the Honor Code, please see me or consult studentconduct.unc.edu.

i.) Regrade Requests

All grades will be posted on gradescope and any regrade requests must be made within one week of the grade being posted. In addition, all regrade requests require a written justification for why you believe the assignment or question is incorrectly graded.

Regrade requests will be addressed by the TA or Grader who graded the assignment. If you are still unsatisfied with the result of your regrade request you may contact me via email.

Classroom Policies/Help Resources

a.) Diversity Statement

I value the perspectives of individuals from all backgrounds reflecting the diversity of our students. I broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. I strive to make this classroom an inclusive space for all students. Please let me know if there is anything I can do to improve. I appreciate suggestions.

b.) Course Announcements and Additional Materials:

All course announcements will be conducted through the Canvas Page. Problem sets and any additional supplementary material will also be posted to Canvas. Canvas will ultimately be my main way of communicating with the class. Please ensure that you are receiving updates from Canvas via email or at the very least are checking it regularly. If you are unable to access the course on Canvas for any reason, please notify me right away.

c.) Poll Everywhere:

We will use *Poll Everywhere* for polling in class. You can either login at polleverywhere.com or by using the Poll Everywhere mobile app. No matter which method you utilize you must use your official UNC-CH email address, select the single sign-on link, and then enter your Onyen and Password. **IMPORTANT:** The email address you have listed under your profile in Poll Everywhere must exactly match the email address you have listed in the UNC Directory. If this is not the case you will not receive credit for the polls you do as it will not properly synch with Sakai.

d.) Campuswire

We will have a course site on campuswire, a free online platform. I will enroll you to it utilizing your email in the UNC directory. We will be utilizing it to answer course related questions. Please post all course related questions there. Both the TAs and I will direct you towards it if you forget. I will be checking campuswire every weekday around 5pm to answer any pending questions. The rest of the instructional team will also check it periodically to answer any questions you may have. You are also strongly encouraged to

answer each other's questions. You should not utilize it or any other online resources to directly share answers.

e.) Workload Expectations

This is an elective course for the economics major that is worth 3 credit hours. I assume many of you are here due to an interest in finance or a strong desire to work in the financial industry in the future. Saying all that you should expect to spend 10-12 hours per week including class time on this course. Keep in mind that with everything including quantitative economics that you need to practice to get better at it. That is especially true for this course, the more you practice and the more you study over time the better you will retain the information and the better you will do on exams. Don't expect to cram the week of and excel.

f.) Office Hours

I'm very happy to talk with you during office hours. You can find my office hours on the calendar in Sakai and under Contact Information. I will hold my office hours in my office and will help students on a first come, first serve basis. The TA will also offer office hours, the time and location of which can be found on the Sakai calendar and under contact information.

If for whatever reason none of the posted times work for you or there is a compelling reason you need to meet with me outside these hours I am happy to make an appointment on a very limited basis. Please email me at cjroark@unc.edu (Please make sure to have the subject line with the course you are emailing me regarding)

g.) Econ Aid Center and Free Peer Tutoring

The Econ Aid Center can be found in Gardner 009. It also provides a space for students to work on their assignments individually or in groups. There will also be free peer tutoring available there during the week. The Aid Center is open from 8 am to 8pm every weekday. I will post the link to the free tutoring schedule when it becomes available to me on Sakai.

University Polices and Resources

University Policy: As stated in the University's [Class Attendance Policy](#), no right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities
2. Disability/religious observance/pregnancy, as required by law and approved by [Accessibility Resources and Service](#) and/or the [Equal Opportunity and Compliance Office](#) (EOC)
3. Significant health condition and/or personal/family emergency as approved by the [Office of the Dean of Students](#), [Gender Violence Service Coordinators](#), and/or the [Equal Opportunity and Compliance Office](#) (EOC).

University Approved Absence Office (UAAO): The [UAAO](#) website provides information and FAQs for students and faculty related to University Approved Absences. **Note:** Instructors have the authority to make academic adjustments without official notice from the UAAO. In other words, it is not required for instructors to receive a University Approved Absence notification in order to work with a student. In fact, instructors are encouraged to work directly with students when possible.

Optional Mask Use Statement

UNC-Chapel Hill is committed to the well-being of our community – not just physically, but emotionally. The indoor mask requirement was lifted for most of campus on March 7, 2022. If you feel more comfortable wearing a mask, you are free to do so. There are many reasons why a person may decide to continue to wear a mask, and we respect that choice.

Acceptable Use Policy

By attending the University of North Carolina at Chapel Hill, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. The Acceptable Use Policy (AUP) sets the expectation that you will use the University's technology resources responsibly, consistent with the University's mission. In the context of a class, it's quite likely you will participate in online activities that could include personal information about you or your peers, and the AUP addresses your obligations to protect the privacy of class participants. In addition, the AUP addresses matters of others' intellectual property, including copyright. These are only a couple of typical examples, so you should consult the full [Information Technology Acceptable Use Policy](#), which covers topics related to using digital resources, such as privacy, confidentiality, and intellectual property. Additionally, consult the University website "[Safe Computing at UNC](#)" for information about the data security policies, updates, and tips on keeping your identity, information, and devices safe.

Accessibility Resources and Service

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, including mental health disorders, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu> or email ars@unc.edu.

Counseling and Psychological Services

UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The [Heels Care Network](#) website is a place to access the many mental resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to their website <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

Title IX Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC at <https://eoc.unc.edu/report-an-incident/>. Please contact the University's Title IX Coordinator (Elizabeth Hall, titleixcoordinator@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at [safe.unc.edu](#).

Policy on Non-Discrimination

The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's [Policy Statement on Non-Discrimination](#) offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered and that equitable and consistent standards of conduct and performance are applied. If you are experiencing harassment or discrimination, you can seek assistance and file a report through the Report and Response Coordinators (see contact info at [safe.unc.edu](#)) or the [Equal Opportunity and Compliance Office](#), or online to the EOC at <https://eoc.unc.edu/report-an-incident/>.

Undergraduate Testing Center

The College of Arts and Sciences provides a secure, proctored environment in which exams can be taken. The center works with instructors to proctor exams for their undergraduate students who are not registered with ARS and who do not need testing accommodations as provided by ARS. In other words, the Center provides a proctored testing environment for students who are unable to take an exam at the normally

scheduled time (with pre-arrangement by your instructor). For more information, visit <http://testingcenter.web.unc.edu/>.

Learning Center

Want to get the most out of this course or others this semester? Visit UNC's Learning Center at <http://learningcenter.unc.edu> to make an appointment or register for an event. Their free, popular programs will help you optimize your academic performance. Try academic coaching, peer tutoring, STEM support, ADHD/LD services, workshops and study camps, or review tips and tools available on the website.

Writing Center

For free feedback on any course writing projects, check out UNC's Writing Center. Writing Center coaches can assist with any writing project, including multimedia projects and application essays, at any stage of the writing process. You don't even need a draft to come visit. To schedule a 45-minute appointment, review quick tips, or request written feedback online, visit <http://writingcenter.unc.edu>.

Tentative Course Schedule:

Date	Topic	Text	Assignment Due?
T - Jan 10	Introduction	Ch. 1	
R - Jan 12	Investment Environment	Ch. 1	
T - Jan 17	Asset Classes and Financial Instruments	Ch. 2	
R - Jan 19	Asset Classes and Financial Instruments	Ch. 2	
T - Jan 24	Introduction to Markets and Trading	Ch. 3	Problem Set 1 Due
R - Jan 26	Shorting, margin buying and regulations	Ch. 3/4	
T - Jan 31	Statistics Review and Returns Definitions	Ch 4	Project Groups Finalized
R- Feb 2	Capital Allocation across Asset Classes – Building a Portfolio	Ch. 6	
T - Feb 7	Investing with Risky Assets – Portfolio Diversification	Ch 6/7	First Report Due for Project
R - Feb 9	The Markowitz efficient frontier – CAL	Ch 7	

T – Feb 14	Wellness Day	Wellness Day	Wellness Day
R – Feb 16	Fixed Income Securities	Ch 14	
T – Feb 21	Bond Prices and Yields	Ch 14	Problem Set 2 Due
R – Feb 23	The Yield Curve	Ch 15	
T – Feb 28	Bond Portfolios and Interest Rate risk - Duration	Ch. 16	
R – Mar 2	Single Index Models	Ch 8	
T- Mar 7	Catch up/Review	Catch up/Review	Problem Set 3 Due
R- Mar 9	Midterm	Midterm	Midterm – Material through Mar 2
T – Mar 14	Spring Break	Spring Break	Spring Break
R – Mar 16	Spring Break	Spring Break	Spring Break
T- Mar 21	The Capital Asset Pricing Model (CAPM)	Ch. 9	
R – Mar 23	CAPM and Introduction to Multi-Factor Models	Ch. 9/10	
T – Mar 28	Multifactor Models of Risk Pricing – Arbitrage Pricing Theory (APT)	Ch. 10	Second Report Due for Project
R – Mar 30	Fama French and Multi-Factor Models		
T – Apr 4	The Efficient Markets Hypothesis (EMH)	Ch. 11	Problem Set 4 Due
R – Apr 6	Macroeconomic Analysis	Ch 17	
T – Apr 11	Industry Analysis	Ch. 17	Problem Set 5 Due
R- Apr 13	Equity Valuation Models	Ch 18	
T – Apr 18	Equity Valuation Models Continued	Ch. 18	
R – Apr 20	Option Markets	Ch. 20	
T – Apr 25	Option Valuation	Ch. 21	Problem Set 6 Due
R – Apr 27	Catch Up Day/Review		Final Project Report Due on LDOC
Tue – May 2	Final Exam – 12 PM		Final