

USC Marshall

School of Business

FBE-554: TRADING AND EXCHANGES

Spring 2021

4 units, MW 9:30 a.m. – 10:50 a.m., online

Instructor: Larry Harris
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Office Hours: Mondays 2:00 p.m. – 3:00 p.m.
Wednesdays 9:30 p.m. – 10:30 p.m.
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COURSE DESCRIPTION

“Trading and Exchanges” will introduce you to the theory and practice of securities and contract trading at exchanges, in dealer networks, and among brokers. We will examine

- why and how people trade,
- who profits from investing and speculating, and when,
- the principles of proprietary trading and high-frequency trading,
- why market institutions are organized as they are,
- how markets are changing in response to innovations in information technologies,
- the origins of liquidity, volatility, price efficiency, and trading profits, and
- the role of public policy in the markets.

We will address these issues by studying why and how institutions, dealers, and individuals trade. Understanding trader behavior and how market structure affects behavior is the primary course objective.

Target Audience

This course is for anyone who wants to understand how markets work, how people trade, and when active investment management works and fails. The reading assignments and class lectures are appropriate for students who have no market experience.

Experienced traders also will value this course. The economic perspectives that they learn in this course can significantly improve their performance. But students with substantial market experience have little advantage over other students other than initial familiarity with the jargon and institutions.

This course also will benefit students who want to understand the determinants of investment performance. We will spend much time discussing why some people make money while others lose money. These lessons apply to businesses in all competitive industries.

Prerequisites

Formally, GSBA 521, GSBA 521b, or GSBA 548 or my permission if you are a Financial Engineering or Math and Finance student. None of these courses are essential. Familiarity with Investments,

Microeconomics, Corporate Finance, Information Technologies, and Statistics is helpful. You will not be lost if you have not yet studied these subjects, but sometimes you may have to work harder than students who are already familiar with their principal concepts.

COURSE OBJECTIVES

Learning Objectives

This course aims to develop your ability to understand, participate in, and manage trading and investment processes within various market structures. This course will help you acquire the following knowledge and skills:

- Global Objective
 - Explain and use trading terms, concepts, principles, and theories.
- Detailed Objectives
 - Explain how
 - markets operate,
 - traders behave,
 - market structure affects trader behavior, and
 - traders and trading companies lobby policymakers on market design issues.
 -

Upon successful completion of this course, students will be able to:

1. Construct optimal trading strategies to solve various problems,
2. Evaluate and motivate brokers,
3. Recognize various trading styles and determine when they will be profitable,
4. Predict who will profit from trading and who will lose,
5. Predict when and which markets will be liquid and have informative prices, and
6. Identify trading risks and manage them.

A complete and detailed list of the learning outcome statements for this course appears on Blackboard.

COURSE MATERIALS

Required Materials

- Larry Harris, *Trading and Exchanges: Market Microstructure for Practitioners* (New York, Oxford University Press, 2003, ISBN 0195144708). An errata sheet is posted on Blackboard.
- Larry Harris, *Trading and Electronic Markets: What Investment Professionals Need to Know* (Charlottesville, The CFA Institute Research Foundation, 2015, ISBN 978-1-934667-91-0). A free PDF download is available at <http://www.cfapubs.org/toc/rf/2015/2015/4>. The book is also available for free on Amazon Kindle.
- CFA Institute, *Standards of Practice Handbook*, Eleventh Edition (CFA Institute 2014, ISBN 978-0-938367-85-7), available for free at www.cfapubs.org/doi/pdf/10.2469/ccb.v2014.n4.1 and also available on Amazon Kindle for \$0.99.
This handbook provides an excellent introduction to the ethical issues that arise in trading and investment management.
- Daily access to *The Wall Street Journal*.

Supplemental Materials

- John Downes and Jordan Elliot Goodman, editors, *Dictionary of Finance and Investment Terms*, 10th Edition (New York: Barron's Educational Series, 2018, ISBN 978-1438010441)
This inexpensive dictionary is useful for quickly defining financial jargon and concepts.
- Richard Bookstaber, *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation*, (New York: John Wiley and Sons, Inc., 2007, ISBN 0471227277). An excellent summary of the principal risk management issues in the financial markets.
- Edwin Lefèvre, *Reminiscences of a Stock Operator*, (New York: John Wiley and Sons, Inc., Reprinted 1993, ISBN 0-47105970-6, first published in 1923)
Reminiscences is a ghostwritten autobiography of Jesse Livermore. Livermore was a successful stock and commodity speculator who traded in the late 19th and early 20th centuries. Edwin Lefèvre was a financial reporter who spent two months interviewing Livermore for this project. The text is a first-person narrative by a character called Larry Livingston, who clearly represents Jesse Livermore. The book is full of market wisdom and human wisdom. It is easy to read, engaging, and covers many of the topics of this course.

Other Course Materials

Various supplemental materials are also available on the Blackboard Course Pages. I may use a password to protect some documents. If so, the password will be TradeOn. The password is case sensitive.

If you have any questions or need assistance with the Blackboard Course Pages, please contact the Marshall HelpDesk at 213-740-3000 (option 2) or HelpDesk@marshall.usc.edu. Alternatively, (213) 740-5555 will get you the USC ITS Help Desk.

COURSE DELIVERY AND TECHNOLOGY ISSUES

Lectures

This course will meet online over Zoom. Accordingly, you must have access to Zoom, a high-speed internet connection, and a video camera.

If you have technology and internet needs, contact:

- Marshall emergency funding resources at <https://www.marshall.usc.edu/coronavirus/usc-marshall-student-emergency-aid-fund>
- USC resources at basicneeds@usc.edu

I expect you to have your camera on during the synchronous sessions. Please advise me if you have circumstances under which you will not be able to meet these expectations. You can address most privacy issues by using virtual backgrounds and earphones or headsets.

All sessions will be recorded and made available over Zoom or in Blackboard.

You are not permitted to create your own audio or video class recordings without my permission. Violations of these policies will be met with appropriate disciplinary sanctions.

Blackboard and Slack

All examinations will occur online on Blackboard. I will post many course materials and announcements on Blackboard. Be sure that you can access Blackboard.

Most class communications and discussions will be on Slack. Be sure that you can access Slack.

Notes for Asynchronous Students

You may take this class asynchronously with my permission if you live in a highly inconvenient time zone. Please notify me by the end of the first week of classes if you would like to take the course asynchronously. Provide supporting documentation with the notification.

While I recognize the challenges of attending synchronous sessions in the middle of the night, I also believe that you will get more out of this class if you can attend synchronously. If you attend asynchronously, you will not participate in various trading games and class discussions. And you will require tremendous discipline to watch the taped class sessions attentively. Knowing that you might be called upon at random tends to focus the mind! If you naturally are a night-owl, the late hours may not be so difficult. But if not, I will work to ensure that you and other similarly situated students can excel.

Class participation will be 10% of the grade (see below). You will be able to meet this requirement by actively participating in course-topic discussions on Slack with your classmates and by staying in contact with me by phone. I generally am available as early as 7:00 a.m. PT and as late as 9:30 p.m., so finding a time to talk with me should not be difficult. I make myself available to everyone during these hours, so my availability will not be a special accommodation for you. I accept calls without an appointment but may not be available to talk if I am previously engaged.

We will have 20 quizzes—almost one each class session (see below). I can make those quizzes available to you after the class sessions, but I will need to provide additional checks that you and other similarly situated students are doing original work without the benefit of information about the quizzes gleaned from classmates. To this end, we will arrange to do several oral exams together during the semester. If, in my opinion, your performance on the oral exams is substantially worse than on the quizzes, I will assign your quiz grade based on the oral exams and not on the quizzes.

We will do three group projects during the semester (see below). One object of these projects is to mix students (I will assign students using an algorithm that minimizes the change that the same two students will ever be assigned to more than one project), so I will not assign groups based on time zones. Doing the work on these projects asynchronously will be challenging. I will request that in-time-zone students accommodate asynchronous students, but you will have to work to ensure that your needs are met. (You will have an opportunity to evaluate the other members of your project on this issue, and I will note your comments when assigning project grades.) You may have to participate in oral presentations during the regularly scheduled course session, but we can work something out if an in-session presentation is too much of a hardship.

Asynchronous students also can take the final exam asynchronously, but I would be much happier if you could sit for it with everyone else. If you take the final exam asynchronously, we will follow it with an oral exam as described above for the quizzes.

GRADING

OVERVIEW

| <u>Assignments</u> | | <u>Points</u> | <u>% of Overall Grade</u> |
|----------------------------|--|---------------|---------------------------|
| Class Participation | | 10 | 10% |
| Group projects | Three trading strategy group projects | 30 | 30% |
| Examinations | Best 15 of 20 short quizzes at 2% each | 30 | 30% |
| | Final exam | 30 | 30% |
| TOTAL | | 100 | 100% |

Final course grades represent how you perform in the course relative to other students and my expectations for students in the course. I base course grades on each student's performance, consistent with USC and Marshall School of Business policies, not on a mandated target. Historically, the grade point average for this course is about 3.5. I assign higher or lower average grades based on my perception of the overall performance of the class.

I consider four items when assigning class grades:

1. Your weighted-average standardized score for all exams and other exercises. Since exams inevitably vary in difficulty, I standardize the scores by subtracting the class mean and dividing the result by the class standard deviation. I average these standardized scores weighting by the contributions of each exam to the class grade. I base the standardization only on the scores of students who will receive non-failing class grades.
2. Your weighted-average exam and other exercise scores. This measure does not standardize the scores for each exam and exercise. I adjust the raw scores so that weights given to each examination reflect those in the table above.
3. Your rankings among all students in the class using the above two measures.
4. My impression of the overall achievement of the students in this class relative to that of other students in comparable classes that I have taught in the last few years or am presently teaching in other sections.

CLASS PARTICIPATION

Class participation is a vital part of this course's learning experience. The richness of the learning experience depends largely on the degree of preparation by all students before each class session and on their interactions in Slack outside of class. Your classmates and I expect you to prepare for all classes, actively participate in and meaningfully contribute to class discussions, and contribute to the discussions on Slack.

In-class participation is also a critical part of this course's learning experience. I will cold call on you and your classmates to encourage active participation and gain multiple perspectives and viewpoints. I will base your in-class participation grade on your demonstrated willingness to participate and the quality of the comments you express rather than on their quantity. While some students are far more comfortable than others with class participation, *all* students should try to contribute meaningfully.

Students will offer their opinions in group settings many times in their careers; thus, class participation serves to prepare students for this business experience.

A primary course goal is to help you develop the ability to clarify your position on an issue and to articulate and defend it clearly. Sharing your views with others is crucial for learning and for understanding how people debate the diverse opinions that you will encounter in an organization. You

will find yourself presenting and testing new ideas and assisting others in shaping their ideas as well. You should prepare to take risks and support others exploring new ideas.

Effective in-class participation consists of analyzing, commenting, questioning, discussing, and building on others' contributions. Do not repeat facts or monopolize class time. Presenting your ideas concisely and persuasively and responding effectively to others' ideas are key business skills. This course will help you sharpen those skills.

You cannot contribute to in-class discussions if you are not present. If you are taking the course asynchronously, be sure to participate regularly in discussions on Slack.

I will base my evaluation of in-class participation using the following criteria:

Outstanding Contribution. Your contributions reflect considerable preparation; they are substantive and supported by evidence from the case, readings, and logic. Your comments or questions create a springboard for discussion by making a critical insight. You synthesize and build upon what has already been said in the discussion. The class learns from you when you speak; in your absence, the discussions would suffer.

Good Contribution. You come prepared with substantiated comments. You demonstrate good insight and clear thinking. You connect to what has been said in prior discussion. The class notices when you are not part of the discussion.

Minimal Contribution. You participate but are unprepared. You rarely offer interesting insights into the discussion. It appears that you are not listening to what others are saying during discussion.

No Contribution. You say little or nothing in class. If you were not in the class, the discussion would not suffer.

To underscore the importance of participation, I allocate 10 percent of the course grade to class participation. I check to see who is on Zoom and for how long, who is watching the videos, and for how long, and I consider student contributions to Slack discussions.

ASSIGNMENTS, EXAMINATIONS, AND GRADING DETAIL

Trading Strategy Group Projects

You will participate in three trading strategy group projects during this course. I will assign the members your three groups after the end of the third week of class. Each group will have three to four members.

The three projects will require a written proposal to implement a trading strategy and a subsequent short oral presentation. The proposal will specify the strategy, the resources and systems required to implement the strategy, and the strategy's expected profitability. The three projects, respectively, will address three types of trading strategies:

1. A fundamental trading strategy,
2. A dealing, arbitrage, or technical trading strategy, and
3. An order-anticipating or behavioral-based trading strategy.

Your team will decide on a specific strategy. I encourage you to collect whatever information you believe would help you evaluate the profitability of the strategy.

Your group must submit your report by email to me before the 11:59 p.m. deadline to get full credit. Late reports will receive only half credit. The due dates appear in the course calendar below.

Your group report should include the following information in the following order:

1. Your assigned group name.

2. The names of your group members, in alphabetical order by last name.
3. A title for the strategy.
4. A one-sentence description of the strategy.
5. A 100-word abstract of the strategy.
6. A one- or two-sentence description of the organization that would implement the strategy.
7. A section detailing how the organization would implement the strategy.
8. A list of the resources required to implement the strategy and your estimate of the costs of assembling these resources.
9. A discussion of the circumstances under which you would expect the strategy to be profitable.
10. A discussion that identifies the risks of implementing the strategy and the circumstances under which you would expect the strategy to lose.
11. A quantitative analysis of the expected profits or losses from operating the strategy.
12. A discussion of how you will evaluate the performance of the strategy and how you will decide to terminate it or expand it.
13. A list of the most important assumptions upon which you base your analysis.
14. A final summary paragraph indicating whether you recommend that the strategy be undertaken.

I will post a simple example of a trading strategy report on Blackboard.

I will grade the quality of the project using the following rubric:

- | | |
|---|-----|
| 1. Depth of analysis—identification of relevant risk and profit issues | 20% |
| 2. Quality of economic analysis of risks and potential profits | 20% |
| 3. Quality and breadth of any supporting data analyses | 20% |
| 4. Clarity of written presentation | 20% |
| 5. Clarity of oral presentation | 10% |
| 6. Insight of proposal (my expectation of the probability that the proposed strategy would be profitable) | 10% |

I will base your combined grade on the three projects on

1. the quality grades I assign for the three projects in which you participate, and
2. the confidential assessments made by your group colleagues of the strengths of your contributions to the group projects.

I will do several statistical analyses to ensure that your grade accurately represents your contribution to each project.

I will assign an average project quality grade specific to you based on estimates of a fixed-effects regression model in which I will estimate the mean quality grade for your projects that accounts for variation associated with your fellow teammates and across the three project assignments. I will use the following fixed effects regression model:

$$ProjectQualityGrade_{ai} = Student_i + Assignment_a + e_{ai}$$

where $a = 1,2,3$ indexes the three assigned projects and $i = 1$ to n indexes the n students in the class. Your adjusted project quality grade will be the estimated value of $Student_i$ for you.

For each project, I will ask you to provide a quantitative assessment of the contributions of your team members using a questionnaire that characterizes intellectual and organizational leadership, research input, contribution to the project output, and collegiality. I also will ask you to write out the main contributions of each of your peers. You will submit this information to me over the internet following the completion of each project.

After considering the contribution statements, I will evaluate your contribution to the project by averaging your peers' quantitative assessments of your contribution across all projects. To this end, I will use a fixed effects regression model in which I will estimate your mean contribution that accounts for variation in how each student rates other students across all three projects, variation specific to your project, and variation across the three assigned projects. I will use the following fixed effects regression model:

$$\text{Contribution}_{aijg} = \text{Student}_i + \text{StudentEvaluator}_j + \text{Assignment}_a + \text{Group}_g + e_{aijg}$$

where $g = 1$ to $3k$ will index each group project with k being the number of groups per assignment, and $j = 1$ to n indexing the n students in the class. Your adjusted project contribution will be the estimated value of Student_i for you.

In fairness to all students, you may not discuss how you will evaluate any of your peers. You should base your evaluation of your peers on your impressions only. In no event should you come to any agreements with your peers about how you or they will evaluate any student.

In addition to asking you about your peers' contributions to the project, I will also ask you about the confidence you have in your assessments. Accordingly, if you do not know the contribution of a peer—perhaps because you were sick and did not observe the peer's contribution, you will have an opportunity to tell me that your opinion is not well-founded. I will adjust the weights in the regression to reflect any concerns I may have about the reliability of a reported contribution.

I will compute your grade on the three projects as the product of your adjusted project quality grade and your adjusted project contribution evaluation, after standardizing both scores to a mean of 10 and a standard deviation of 2.5 across all students in the class. I may adjust the results upwards or downwards if I believe that the aggregate class has performed better or worse than my expectations for this exercise.

Finally, I will reduce your total project grade by one third for every peer evaluation that you do not submit on time.

I designed these statistical methods to minimize the impact on your grade of variation in the contributions of the other members in your group. The grading scheme maximizes the individual incentives to cooperate to maximize the quality of your group reports.

Examinations

The examinations will consist of constructed answer (essay, one-sentence, one word) questions or, less commonly, multiple-choice questions. I structure the exams so that well-prepared students finish well before the end of the allocated time.

The final examination date will not change. Please check now to see that you do not have any conflicts.

If you miss the final exam, you will receive an incomplete in the course. If you miss the exam without reasonable excuse, I will assign a zero grade. If in my sole judgement, you have a reasonable excuse, we will make an appropriate arrangement to resolve the incomplete.

The final examination will be cumulative. I occasionally reuse questions from previous quizzes that I gave you—especially when poor performance on an important question suggests that students did not give as much attention studying a topic as I believe it merited. Accordingly, I strongly recommend that you review your graded quizzes to ensure that you can correctly answer questions that you missed in the past.

When writing quizzes and exams, I always refer to the detailed list of the learning outcome statements posted on Blackboard. Every question on a quiz or exam will involve knowledge identified by one or more of these learning outcome statements.

Old examinations with answers are posted on Blackboard. I do not post exams with multiple-choice questions.

Almost every class session will have a short quiz. A few sessions will not have quizzes. I will not announce the dates of the no-quiz sessions ahead of time. Accordingly, always come prepared for class to write a short quiz. The quizzes almost always cover topics assigned for that class session.

Only your top 15 scores on the 20 quizzes will count towards your aggregate quiz grade. If you miss a quiz for any reason, I will assign a zero for that quiz. There will be no makeup quizzes. If some constellation of events beyond your control causes you to miss more than five quizzes, bring the situation to my attention, document it, and we will make some arrangement to ensure that your grade does not suffer if I believe that failing to make such an arrangement would be unfair. At my sole discretion, I may give you one or more makeup quizzes, which may be written or oral, or I may gross up your score on the quizzes that you did complete.

Class Sessions and Preparation

Most of our class sessions will be “inverted.” We will use the class sessions for group and class discussions, problem-solving exercises, occasional trading games, and occasional lectures. To get the most benefit from the class sessions, you should come to class well prepared. Read the assigned readings and watch any associated videos before class.

I will occasionally will lecture on topics that do not appear in the textbook or to highlight issues in the text. If these topics appear in the list of learning outcome statements, they may appear on subsequent examinations.

Some Comments about Work Habits

Good discipline is a key attribute of successful businesspeople. Working independently toward a goal is vital to career success because supervisors often do not have the time or the desire to manage their subordinates closely. And good discipline is essential for entrepreneurs who have no supervisors.

Optional Homework

If you would like the discipline of turning in homework, here is what I suggest that you do: On most class days, submit via Blackboard a short write-up explaining in your own words the knowledge referred to in three learning outcome statements (“LOSs”). The LOS list is posted on Blackboard. In that list, statements marked with a hash mark (#) are the LOSs that I suggest that you write up. Of course, you can write up additional LOSs. Students who have written out in their own words all the LOSs generally do well in the course.

To avoid paraphrasing text from the book, I recommend that you write your first draft of your write-ups while the book is closed, at least one-half hour after reading the relevant passages. Then go back to the book to confirm that you are satisfied with your explanation, and amend it if necessary, again using your own words.

The LOSs that I selected for these optional homework assignments are among the more important LOSs for this class. Note, however, that these selected LOSs do not include all of the more important LOSs. While each LOS is important (I otherwise would not have included them on the list), some are more important than others (but all may be the subject of an exam question). If you would like help identifying the most important LOSs, ask me in class, during office hours, or call me.

Evaluation of Your Work

I will do my best to make my expectations for the various exams clear and to evaluate your answers as fairly and objectively as I can. If you feel that an error has occurred in the grading of any question, you may, within one week of the date the exam is returned to you, write me a memo in which you request that I reevaluate the assignment. Attach the original exam to the memo and fully explain why you think I should regrade the question. Be aware that the reevaluation process can result in three types of grade adjustments: positive, none, or negative.

USC Marshall Critical Thinking Initiative

The USC Marshall Critical Thinking Initiative is a school-wide effort to improve your critical thinking skills so that you can be more successful problem solvers in class and the workplace. In this course, you will engage in many learning activities to develop and apply your critical thinking skills in a disciplined manner so that you can outperform others to get your desired job and excel further in your career. Your ability to think critically is an important part of the evaluation/grading process in this course.

MARSHALL GUIDELINES

Add/Drop Process

Most Marshall classes are open enrollment (R-clearance) through the Add deadline. If an open seat is available, students can add the class using Web Registration. If the class is full, students will need to submit a Wait List application to secure a seat if one becomes available. The waitlist request form can be downloaded at <http://info.marshall.usc.edu/dept/gradreg/resources/Pages/default.aspx>. Students who do not attend the first two class sessions may be dropped from the course if they do not notify the instructor before their absence.

Further, if you are absent six or more times before March 5, 2021 (the last day to withdraw from a course with a grade of “W”), I may ask you to withdraw by that date. These policies maintain professionalism and ensure a system that is fair to all students.

Marshall Grading Guidelines

Assignment/Exam Grading Policy: As the instructor, I determine what qualifies as an accurate grade on an assignment, exam, or another deliverable, and my evaluation of the performance of each student is the final basis for assigning grades for the class. I may delegate some grading to assistants, but I remain responsible for all grades.

Retention of Graded Coursework

I retain final exams and all other graded works that affect the course grade for one year after the end of the course if I have not returned the graded work to the student. If I returned graded work to you, you are responsible for filing it.

Returned Papers

To protect the confidentiality of your work, you must pick up your own graded paperwork. I will not give your papers to anyone else. Students who miss class sessions when I return paperwork must come to office hours or arrange an appointment to retrieve the material.

Marshall Technology Policy

Laptop and Internet usage is not permitted during academic or professional sessions unless otherwise stated by the respective professor or staff. The use of other personal communication devices, such as cell phones, is considered unprofessional and is not permitted during academic or professional sessions. ANY e-devices (cell phones, iPads, other texting devices, laptops, I-pods) must be completely turned off during class time unless the device is required for the session. Upon request, you must comply and put your device on the table in off mode and FACE DOWN. You might also be asked to deposit your devices in a designated area in the classroom. Videotaping faculty lectures is not permitted due to copyright infringement regulations. Audiotaping may be permitted if approved by the professor. The use of any recorded or distributed material is reserved exclusively for the USC students registered in this class.

USC Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

I take my responsibility to promote good academic and personal contact seriously. Regrettably, my past reports of reportable offenses (and those of my colleagues) have led to serious consequences for irresponsible students.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1-800-273-8255 suicidepreventionlifeline.org

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | *Title IX* – (213) 821-8298 equity.usc.edu, or titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

USC Support and Advocacy - (213) 821-4710 uscса.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101 diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call dps.usc.edu, or emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call dps.usc.edu

Non-emergency assistance or information.

Office of Disability Services and Programs - (213) 740-0776 dps.usc.edu, ability@usc.edu.

USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs (dsp.usc.edu) provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday.

Students with Disabilities

USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability that may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs (www.usc.edu/disability). DSP provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. Email: ability@usc.edu.

COURSE CALENDAR

Class Sessions, Project Due Dates, and Reading Assignments

The final examination will take place as scheduled. The three trading strategy group projects are due at 11:59 p.m. on the days indicated below.

I may modify the topic schedule to meet the needs and interests of the class.

The topics below **correspond** to numbered chapters in the textbook, *Trading and Exchanges*. The assigned readings for each date include these chapters and any other readings indicated below. The monography *Trading and Electronic Markets* is available free from the CFA Institute Research Foundation. (See required materials above.) Complete the readings and related assigned videos before coming to class and come prepared to discuss them.

The course meetings will involve discussions, exercises, and lectures. When I lecture, I will primarily reinforce and expand upon the lessons in the readings and related videos. I often will not review them as I will assume that you have done the readings and watched the videos. You must read and study the assigned readings and watch any associated videos before coming to class.

Read the financial press every day. Come to class prepared to discuss current events in the markets. At a minimum, you must read the front page of the Money & Investing section of *The Wall Street Journal*. The business sections of the *New York Times*, *The Financial Times*, and *Investor's Daily* are also very good. Try reading the finance section of *The Economist* and any relevant special reports. Serious professionals follow current events in their industry. Be a securities industry professional, if only for the next 16 weeks. Reading the news will help you get more out of this class.

I strongly recommend that you read *Reminiscences of a Stock Operator* at your leisure. It is entertaining and fascinating. Although written a century ago, most of its themes remain relevant today.

I also strongly recommend that you read Richard Bookstaber's *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation*. This book provides an excellent summary of—and expansion upon—many of the concepts that we cover in this course. It is written at a level that you can understand without the benefit of this course, but you will get more out of the book after you have completed the first half of the course.

| Date | | Topics and Assignments |
|-------------|---|---|
| Jan 20 | W | Introduction Introductory Trading Games Read Chapter 1 – Introduction Read Chapter 2 – Trading Stories Read Chapter 3 – The Trading Industry Read the Forward and Chapter 1 of <i>Trading and Electronic Markets</i> |
| Jan 25 | M | Orders and Order Properties Read Chapter 4 – Orders and Order Properties |
| Jan 27 | W | Orders and Order Properties (continued) |
| Jan 22 | M | Market Structures Read Chapter 5 – Market Structures |

| Date | | Topics and Assignments |
|-------------|--------|---|
| Feb 1 | M | Introduction to Order-Driven Markets: Auction Bidding Strategies Read “Notes on Auction Bidding Strategies” Read Chapter 6 – Order-Driven Markets |
| Feb 3 | W | Order-Driven Markets (continued) |
| Feb 8 | M | Brokers and Ethics in Trading Read Chapter 7 – Brokers Read pages v, and 1-12 of CFA <i>Standards of Practice Handbook</i> |
| Feb 10 | W | Why People Trade Read Chapter 8 – Why Do People Trade? Read Chapter 2 of <i>Trading and Electronic Markets</i> |
| Feb 15 | M | No-Class President’s Day |
| Feb 17 | W | Good Markets Read Chapter 9 – Good Markets |
| Feb 22 | M | Informed Trading Read Chapter 10 – Informed Traders and Market Efficiency Read Chapter 3 of <i>Trading and Electronic Markets</i> |
| Feb 24 | W | Order Anticipators Read Chapter 11 – Order Anticipators |
| Mar 1 | M | Bluffing and Price Manipulation Read Chapter 12 – Bluffing and Price Manipulation |
| Mar 3 | W | Dealers Read Chapter 13 – Dealers |
| Mar 7 | Sunday | Fundamental Trading Strategy Group Project Due at 11:59 p.m. |
| Mar 8 | M | Dealer Trading Game |
| Mar 10 | W | Bid/Ask Spreads Read Chapter 14 – Bid/Ask Spreads |
| Mar 15 | M | Block Trading and Value-Motivated Traders Winner’s Curse Game Read Chapter 15 – Block Trading Read Chapter 16 – Value-motivated Traders Read “Winner’s Curse Mathematics” |

| Date | | Topics and Assignments |
|-------------|--------|--|
| Mar 17 | W | Arbitrageurs Read Chapter 17 – Arbitrageurs |
| Mar 22 | M | Buy-side Traders Read Chapter 18 – Buy-side Traders |
| Mar 24 | W | Liquidity and Volatility Read Chapter 19 – Liquidity Read Chapter 20 – Volatility |
| Mar 28 | Sunday | Dealing, Arbitrage, or Technical Trading Strategy Group Project Due at 11:59 p.m. |
| Mar 29 | M | Investment Performance Read Chapter 22 – Performance Evaluation and Prediction |
| Mar 31 | W | Transaction Cost Measurement Read Chapter 21 – Liquidity and Transaction Cost Measurement Read Chapter 4 of <i>Trading and Electronic Markets</i> |
| April 5 | M | Futures Trading Game |
| April 7 | W | No Class - USC Wellness day |
| Apr 11 | Sunday | Order Anticipating or Behavioral-Based Trading Strategy Group Project Due at 11:59 p.m. |
| April 12 | M | Index and Portfolio Markets; Specialists Read Chapter 23 – Index and Portfolio Markets Browse Chapter 24 - Specialists |
| Apr 14 | W | Off-Exchange Trading and Dark Pools Read Chapter 25 – Internalization, Preferencing, and Crossing |
| Apr 19 | M | Competition within and among Markets Read Chapter 26 – Competition within and among Markets |
| Apr 21 | W | Electronic Trading Read Chapter 27 – Floor versus Automated Trading Systems Electronic and High-Frequency Trading Read Chapters 5-7 of <i>Trading and Electronic Markets</i> |
| Apr 26 | M | Extreme Volatility Read Chapter 28 – Bubbles, Crashes, and Circuit Breakers Read Appendix A of <i>Trading and Electronic Markets</i> |

| Date | | Topics and Assignments |
|-------------|---|--|
| Apr 28 | W | Insider Trading and Review Read Chapter 29 – Insider Trading |
| May 7 | F | Final Examination , 8:00 a.m. – 10:00 a.m. |
| May 14 | F | University Commencement |

CONTACT INFORMATION

Addresses and Telephone Numbers

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You may call me at home, but please not before 7:00 a.m. after 9:30 p.m., on Friday night, or Saturday.

How to Reach Me

1. Drop-in during office hours—no appointment is necessary. I will keep office hours on Zoom at <https://usc.zoom.us/j/4657329913>. If you cannot find me on Zoom, give me a call.

My office hours this semester are:

| | |
|-----------|------------------------|
| Monday | 2:00 p.m. – 3:00 p.m. |
| Wednesday | 9:30 p.m. – 10:30 p.m. |
| Thursday | 6:30 a.m. – 7:30 a.m. |

2. Arrange to meet me by appointment.
3. Call me on the telephone. If you leave a message, please speak slowly and clearly when you give your phone number. You may call me at home or on my cell phone. Please do not call me at home before 7:00 a.m., after 9:30 p.m., on Friday night, or Saturday.
4. Arrange to dine with me (on Zoom) before or after class. Consider inviting your classmates too.
5. Send me an email at LHarris@USC.edu. While I am always happy to answer course topics, I prefer to respond orally rather than by email. The opportunity to listen and respond appropriately usually produces more effective learning. If you have course topic questions, consider posting them to Slack where a classmate may answer the question first, and where everyone can see my responses.