

Georgia Institute of Technology
Scheller College of Business
Finance & Investments (MGT 6078)
Fall 2018

Instructor: Daniel Weagley
Office: Management 412
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Class Time: TR 4:30PM - 5:45PM, 202 Management
Office Hours: By Appointment
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TA Office Hours: By appointment

Overview:

This course provides a sound foundation for the fundamental concepts in investments. We will cover the concepts of risk and return, asset allocation, portfolio theory, theories of asset pricing and efficient markets, portfolio strategies and performance evaluation methods. The course is quantitative and relies heavily on analytical tools. Basic knowledge of algebra, calculus, statistics and programming is necessary to complete course assignments.

Prerequisites:

Graduate level probability and statistics.

Resources:

Textbook: Asset Management by Andrew Ang (ISBN: 978-0199959327)

Optional additional text: Bodie, Kane and Marcus (BKM), Investments, 10th Edition. (ISBN: 978-0077861674)

Cases: Cases will need to be purchased from the Harvard Business School Publishing. Do not purchase cases until assigned. (Link)¹

Course Materials: Lecture notes, homework, sample exams and additional readings will be uploaded to Canvas

Evaluation:

Your course grade depends on your performance on assignments, exams, and class participation. Exams will cover material from lectures, assigned readings, and homework.

Note: The use of SAS and Python are recommended on certain assignments and projects.

Overall grades for the class are based on an absolute scale: A ($\geq 90.000\%$), B ($\geq 80.000\%$), C ($\geq 70.000\%$), D ($\geq 60.000\%$), and F. I will curve course grades if need be to ensure at

¹<https://hbsp.harvard.edu/import/558264>

least 60% of students receive an A. The remainder will receive a B unless their overall grade is $< 80\%$ and their grade is less than two standard deviations below the mean. These students will receive a C. Any students with an overall grade $< 70\%$ that is at least 3 standard deviations below the mean will receive a D.

Your course grade will be weighted as follows:

Assignment	Due Date	% of Grade
<i>Exams (50%)</i>		
Exam 1	Thursday, September 20	20%
Exam 2	Thursday, November 15	30%
<i>Projects (40%)</i>		
Equity Valuation	Friday, September 14	6%
Black-Litterman	Thursday, October 25	6%
Testing Factor Models	Thursday, November 8	8%
Trading Simulation	Thursday, October 11	14%
	Thursday, November 29	
Return Predictability	Tuesday, December 11	6%
<i>In-Class (10%)</i>		
Pre-Class Quizzes	Most Tuesdays	5%
In-Class Assignments	-	5%

Exams:

There will be two exams. The first exam is worth 20% of the course grade. The second exam is worth 30% of the course grade. There is no final exam. You must have prior permission to make up an exam. Only a special case will be considered a reason to permit you to take an alternate final exam. Exams will not be handed back in class. Students will be allowed to see their exam during office hours or another coordinated time for two weeks after the exam date. After two weeks, students will no longer have access to the exam and there will be no modification to the exam grade.

Projects:

Teams: Students will form teams of 3 members. Students will complete the team projects with their team. Team members will be asked to rate the effort given by each group member on each assignment.

Equity Valuation Project: Team members will work together to value the equity of a company and its peer firms using techniques learned in class. Team members will create a 5-minute “pitch” of the investment based on their analysis. Students will evaluate their

peers investment pitches and “make an investment decision.” The team with the most willing investors will receive extra credit worth 0.5% of your overall grade. Additional details will be provided in class.

Black-Litterman Project: This assignment requires students to create a program that implements the Black-Litterman model. More details will be distributed when the assignment is assigned.

Testing Factor Models: This assignment requires students to assess the performance of multi-factor models for asset returns. Machine learning techniques will be used to select a subset of factors. More details will be distributed when the assignment is assigned.

Trading Simulation: Team members will work together to invest \$1M of virtual capital over a multi-week period. The portfolio will be invested partially based on a professional money management strategy and partially according to the investment strategy of the members choosing (i.e., however the team would like to invest). The assignment will consist of weekly trading, an initial written report, a final written report and a presentation. The trading simulation will be worth 14% of your course grade. We will start trading after the first exam. The top team in terms of Sharpe ratio (as of Thursday, November 29th at the start of class) will get extra credit worth 1% of their overall grade.

Return Predictability: This assignment requires students to implement statistical and machine learning techniques to predict stock returns.

Pre-Class Work:

Each week I will assign material to read or watch before class. The in-class lectures, assignments and discussions will build on the assigned material. I expect students to read or watch all material before class. Your knowledge of this material will be assessed by the in-class quizzes and exams.

In-Class Work:

Pre Class Assignments:

Pre-class assignments are worth 5% of your overall grade. Pre-class assignments will be short quizzes. Usually 3-5 multiple choice questions.

In Class Assignments:

In-class assignments are worth 5% of your overall grade. If you miss class due to an excused absence, you can submit the in class assignment by the next class to receive full credit.

Other Responsibilities:

You are responsible for all announcements made in class. Check with your colleagues

if you miss class.

You will need to bring a computer to most Thursday classes. Laptops and cell phones are permitted during class. Cell phones may only be answered in case of emergency. Please refrain from visiting social networking sites and texting during class.

Honor Code

It is your responsibility to familiarize yourself with the Georgia Tech Honor Code. Students are expected to follow the Honor Code. Violations of Honor Code will result to an F grade in this course. Any violation of the code will be further reported to the university.

Tentative Class Schedule (subject to change):

Week	Class Topic	Homework and Exams
1	Syllabus and Basics of Finance	
2	Financial Statement Analysis	
3	Equity Valuation	
4	Trading Securities No Class Thursday, Sep. 13	Equity Valuation Project Due (Friday, September 14)
5	Exam 1	Exam 1 (Thursday, September 20)
6	Portfolio optimization: Setting up the problem (ch. 1 & 2)	
7	Mean-Variance Investing (ch. 3)	
8	Factor Theory (ch. 6)	Initial StockTrak Report Due (Thursday, October 11)
9	Factor Theory continued	
10	Factors (ch. 7)	Black-Litterman Project Due (Thursday, October 25)
11	Alpha (ch. 10)	
12	Factor Investing (ch. 14)	Testing Factor Models Project Due (Thursday, November 8)
13	Exam 2	Exam 2 (Thursday, November 15)
14	Aggregate Equity Returns (ch. 8)	Online Lecture (No Class Tuesday before Thanksgiving Break)
15	TBD/Presentations	StockTrak Report Due (Thursday, November 29)
16	Presentations	
17	-	Return Predictability Assignment Due (Tuesday, December 11)

Support Services and Resources:

In your time at Georgia Tech, you may find yourself in need of support. Below you will find some resources to support you both as a student and as a person.

Academic Support:

- Center for Academic Success
 - 1-to-1 tutoring: <http://success.gatech.edu/1-1-tutoring>
 - Peer-Led Undergraduate Study (PLUS): <http://success.gatech.edu/tutoring/plus>
 - Academic coaching: <http://success.gatech.edu/coaching>
 - <http://success.gatech.edu>
- Residence Life's Learning Assistance Program
 - Drop-in tutoring for many 1000 level courses
 - <https://housing.gatech.edu/learning-assistance-program>
- OMED: Educational Services
 - Group study sessions and tutoring programs
 - <http://omed.gatech.edu/programs/academic-support>
- Communication Center
 - Individualized help with writing and multimedia projects
 - <http://www.communicationcenter.gatech.edu>
- Academic advisors for your major
 - <http://advising.gatech.edu/>

Personal Support:

- The Office of the Dean of Students:
 - URL: <http://studentlife.gatech.edu/content/services>
 - Phone: 404-894-6367
 - Location: Smithgall Student Services Building 2nd floor
 - You also may request assistance at:
https://gatech-advocate.symplicity.com/care_report/index.php/pid383662?
- Counseling Center:
 - URL: <http://counseling.gatech.edu>
 - Phone: 404-894-2575
 - Location: Smithgall Student Services Building 2nd floor

- Services include short-term individual counseling, group counseling, couples counseling, testing and assessment, referral services, and crisis intervention. Their website also includes links to state and national resources.
- Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at 404-894-2204.
- Students' Temporary Assistance and Resources (STAR):
 - URL: <http://studentlife.gatech.edu/content/need-help>
 - Can assist with interview, clothing, food, and housing needs
- Stamps Health Services:
 - URL: <https://health.gatech.edu>
 - Phone: 404-894-1420
 - Primary care, pharmacy, women's health, psychiatry, immunization and allergy, health promotion, and nutrition
- OMED: Educational Services:
 - URL: <http://www.omed.gatech.edu>
- Women's Resource Center:
 - URL: <http://www.womenscenter.gatech.edu>
 - Phone: 404-385-0230
- LGBTQIA Resource Center:
 - URL: <http://lgbtqia.gatech.edu/>
 - Phone: 404-385-2679
- Veteran's Resource Center::
 - URL: <http://veterans.gatech.edu/>
 - Phone: 404-385-2067
- Georgia Tech Police: 404-894-2500

National Resources:

- The National Suicide Prevention Lifeline
 - Provides free and confidential support 24/7 to those in suicidal or emotional distress
 - Phone: 1-800-273-8255
- The Trevor Project
 - Provides crisis intervention and suicide prevention support to members of the LGBTQ+ community and their friends.

- Phone: 1-866-488-7386; available 24/7
- Chat: <http://www.thetrevorproject.org>; 3-10pm Eastern, 7 days a week
- Text: Text “Trevor” to 1-202-304-1200; available 3-10pm, M-F.

Statement of Intent for Classroom Inclusivity

As a member of the Georgia Tech community, I am committed to creating a learning environment in which all of my students feel safe and included. Because we are individuals with varying needs, I am reliant on your feedback to achieve this goal. To that end, I invite you to enter into dialogue with me about the things I can stop, start, and continue doing to make my classroom an environment in which every student feels valued and can engage actively in our learning community.