FINC-672 Workshop in Finance
Empirical Research

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COURSE DESCRIPTION

The objective of this course is to provide an overview of empirical research in finance. This course is divided into two main parts. In the first part students develop fundamental programming knowledge and data science skills in the Julia programming language. This part of the course is an intensive introduction to procedures for collecting, processing, and analyzing financial datasets which become increasingly important with the emergence and popularization of "big data" in finance. The second part of the course covers widely-used state-of-the-art statistical methodologies in empirical asset pricing. Students will learn to apply programming techniques to real-world empirical research questions in the equity markets and fixed income markets.

LEARNING GOALS

After completing this course, students will have a thorough understanding of fundamental programming concepts and tools in financial data science, and be able to apply these skills to real-world problems in empirical asset pricing.

COURSE MATERIALS

All course materials will be posted on the course webpage at https://fleckenstein-m.github.io/FINC672-SP2022/.

COURSE REQUIREMENTS

    10% Class Participation
    30% Midterm
        March 22, 2022
    30% Final Exam
        May 17, 2022
    30% Class Project
        Due May 24, 2022

Updated December 18, 2021

EXPECTATIONS

The Higher Education Act of 1965 (Amended) defines a credit hour as the following:

> *Credit hour: Except as provided in 34 CFR 668.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

This course is three credit hours. I expect you to: - Come to class with a copy of the lecture slides, ready to go through them. Prior to each class, I recommend skipping through the next 25 slides or so. - Review the lecture slides after we have gone over them in class, making sure that you understand what we went over in class. - Attempt the examples in the lecture slides. - To the extent that you do not understand some of the material, ask questions, either via e-mail (if the questions are short) or during office hours. If you have a long question, but cannot make regularly scheduled office hours, e-mail me to make an appointment and we will find a mutually agreeable time.

POLICIES

Fairness

I will make every effort to treat students with dignity and fairness and to be sensitive to the diversity that exists within the student body. Students with disabilities who request help will be given reasonable accommodation with the assistance of the Office of Disability Support Services (http://sites.udel.edu/dss). Please feel free to speak to me in private about any related issues.

Academic Misconduct

Students are expected to abide by the University of Delaware Code of Conduct. Among other things, please do not submit plagiarized work or give or receive information during exams and please provide proper acknowledgment in work when applicable. *Academic misconduct includes the use of websites such as CourseHero and Chegg.* The University's General Counsel has provided the following regarding such websites.

> *Notice: The University of Delaware owns a non-exclusive right to faculty materials that will be given to you during the course. These materials include ideas and comments provided by the instructor during class; test questions; handouts and course materials; and other materials representing*

the copyright-protected intellectual property of course instructors. You are prohibited from entering into relationships with web sites such as Course Hero, Notehall, or similar sites under which you agree, in exchange for the payment of a fee or salary, to post these materials online. Violations of this prohibition will be referred to the Student Conduct Office for investigation and disciplinary action under UD's Code of Conduct.

Classroom Conduct

Please silence all cell phones and do not text in class. Laptops and tablets will be permitted in class for note-taking purposes, but please do not distract your classmates by using your laptop to surf the internet or conduct other business during lecture. I reserve the right to ban the use of laptops and tablets if they become a distraction. I also ask that students remain professional and respectful during class discussions.

Questions Outside of Class

For any questions that have not been sufficiently answered in class, please e-mail me or come to office hours.

Absences from Exams

Absences from quizzes and exams will only be excused with written documentation from an appropriately accredited professional (e.g. a medical doctor).

Other Policies

As a general rule, I will follow the University of Delaware's policies on any issues that are not spelled out in this syllabus. This includes, but is not limited to, UD's Title IX policies (https://sites.udel.edu/sexualmisconduct/title-ix/).

SCHEDULE

Week 1 (February 8/10)

Course Syllabus
Introduction to the Julia programming language
Julia Programming Basics

Week 2 (February, 15/17)

TBD

Week 3 (February, 22/24)

TBD

Week 4 (March, 1/3)

 TBD

Week 5 (March, 8/10)

 TBD

Week 6 (March, 15/17)

 TBD

Week 7 (March, 22/24)

 Midterm

Week 8 (March, 29/31)

 Spring Break

Week 9 (April, 5/7)

 TBD

Week 10 (April, 12/14)

 TBD

Week 11 (April, 19/21)

 TBD

Week 12 (April, 26/28)

 TBD

Week 13 (May 3, 5)

 TBD

Week 14 (May, 10/12)

 TBD

Week 15 (May, 17/19)

 Final Exam.

RESOURCES

 Storopoli, Huijzer and Alonso (2021). Julia Data Science. https://juliadatascience.io.

Cheatsheets

Getting Started with Julia - live.
Fastrack to Julia cheatsheet.
MATLAB-Julia-Python comparative cheatsheet by QuantEcon group
Plots.jl cheatsheet

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