FRE-GY 7043
Financial Engineering Capstone: project

3.00 credits
Section: Industry project
Course Outline
Spring 2021

Instructor Information

- Professor Agnes Tourin
- 1 MetroTech Center N, 10th floor
- Phone: 646 997 3889
- Office hours: by appointment (remote)
- atourin@nyu.edu

Course Information

- This course is currently offered in the fall, spring and summer semesters (note that the duration of the fall and spring semesters is 14 weeks whereas the summer semester is 12 weeks long.
- Specific projects are proposed by companies in the financial industry.
- In this project course, students work on a project, under the supervision of a company's employee and the course's instructor. However, the course is intended to be largely self-directed within the guidelines established by the supervising faculty member. Depending on the particular project, students will either work individually or in a team. The main deliverable will typically be a software product or a conclusion drawn from data analysis. A significant written component is also required.
- **Prerequisites:** This course should be taken after the student has successfully completed two semesters and has earned at least 18 credits.
- Meetings with the company's employee: weekly (usually remote)
- Meetings with the course's instructor: at least two individual meetings per semester (3rd week and 12th week).

Course Overview and Goals

The topics covered are extremely varied, ranging from portfolio and risk management to the analysis of alternative financial data with machine learning techniques. Students will be given

the opportunity to practice applying the techniques learned through their coursework in the m.s. Program in Financial Engineering.

Upon Completion of this Course, students will

- be able to solve industrial problems in Finance by analyzing data, designing news methods and models, developing algorithms and software products.
- have gained expertise in a specific industrial area such as portfolio and risk management, trading, execution, regulations, derivatives pricing, hedging, asset valuation, or credit risk.

Course Requirements

- Students will undergo a midterm review. They will be required to produce a draft of their report by mid semester (end of week 7).
- Students are required to submit a final report on the last day of classes, both to their industry advisor and the course instructor.

Grading of Assignments

The grade for this course will be determined according to the following formula:

Activities/assignments	% grade
Meetings with instructor	15%
Midterm draft (read by instructor)	0%
Grade suggested by the industry advisor	70%
Final report (graded by instructor)	15%

The grades will be posted on NYU classes.

Letter Grades

This course will be graded with a letter grade Letter grades for the entire course will be assigned as follows:

Letter Grade	Points	Percent
A	4.00	95% and higher
A-	3.67	90.0 – 94.99%
B+	3.33	87% - 89.99%
B	3.00	83% - 86.99%
B-	2.67	80% - 82.49%
C+	2.33	77% - 79.99%
C	2.00	70.0% - 76.99%
F	.00	69.99% and lower

Resources

- **Access your course materials**: NYU Classes (nyu.edu/its/classes)
- **Databases, journal articles, and more**: Bern Dibner Library (library.nyu.edu)
  NYU Virtual Business Library (guides.nyu.edu/vbl)
- **Obtain 24/7 technology assistance:** Tandon IT Help Desk (soehelpdesk@nyu.edu, 646.997.3123)
  NYU IT Service Desk (AskIT@nyu.edu, 212-998-3333)

Inclusion statement

The NYU Tandon School values an inclusive and equitable environment for all our students. I hope to foster a sense of community in this class and consider it a place where individuals of all backgrounds, beliefs, ethnicities, national origins, gender identities, sexual orientations, religious and political affiliations, and abilities will be treated with respect. It is my intent that all students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. If this standard is not being upheld, please feel free to speak with me.

Policies

Academic Misconduct

A. Introduction: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.
B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:
    1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.
    2. Fabrication: including but not limited to, falsifying experimental data and/or citations.
    3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.

4. Unauthorized collaboration: working together on work that was meant to be done individually.
5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.
6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.

Disability Disclosure Statement

Academic accommodations are available for students with disabilities. Please contact the **Moses Center for Students with Disabilities** (212-998-4980 or mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.