NYU Tandon School of Engineering

Financial Software Lab: Java (1.5 units)

FRE 6811

Fall 2020

Instructor: Dr. Sateesh Mane

Contact email: sateesh.mane@nyu.edu

Class hours: Friday 6:00 – 8:41 pm, Rogers Hall RH 241.
Prerequisites: Graduate standing.

Course Goals:

This course covers programming applications to financial engineering. The lectures will emphasize the use of object oriented programming (OOP). Programs will be written using the Java programming language. The course will begin at an elementary level, for students will little programming background, but the goal is to develop sufficient proficiency to write good quality programming applications for interest rate calculations, bonds and yield curves and option pricing models. Students will be expected to learn not only computational algorithms but also to understand the principles underlying the algorithms.

Reference text:

- Walter Savitch and Kenrick Mock, *Absolute Java*, 6^{th} ed.

Topics *(not an exhaustive list, and not necessarily in order of lecturing)*

- Getting started: set up project, package, starter program.
- Data types, declaration of variables, arrays.
- Arithmetic operations, conditional statements.
- Flow of control: loops, break & continue.
- Functions.
- Class objects: data members, methods, constructors.
- Container classes.
- Algorithms.
- Applications for financial instruments: bonds, options, etc.

Grading Policy:

Midterm 1	(9/18/2020)	20%
Midterm 2	(10/2/2020)	20%
Final	(10/16/2020)	30%
Homework & Projects		30%