Department of Accounting & Finance
College of Business
Texas A&M University-Commerce

FIN 550 (01W) – Advanced Financial Modeling
Spring Semester, 2024

Instructor: Dror Parnes, Ph.D.
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Class Hours: Anytime, online course
Course Dates: 1/29/2024 – 5/10/2024

Course Description and Objectives

This course aims towards graduate students who wish to learn the application of rigorous computational methods and to implement them to concepts of finance studied in introductory and other advanced finance courses using Microsoft Excel. The course provides students with the opportunity to develop the skills needed to build various financial models. The course primarily focuses on models used for corporate valuation, capital budgeting, optimal portfolios, different investment techniques, bonds, options, regressions, and simulations. This course is a hands-on, assignments-based course focusing on getting students to work with Excel to solve advanced computational problems from a broader range of finance concepts. Students will accordingly enhance their capabilities of analytical problem solving in common business environments.

Prerequisites

FIN 504, FIN 510, and basic knowledge of Calculus, Algebra, Statistics, and Accounting.

Three Recommended Textbooks

(1) "*Financial Analysis with Microsoft Excel*," 9th edition, by: Timothy R. Mayes and Todd M. Shank, South-Western Cengage Learning, 2019.
(2) "*Principles of Finance with Microsoft Excel,*" by: Simon Benninga, 2nd Ed., Oxford University Press, Inc., 2006.
(3) "*Financial Modeling,*" by: Simon Benninga, The MIT Press, 4th Ed., Cambridge, MA, 2014.

 We will not strictly follow these textbooks. There are topics in the course that somewhat deviate from the books. These textbooks are only recommended but not mandatory, and they can be used as support or enrichment sources, but all you need for the course is my Excel files and my presentations that contain numerous examples and ideas on how to build and solve different financial models.

Project and Grading

There is only one Excel based assignment / project to submit (directly email it to Dror.Parnes@tamuc.edu) by the end of the semester. Nevertheless, this project contains many problems (where most of them contain multiple sections within). This is a very time-consuming project, and it requires many hours of work and careful attention to small details (computers neither forget nor forgive, so check and check again both your steps and your final solutions). Please carefully follow the detailed instructions for this project. Your final grade depends on it.

In addition, it is *mandatory* to send me by email (to Dror.Parnes@tamuc.edu) your incomplete projects about half-way through the semester (the specific date / deadline will be posted on D2L). *This task has no grade attached to it, yet it is a mandatory assignment*. Regardless of how much you were able to accomplish in this Excel based project, or how many problems you were able to solve thus far, you must email it to me, so I will be able to provide you feedback in a timely manner. This is the only way for me to direct you in case you start to deviate from the goals of this course. This is also my way to provide you with extra help, but clearly you can always email me clarifying questions and requests throughout the course.

Course Content and Communication

All communications will take place through TAMUC official website (D2L).

Grading System

Your final grade will be based solely on the Excel based assignment / project. I will then assign a final grade according to: 'A' (from 90 to 100), 'B' (from 80 to 90), 'C' (from 70 to 80), 'D' (from 60 to 70), 'F' (less than 60). *There will be no more optional bonus points or mercy assignments, so make sure to do your best on all of the problems in the project, because every point counts!*

Attendance and General Behavior

This is an online course and students must have high self-discipline. It is your responsibility to listen to the lectures, to download / print the presentations and the Excel spreadsheets, and to take as many notes as you can. If you have additional questions, catch my attention right away (likely through email), or come to discuss them over office hours, but please do not wait until the last moment in this course.

Students with Disabilities

The Americans with Disabilities Act (ADA) is a Federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services, Gee Library Room 132
Phone: (932) 886 – 5150 or (932) 886 – 5835
Email: *Rebecca.Tuerk@tamuc.edu*

Scholastic Dishonesty

Academic integrity is the cornerstone of the university. Any student, who attempts to gain an unfair advantage over other students by cheating, will fail the course and be reported to Texas A&M University-Commerce. "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conductive to a positive learning environment" Student Handbook.

Nondiscrimination Statement

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all Federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to ((http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Counseling Center

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

AI Use Policy

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest

replacements for text beyond individual words, as determined by the instructor of the course. Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided, the student should assume that the use of such software is disallowed. In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

Class Schedule

Class	Topic
1	Introduction, Explanations about the Excel Project
2	PV, FV, PMT, NPV, IRR, EFF in Excel
3	Corporate Valuation in Excel
4	Bonds in Excel
5	Portfolio Returns, the Efficient Frontier, CML, CAPM, Performance Measurements, Beta Calculations in Excel
6	Options, Put-Call Parity, Black-Scholes Formula in Excel
7	The Binomial Model for American Options in Excel
8	Market Efficiency with a Case Study in Excel
9	The Variance – Covariance Matrix in Excel
10	The Black – Litterman Approach to Portfolio Optimization in Excel
11	Various Distributions (Normal, Log-Normal, etc.) in Excel
12	Value at Risk (VaR), Bootstrap Method in Excel
13	Portfolio Insurance, Monte Carlo Simulation in Excel
14	Credit Risk, Regressions in Excel

☝ The schedule is due to possible changes…

Good luck!