Financial Modeling using Excel

FIN455B*(CRN: 48693) and MBA619B(CRN: 48694)*

Spring 2019 (Lecture:1/14/2019 – 5/4/2019)

Instructor:	Paul Yan
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Lecture Hours/Location:	MWF:10:40am - 11:35 am @ OM119
Office Hours/Location:	W: 9:30am-11:00am Or by appointment @ CT308
Prerequisites:	FIN201 or equivalent
Textbook:	My lecture notes (will be posted on D2L)
Websites:	https://d2l.canisius.edu/d2l/home (for syllabus, data cases, readings, etc.) http://canisius.edu/~yany/excel (for learning Excel)
QR codes	
Course Description:	Four objectives: 1) Review or learn many financial theories such as time-value of money, NPV rule, IRR rule, capital budgeting, portfolio theory, options theory and Monte Carlo Simulation. 2) Learn or review many basic/advanced concepts and functions of Microsoft Excel, such as PV(), NPV(), XNPV(), IRR(), pivotal table, VLOOK(), Date and time functions, solver() and very basic VBA (Visual Basic Application). 3) Learn the fundamentals and practice building financial models using Excel. For example, after reviewing CAPM, students learn how to download historical data from Yahoo!Finance to estimate IBM's market risk. After learning Black-Sholes option model, students learn how to price a European call using Excel. 4) Learn how to use real-world data to answer many financial modeling questions. Those publicly available data sources are Yahoo!Finance, Google Finance, Federal Reserve Bank's data library, SEC filings and Prof. French's data library.
Computational Tool	Microsoft Excel
R software	R is free software which could be downloaded at http://r-project.org

One line R command	> source("http://canisius.edu/~yany/fm.R") Note #1: I will explain the above line during the first lecture. Note #2: For this course, I will NOT teach R. Literally, students are responsible for the above one-line R code..
Academic Integrity:	Students are expected to know and understand college policies with regard to Academic Integrity Code. Violations of academic integrity will be prosecuted fully. Please note that you are responsible for reporting any instances where other students have violated these policies. Failure to do so will result in penalties as well. If you have any questions about this policy, please see the instructor.
Attendance Policy:	Attending classes regularly is required. Before-class preparation and in-class participation is an integral part of this course. Students are strongly encouraged to participate in class discussions and ask questions. Students are encouraged to discuss current events relevant to this course or their own experiences. Homework problems are regularly assigned.
Academic and Accessibility Support Services:	The GRIFF Center for Academic Engagement provides comprehensive programs, tutoring services, and resources to support student academic and career success. If you would like to learn more about academic support, please stop in Old Main 013 or call 716-888-2170. Visit the GRIFF Center webpage at: http://www.canisius.edu/griff-center/ . Accessibility Support (716-888-2170), which is located in the Griff Center for Academic Engagement (OM 013), is responsible for arranging appropriate academic accommodations for students with documented disabilities. If anyone in this course falls into this category, please contact Accessibility Support so that an appropriate course of action may be determined. For additional information, see http://www.canisius.edu/dss/
Course Level Learning Goals:	Know the functionalities of various Excel embedded functions Understand how to formula a financial problem Knowledge with spreadsheet to present your problem Deign a good way to solve your model Generalize your models
College, Program and Major Learning Goals:	This course is designed to help students achieve one or more College Core, Business Program and/or Major level learning goals and objectives. You can see the specific College, Program or Major level learning goals and objectives associated with the course from this page on the College website: http://bit.ly/bcoreLG
Grade Evaluation:	Data cases 30% Midterm 20% Final exam 20% Term paper 15% Term paper presentation 5% Class participation 10% ---------- Total 100%
Course Schedule:	For the detailed schedule, see below. I reserve the right to change the course schedule throughout the semester. Changes to the schedule will be announced in class or via email.
Academic calendar	https://draftcatalog.canisius.edu/undergraduate/academic-calendar/

Term paper

Each group could have up to 3 members. After mid-term, a list of potential topics would offered. Each group could choose one of those topics and write a short report (maximum page limit: 15, double space, font of 12). Before start your project, please contact me for an approval of the topic since there should be no duplicate topics.

Course Schedule:

Week	Date	Contents of the lecture	Notes
1	1/14 1/16 1/18	Self intro. & syllabus discussion, Review of basic concepts Chapter 1: R installation and Excel basics Chapter 16: R basics	
2	**1/21** 1/23 1/25	**Martin Luther King Day - No Classes** Chapters 1 & 6 (continues) Chapter 2: Time value of money Chapter 17: Excel basics	Data Case #1
3	1/28 1/30 2/1	Chapter 3: Financial Statement Analysis Chapter 18: Source of open data Chapter 19: Utility and supporting functions	Data Case #2
4	2/4 2/6 2/8	Chapter 4: risk and return Chapter 20: widely used Excel functions	Data Case #3
5	2/11 2/13 2/15	Chapter 5: Interest rate, stock/bond evaluations Chapter 21: Vloopkup() and solver	Data Case #4
6	**2/18** 2/20 2/22	**President's Day Break - No Classes** Chapter 6:T-test, F-test, tests of equal variances (means) Chapter 22: Data input	Data Case #5
7	2/25 2/27 3/1	Chapter 7: CAPM (Capital Asset Pricing model) Chapter 23: Data manipulation	
8	3/4 **3/6** 3/8	Before mid-term review **Mid-term** Chapter 8:Multi-factor models (ff3, ffc4, ff5)	

Week	Date	Contents of the lecture	Files
9	3/11 3/13 3/15	Chapter 8 (continued) Chapter 9: Various distributions Chapter 24: Data output	
10	**3/18** **3/20** **3/22**	**Spring Recess Begins - No Classes**	
11	3/25 3/27 3/29	Chapter 10: Black-Scholes options models Chapter 25: Simple graphs	
12	4/1 4/3 4/5	Chapter 11: Monte Carlo Simulation Chapter 11 (continued)	
13	4/8 4/19 4/12	Chapter 26: Matrix manipulation Chapter 12:VaR (Value at Risk) Chapter 27: Simple Macro	
14	4/15 **4/17** **4/19**	Chapters 12, 27 (continued) **Easter Break - No Classes** **Easter Break - No Classes**	
15	4/22 4/24 4/26	Chapter 13: Portfolio Theory Chapter 28: Simple VBA **Student presentation**	
16	5/1	**Student presentation**	
	TBA	**Final**	