FIN 4380: Financial Modeling and Decision Making

Instructors	E-mail	Office	Office Hours
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Class time: MW 1:00 pm – 2:15 pm   **Classroom:** HAZY 200

Pre-requisites

FIN 3150 Managerial Finance I (can be concurrently enrolled)

Course description from the Catalog

Required of students pursuing an emphasis in Finance; open to other interested students in the School of Business. Applies economic theories to solve various problems in financial management and investments using a hands-on approach in building financial spreadsheet models in Microsoft Excel.

Summary of the Class

This introductory financial modelling course is designed to give you the necessary technical skills to build financial models to help users of these models to make informed financial and managerial decisions. The course uses MS Excel. Though most of the cases in this course are in the field of finance, the Excel skills covered in this class can be applied in accounting, management, MIS, marketing or even many fields outside of business discipline. The different topics covered in class include the following:

- Best practices and principles of financial modelling in MS Excel;
- Designing the model by identifying the audience, users, context, purpose, inputs, outputs and intermediate modules;
- Financial modeling techniques, MS Excel functions and tools for financial modeling;
- Being considerate of the model users and target audience;
- Formatting and organizing model inputs and managing input data;
- Building the core model that transforms the model inputs into outputs;
- Stress-testing, scenario analysis and sensitivity analysis;
- Security of the financial models;
- Presenting the model outputs;
- Analyzing and summarizing the model results to support the decision making.

Udvar-Hazy School of Business Learning Outcomes (LO)

This course is intended to address the following program learning outcomes on the introductory and developmental levels:

1. A working level knowledge of the core functional areas of business:
    A. Students will demonstrate a working level knowledge of core business functions related to finance.
    B. Students will be able to analyze a complex business situation, identify relevant business issues, opportunities and problems.
2. The ability to apply higher levels of critical thinking:
    A. Students will be able to analyze business situations by performing appropriate quantitative and qualitative analysis, synthesize to form alternative solutions; and make recommendations for viable courses of action.
3. The interpersonal and communication skills necessary to succeed in business:
    A. Students will deliver professional quality oral presentations
    B. Student will prepare professional quality written presentations
    C. Students will identify the essential elements of successful teamwork and will reflect upon their competency and experiences in applying them
4. The ability to identify and resolve ethical issues:
    A. Students will analyze a complex business situation, identify relevant ethical issues and suggest ethical courses of action.

Course Learning Objectives (CLOs)

1. Understand the nature of financial modeling. [LO 1A]
2. Understand the skills necessary to become a financial modeler. [LO 1A]
3. Identify and prioritize assumptions that are necessary for the modeling, analysis and decision making. [LO 1B & 2]
4. Know how to manage and format model inputs and input data. [LO 1B & 2]
5. Become familiar and know how to apply different modeling techniques and tools. [LO 1B & 2]
6. Become familiar and know how to apply sensitivity analysis, scenario analysis and stress-testing methods. [LO 1B & 2]
7. Prepare graphical illustrations of model outputs. [[LO 2 & 3B]
8. Know how to use MS Excel techniques for financial modeling. [LO 1B]
9. Know how to use advanced Excel functions for financial modeling. [LO 1B]
10. Know how to apply introductory VBA programing techniques in MS Excel for financial models. [LO 1B]
11. Know how to error check and debug MS Excel models. [LO 1B]
12. Analyze, synthesize and summarize model outputs, determining key findings that support the decision of the model user. [LO 2A]

Textbooks and required readings

There is no mandatory textbook in this course but I highly recommend you get at least one text about financial modeling. I have made recommendations about different books about financial modeling on Canvas.

I will also provide materials on Canvas that I expect you to read as the theory of modeling is important groundwork for good modeling practices.

Canvas

As an Udvar-Hazy School of Business student you will need to have a laptop and Internet access. If you do not have Internet access at home, you can access Canvas in the library at the Holland Centennial Commons, UHB Lab 200, or at the CIS Computer lab at HAZY 151.

Course readings, assignments and discussions will be posted on Canvas.

Individual In-class Assignments

Our class time will be used to practice different financial modelling techniques and tools in class. After covering some examples about specific modeling technique or topic we will give you a case study for which you will have to build a financial model. These cases will take several class periods to finish. Though we may show our own examples of how we have approached the models, you should build your own model and **NOT copy or replicate** our model.

In-class assignments are individual and will be graded. They should be submitted on Canvas at the end of the class or by assigned deadline. Late work is not accepted.

Exams

There will be two exams in this course.

Course Grade

Your course grade will be based on the total points accumulated on the various assignments completed. The following weights pertain to those assignments:

- ◈ Individual Assignments: …………….. 50%
- ◈ Mid-term Exam: …………………… 25%
- ◈ Final Exam: …………..…………… 25%

$$\text{100\%}$$

The letter grades will be assigned as follows:

93% and up – A	83.0-86.9% – B	73.0-76.9% – C	63.0-65.9% – D
90.0-92.9% – A-	80.0-82.9% – B-	69.0-72.9% – C-	60.0-62.9% – D-
87.0-89.9% – B+	77.0-79.9% – C+	66.0-68.9% – D+	Below 60% – F

Class Rules and expectations

Students who attend class, come to class prepared, and participate tend to do better in this class. This class requires you to take active role in your learning. Come to class prepared and get involved. It is my responsibility as an instructor to manage the classroom environment to ensure a good learning climate for all students. I expect you to help by doing the following: (1) turn off your cell phones; (2) do not talk when the presenter is talking; (3) speak and act respectfully to the fellow students; (4) use your laptop or tablet for class purposes only; and (5) please be on time to class!

Student Rights and Responsibilities Policy:

http://catalog.dixie.edu/codeofstudentrightsresponsibilities/

Disability Accommodations

If you are a student with a medical, psychological, or learning disability or think you might have a disability and would like accommodations, contact the Disability Resource Center (652-7516) in the North Plaza and inform me at the **beginning** of the semester. The Disability Resource Center (http://dixie.edu/drcenter/) will determine eligibility of the student requesting special services and determine the appropriate accommodations related to their disability.

Academic Integrity

In order to ensure that the highest standards of academic conduct are promoted and supported, students must adhere to generally accepted standards of academic honesty, including but not limited to, refraining from cheating, plagiarizing, falsification, misrepresentation, and/or inappropriately collaborating. The University shall hold students accountable for instances of academic dishonesty and apply appropriate consequences. Refer to **Student Rights and Responsibilities Policy, Section 4 part XI** for detailed explanation about student misconduct: http://catalog.dixie.edu/codeofstudentrightsresponsibilities/ .

Title IX Statement

DSU seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of sexual harassment/misconduct/assault we encourage you to report this to the college's Title IX Director, Cindy Cole, (435) 652-7731, cindy.cole@dixie.edu. If you report this to your instructor or the teaching assistant, she or he must notify the DSU Title IX coordinator about the basic facts of the incident.

Additional Resources
Academic Calendar - https://old.dixie.edu/reg/?page=schedule&page=schedule
Library: http://library.dixie.edu
Testing Center - http://dixie.edu/testing
Tutoring Center - http://dsc.dixie.edu/tutoring/
The Office of Ombuds: http://ombuds.dixie.edu/

Tentative Class Schedule

WEEK	TOPICS	ASSIGNMENT DUE	READINGS
1	Introduction What is Financial Modeling?		
2	Understanding the Problem & Audience Conceptualizing the Model		• FAST Standard • 20 Principles of Good Spreadsheet Practice
3	**Labor Day** Designing the Model		
4	Developing and Organizing Assumptions & Inputs		
5	Financial Statement Forecasting		
6	Financial Statement Forecasting Circular References in Excel		
7	Retrieving Input Data from Online & Other Sources		
9	Organizing and Retrieving Input Data LOOKUP functions	Index/Match		
10	Matrix & Array functions in Excel Excel Solver	**Mid-term Exam**	
11	Portfolio Optimization Model & Efficient Frontier		
12	Risk Analysis & Sensitivity Analysis		
13	Monte Carlo Models		
14	Model Outputs		
15	Illustrations of Model Outputs: Graphs / Charts / Summary Tables		
16	Decision Making based on Model Outputs		
17	**Final Exam : Take home case study**		