Financial Modelling
(FIN-456)

National University of Sciences & Technology
(NUST)

BS A&F 2K19

Course Details:

Course Title: Financial Modeling

Credit Hours: 3

Course Code: FIN-456

Pre-requisite: (Code)

Program: BS A&F 2K19

Sections: A & B

Course Description:

This course is designed to provide a link between theory and practice in Finance. The core objective is to equip students with the required knowledge and skills of building financial models using Microsoft Excel and Python. In order to achieve this objective, students will learn basic programming and modelling skills in Excel and Python for solving complex financial problems. Students will learn not only the mechanics of modeling, but also how to interpret the numbers and use them in financial decision making. On completion of this course, students would have developed the confidence and skills required to build their own financial models to tackle problems in different areas of finance.

Course Learning Outcomes:

CLO 1. Demonstrate an understanding of the financial theory underlying financial models

CLO 2. Choose key variables tailored to the specific business or industry

CLO 3. Build proforma financial statements to predict the future performance of the business

CLO 4. Analyse a variety of financial models to make an efficient business decision

CLO 5. Make use of the computing software/languages used by practitioners to build financial models

CLO 6. List the outcome from financial models in a professional report form

Program Goals & Learning Objectives:

Goals & learning objectives of the BBA Program are:

Goal 1: Students will acquire knowledge to analyze business problems

LO 1.1: Students will be able to understand problems in a business setting

LO 1.2: Students will be able to analyze problems using business knowledge

Goal 2: Students will work in team settings

LO 2.1: Students will be able to work towards achieving team goals

LO 2.2: Students will be able to demonstrate effective team behavior

Goal 3: Students will learn to communicate effectively

LO 3.1: Students will be able to communicate effectively in oral presentations

L0 3.2: Student will be able to create professional reports

Goal 4: Students will deal with the ethical dilemmas that arise in a business environment

LO 4.1: Students will be able to identify ethical concerns emanating from a business situation

L0 4.2.: Students will be able to apply ethical guidelines to address business problems by examining set of alternatives

Mapping - CLOs with LOs

Learning Objective	LO 1.1	LO 1.2	LO 2.1	LO 2.2	LO 3.1	LO 3.2	LO 4.1	LO 4.2	Not mapped	Evaluation Item
CLO 1	●									
CLO 2	●									
CLO 3		✓								Project
CLO 4		✓								Quiz
CLO 5		✓								Quiz
CLO 6										

Note: ✓ indicates mapped and assessed CLO, ● indicates mapped but not assessed CLO and X indicates unmapped

Required Course Material:

Textbook (s):

Financial Modeling, Author: Simon Benninga, Edition: (4th Edition) ISBN: 978-0-262 02728-1 Publisher: The MIT Press.

Reference Book (s):

Python for finance: mastering data-driven finance, Author: Yves J. Hilpisch, Edition: (4th Edition) ISBN: 978-1-492-02433-0 Publisher: O'Reilly Media.

.

Other Material:

-Introduction to Python, (CFA Society Pakistan and the Marquee Group)

-Breaking into Wallstreet, Modules 1, 2, 3, 4

Course Evaluation:

Grading will be done as per NBS criteria. The breakup is as follows:

Final Exam 40%

Midterm 20%

Final Project 15%

Quizzes 15%

Class Participation 10%

(Including Class Activities/Case Study Discussions)

Weekly Schedule:

Week	Lecture No. and Topic	Preparation Material	Session Outcomes (Students should be able to…)
1	What "Financial Modeling" is, and the core concepts The financial modelingprocesses Financial modeling inreal life	Module 1: BIWS Files	Develop an idea of a Financial Model
2	Case Study: The 3 financial statements	Module 2: BIWS Files	Review core concepts
3	Case Study: The 3 financial statements	Module 2: BIWS Files	Review core concepts
4	Case Study: Bubble and Bee:The need for Proforma Financial Modeling	Harvard Educators	Developing Financial Model
5	Case Study: Atlaisn	Module 4: BIWS Files	Understand the concepts needed to value a company
6	Case Study: Atlaisn	Module 4: BIWS Files	Understand the concepts needed to value a company
7	Case Study: Atlaisn	Module 4: BIWS Files	Understand the concepts needed to value a company
8	Introduction to Python	Introduction to Python (CFA Society Pakistan and the Marquee Group)	Learn the basic functioning and use of python
9	**MID-TERM EXAM WEEK**		
10	Basic Programming in Python	Introduction to Python (CFA Society Pakistan and the Marquee Group)	Learn the application of python for programming financial models
11	Portfolio optimization in python	Chapter 10: SimonBenninga	Learn the python skills necessary for building portfolio models
12	Event Studies: An Initial Event Study: P&Gbuys Gillette A Fuller Event Study:	Chapter 14: SimonBenninga	Building Event Study Model in python

	Impact of Earnings Announcements on Stock Returns		
13			
14	Monte Carlo Simulations and	Chapter 25: Simon Benninga	Learn about simulation models using Monte Carlo methods
15	Financial Forecasting	Chapter 27: Simon Benninga	Learn about time series financial forecasting models
16	**Project Presentations**		
17	**BUFFER WEEK**		
18	**FINAL EXAM WEEK**		

Details of Assessments:

Project Component	Details	Marks
Case Report		
Quality of Content	The content quality including timely progress reports	10
Presentation		
Presentation layout	How slides are made and ambiance	2
Quality of Presentation	Each student will be graded individually	2
Q/A Session	Judged on basis of answers given and questions asked	1
Total		**50**