



INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR
POSTGRADUATE DIPLOMA IN MANAGEMENT
Decision Modeling using Excel and VBA (IS615)
CREDIT: Three Credits (3 credits)
SESSION DURATION: 60 Minutes

Course Outline and Session Plan

FACULTY: Prof Sourabh Sharma and Prof Sougata Ray

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TERM: VI

YEAR: 2021

BATCH: PGDM 2019 -

21

Office hours: 9.30 AM to 5.30 PM

Consulting hours: Prior Intimation

Course Introduction

The course aims to develop the capability of modelling using excel and VBA to find solutions to business problems and for decision making. Modelling techniques for accurate forecasting are used in many areas of management. In the course, the participants will learn the model building skills required to build powerful models with the help of excel and VBA. There are many features of model building that are common irrespective of the final model that one intends to build. In the course the emphasis is on the different model building skills that one should have irrespective of the final use that one is going to make of it. By the end of the course the participants should be better able to understand the basic and advanced features of excel and VBA; understand how to build models in excel to suit one's purpose; build models in different areas of management including finance; identify and control the key sensitivities with advanced spread-sheet simulation; understand how risk can be built into the model to enhance decision making process.

Learning Outcomes:

- LO1. To develop the understanding of modelling using excel and using it to find solutions to business problems and for decision making.
- LO2. To learn VBA for decision modelling.
- LO3. To develop the understanding of financial modelling using excel and VBA in order to find solutions to business problems and for decision making.
- LO4. Ability to conduct sensitivity & scenario analysis and forecast financial statements.
- LO5. To understand modelling techniques for portfolio management and financial asset valuation.
- LO6. Ability to apply Monte Carlo simulation techniques in order to analyse all dimensions of forecasting and valuation.

Course Pedagogy: The course is practical in nature and will be delivered through a combination of lectures, PPTs, working on Excel majorly and classroom case discussions. Students would be required to build models simultaneously with the faculty. Students are expected to come prepared for the

class by reading the prescribed materials. A few relevant cases shall be discussed in the class to strengthen the learning. All relevant course materials will be made available to students.

Course Readings:

1. Microsoft Excel 2019 VBA and Macros (Business Skills) 1st Edition, Bill Jelen, Tracy Syrstad, Microsoft Press (BT)
2. Financial modeling-Simon Beninga, MIT Press (SB)
3. Financial Analysis and Modeling using Excel and VBA, Chandan Sengupta, Wiley Publication. (CS)

Course Evaluation criteria (%)

Component	Weightage	Learning outcome mapped
Quizzes (2)	20%	All LOs
Class Participation	10%	All LOs
Group Project	30%	LO4 – LO6
End-term Exam	40%	LO4 – LO6

Session Plan:

Session	Topics	Learning Outcome	Reading chapter
1-2	Introduction, Recording macros, procedures and functions	LO1	Ch1(BT)
3	Declaration of variables, Troubleshoot and Debugging	LO1	Ch1(BT)
4	In Build Functions, User defined Functions, Excel Add In	LO1	Ch26(BT)
5	Modular Programming, Sub Routines	LO1	Ch2(BT)
6	Objects, properties, methods and events, basic input and output in subroutines	LO1	Ch7(BT)
7	Handle basic error in sub routines	LO1	Ch24(BT)
8-9	If Then Selection Method	LO1	Ch4(BT)
10-11	(For...Next) Do Loops	LO1	Ch4(BT)
12-13	Advanced input validation and error handling	LO2	Ch24(BT)
14-15	Goal seek and solver tool to solve targeted problems	LO2	Ch13(BT)
16	Introduction to Financial Modeling, Excel & VBA	LO3	CS – Ch 1, 14
17-20	Corporate Finance Models – Corporate Valuation, Cost of Capital, Pro forma Financial Statements	LO3, LO4	SB – Ch 1, 2 & 5
21-23	Portfolio Models – Efficient Portfolios, Variance-covariance Matrix, Beta and Security Market Line	LO3, LO5	CS – Ch 20 SB – 8, 9, 10, 11
24-26	Valuation of Options – Binomial Option pricing, Black-Scholes model	LO3, LO5	CS – Ch 23 SB – 15, 16, 17
27-28	Valuing Bonds – Duration, Immunization strategies	LO3, LO5	SB – Ch 20, 21
29-30	Monte Carlo Methods – Simulating Stock prices, VaR	LO3, LO6	CS – Ch 22 SB – 25, 26

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