

INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 1 Objectives & a little spreadsheet history



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

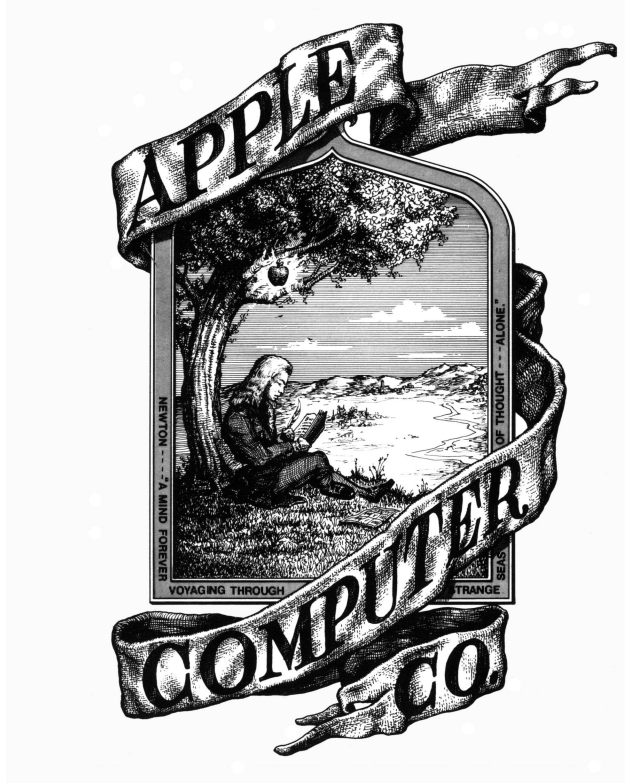
Course organization

- Module 1 – the spreadsheet as a tool for thinking with numbers, and a little history
- Module 2 – moving from spreadsheets to models
- Module 3 – statistical operations in Excel & Sheets
- Module 4 – linear programming in Excel & Sheets

Lecture 1 Learning objectives

- Understand the context in which spreadsheets and personal computers first emerged as tools for individuals
- Review the differences between ledgers & spreadsheets
- Identify the tools needed to complete the course, and where to find them

The spreadsheet as the original “killer app”



The spreadsheet as the original “killer app”

VISICALCTM

	A	B	C	D
	PAYEE	CHECKS	DEPOSITS	BALANCE
1				545.20
2	ELECTRIC	14.95		
3	OIL	10.00		
4	PHONE	4.00		
5	DENTIST	2.00		
6	SALARY		395.00	
7	RENT	350.00		
8	GAS CARD	12.93		
9	TOTALS	558.83	395.00	381.47



Dan Bricklin & Bob Frankston, circa 1979

From ledgers

The image shows a handwritten ledger on a grid background. The entries are as follows:

Date	Description	Amount
1925	add	
1923	5 yrs Apr 11 1928	2000
1926	5 yrs July 26 1931	add 3000
1926	add July 26 1931	tot 5000
1926	add	add 250
1926	add Sep 28 1928	10100
1927	5 yrs Mar 19 1932	3600
1927	add	add 500
1928	5 yrs May 20 1930	tot 3550
1928	5 yrs June 2 1932	4500

To models



Resources

- Software used in this Specialization
 - [Excel](#)
 - [Google sheets](#)
 - Data analysis toolpak for Excel
 - XLMiner Analysis Toolpak for Sheets

INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 2 Navigating a spreadsheet and crafting formulas



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

Lecture 2 Learning objectives

- Gain familiarity and comfort in navigating a spreadsheet,
- Identity the different types of data used in a spreadsheet and options for displaying them
- Use spreadsheet notation for mathematical operations on cells and arrays
- Understand and control the order of processing in formulas
- Use shortcuts for copying data and formulas

Exploring a new job opportunity by thinking through the numbers



INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 3 Using functions



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

Lecture 3 Learning objectives

- Learn to use built in functions, including those included in the Business & Financial Modeling specialization
- Understand the different uses of the sum and sumproduct functions
- Use basic statistical functions of average, min, max and standard deviation

Exploring a new business opportunity by thinking through the numbers



INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 4 Using conditional expressions in formulas



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

Lecture 4 Learning objectives

- Use conditional expressions within the logic of your formulas
- Understand some applications of conditional logic

INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 5 Common errors in spreadsheets



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

Lecture 5 Learning objectives

- Understand relative and absolute references in formulas
- Recognize errors in formulas
- Identify and correct circular references
- Audit formulas

INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 6 Differences between Sheets and Excel



Wharton
UNIVERSITY of PENNSYLVANIA

ONLINE

Excel & Sheets

- Differences between Excel & Sheets
- Creating a Google account to use Sheets
- Installing add-ins for statistical computation