

INTRODUCTION TO SPREADSHEETS & MODELS

Don Huesman

Module 1: Spreadsheets as a tool for thinking with numbers

Lecture 1 Objectives & a little spreadsheet history



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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”



Dan Bricklin & Bob Frankston, circa 1979

From ledgers

A photograph of a ledger page from 1925 to 1932. The page is organized into columns for dates, descriptions, and monetary amounts. The ledger shows several entries, primarily for 5-year periods ending in 1931 and 1932.

1925	add		
1923	5 yrs Apr 11	1928	ver
1926	5 yrs July 26 1931	20 00	
1926	add	add 3000	
1926	add July 26 1931	tot 5000	
1926	add Sept 28 1928	tot 10100	
1926	add	add 250	
1927	5 yrs Mar 19 1932	36 10	
1927	add	500	
1928	5 yrs May 20 1930	tot 3550	
	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

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*Module 1: Spreadsheets as a tool for thinking with numbers
Lecture 2 Navigating a spreadsheet and crafting formulas*



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Lecture 2 Learning objectives

- Gain familiarity and comfort in navigating a spreadsheet,
- Identify 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



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Lecture 3 Using functions



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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



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Lecture 4 Using conditional expressions in formulas



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Lecture 4 Learning objectives

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

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Lecture 5 Common errors in spreadsheets



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Lecture 5 Learning objectives

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

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Lecture 6 Differences between Sheets and Excel



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Excel & Sheets

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