



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Spreadsheet Programming for Business

## CSE 1113

**Credit Hours:**

1.00 - 1.00

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**Course Levels:**

Undergraduate (1000-5000 level)

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**Course Components:**

Lecture

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**Course Description:**

Spreadsheet modeling/programming concepts and techniques to solve business related problems; efficient/effective data handling, computational analysis and decision support.

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**Prerequisites and Co-requisites:**

Prereq: Math 1130 (130) or above.

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**Course Goals / Objectives:**

- Be competent with programming spreadsheets by appropriately using simple and nested functions, including logical and numerical functions, basic statistical functions, time and date functions, and table lookup functions.
- Be competent with designing/engineering spreadsheets to minimize errors in construction and modification, including appropriately using relative/absolute cell referencing.
- Be competent with aggregating and summarizing multivariate data sets, including both numerical and categorical variables.
- Be competent with importing into spreadsheets from large data sets in text format and with more than one data source.
- Be competent with applying sound spreadsheet engineering principles in business contexts such as pro forma income and balance sheets, basic analysis of large data sets, and fundamental computations for financial, marketing, and operational analysis.
- Be competent with using spreadsheets to effectively communicate their purpose and process, both on the computer and on paper.
- Be competent with using spreadsheets to effectively communicate results using appropriate numerical and graphical tools.

**Course Topics:**

- Course intro & spreadsheet basics - entering/editing data, formatting, filling a series
  - Writing formulas, order of precedence, precision vs. display, Relative/absolute referencing
  - Using functions:simple - SUM, MIN, MAX, COUNT, COUNTA, STD.DEV.,MEDIAN, MODE,
  - Functions requiring multiple arguments: ROUND, COUNTIF, SUMIF, LARGE, SMALL, RANK, SUMPRODUCT, PERCENTILE, QUARTILE
  - Using multiple worksheets, working with large spreadsheets (split screen, freeze panes, What-if Analysis & Goal Seek
  - Date/Time Functions
  - Boolean logic: Relational Operators, AND, OR, NOT functions
  - IF functions
  - Reference Functions (vlookup, hlookup)
  - Solving Larger Problems - Nesting formulas & Modeling Spreadsheet Solutions
  - Formula Auditing, Evaluate Formula tool, Calculation Options & other error checking
  - Database Concepts - Using Excel as a database: sort, filter, Subtotals, Data Tables, Pivot Tables
  - Importing & Exporting Data (csv), Embedding & Linking data, transposing data, Inserting symbols. Scenario Manager, Data Analysis Tools, Macros (other features)
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**Designation:**

Elective