

**FRANKLIN UNIVERSITY PROFICIENCY EXAM (FUPE)
STUDY GUIDE**

Course Title: PF 106: Introduction to Spreadsheets

Recommended Textbook(s): <https://www.franklin.edu/current-students/academic-resources/textbooks>

Number & Type of Questions: 90 – Multiple Choice and true/false

Permitted Materials: No Materials Permitted

Time Limit: 60 minutes (1 hour)

Minimum Passing Score: 75%

Format varies

Outline of the Topics Covered:

Course Description

This course focuses on using spreadsheets to solve business problems.

Description of the Test:

This exam covers the use of spreadsheets (specifically Microsoft Excel 2019/365 or the latest version of Excel) to solve business problems. The questions on this exam cover the following topics: spreadsheet basics and spreadsheet design, charts and graphs, working with units problems, what-if analysis, mail merge, basic functions and cell addressing (COUNT, COUNTA, SUM, AVERAGE, MIN, MAX, ROUND), statistical functions (COUNTIF, COUNTIFS, SUMIF, SUMIFS, AVERAGEIF, AVERAGEIFS, LARGE, SMALL, RANK, RANK.EQ, SUMPRODUCT), Boolean functions (AND, OR, NOT), the IF function, reference functions (VLOOKUP, HLOOKUP, MATCH), and financial functions (PV, FV, NPV, PMT, RATE). The purpose of this exam is to demonstrate that you have knowledge equivalent to what is taught in the course. Typically, students who take this exam have used Excel 2019/365 or the latest version at work or have taken prior courses that use this application.

Course Outcomes

Upon successful completion of this course, students will be able to:

1. Describe the appropriate use of a spreadsheet application.
2. Identify and apply the basic operations of a spreadsheet.
3. Apply formatting to enhance worksheets.
4. Apply formulas in a spreadsheet.
5. Use What-if and Seek functions to solve problems.
6. Apply functions in a worksheet.
7. Create appropriate charts to represent data.
8. Summarize and organize data using multiple worksheets.

Module Level Learning Outcomes:

- Understand Excel spreadsheet basics.
- Identify Workbook content and features.
- Navigate a workbook and access the various tools and ribbons in Excel.
- Write simple formulas in Excel.
- Apply the proper Order of Precedence to formulas in Excel.
- Demonstrate the difference between precision and formats in Excel.
- Design and use workbooks with multiple worksheets in Excel.
- Utilize various charts and graphs in Excel.
- Work with unit conversions in business problems with Excel.
- Apply what-if analysis and Goal Seek to specific business problems in Excel.
- Implement mail merge in Microsoft programs using Excel as input.

- Show how to copy formulas in Excel.
- Demonstrate the differences between relative, absolute, and mixed cell referencing and when to use each.
- Copy formulas up and to the left in Excel.
- Apply what a named range or cell is and how to use it in Excel.
- Identify and correct common Excel errors.
- Implement basic arithmetic functions SUM, AVERAGE, COUNT, COUNTA, MIN, and MAX in Excel.
- Exhibit how to insert functions in a cell in Excel.
- Comprehend a function's rules and specifications in Excel.
- Know the purpose, syntax, and use of the ROUND function in Excel.
- Demonstrate when to use the various statistical functions in Excel.
- Apply the COUNTIF function to specific business problems.
- Comprehend the different criteria types in the statistical functions and properly apply them.
- Combine the statistical functions with other functions to achieve desired results.
- Differentiate when to use the COUNTIF versus COUNTIFS function in business problems.
- Apply the SUMIF and SUMIFS functions to various business problems.
- Properly construct functions based on criteria given for specific business problems.
- Apply the AVERAGEIF and AVERAGEIFS functions to various business problems.
- Demonstrate the purpose of the LARGE and SMALL functions and how to apply them to business problems.
- Use the RANK.EQ function to properly return a rank of a number against a list of numeric values.
- Apply the SUMPRODUCT function to multiply ranges or arrays together and return the sum of products.
- Apply relational operators as Boolean values
- Compare text values using relational expressions
- Demonstrate the difference between the AND and OR Boolean functions in Excel
- Apply the AND and OR functions to various business problems in Excel
- Utilize the NOT function to answer negative questions in excel that relate to Boolean values
- Use the NOT function in a "none of" construct in Excel logical business problems
- Illustrate the syntax and purpose of the IF function in Excel
- Use the IF function in a nested fashion
- Use the IF function to evaluate multiple logical tests
- Nest Boolean logical functions for a logical test
- Understand the purpose of the reference functions available within Excel
- Use lookup functions in Excel in place of nested IF function
- Learn the syntax rules that apply to the VLOOKUP and HLOOKUP functions
- Apply the VLOOKUP and HLOOKUP functions using various business scenarios in Excel
- Distinguish between a range lookup value of TRUE and FALSE and when to apply each
- Become familiar with other lookup functions in Excel
- Apply the various financial functions in Excel to business problems in the real world
- Demonstrate the difference between simple interest and compound interest
- Calculate simple interest and compound interest
- Use financial functions to calculate compound interest in Excel
- Know the variables used in the financial functions in Excel
- Apply and use the PV function in Excel to determine the present value
- Apply and use the FV function in Excel to determine the future value
- Apply and use the PMT function in Excel to calculate the payment of a loan or CD
- Apply and use the NPER function in Excel to calculate the total number of periods for a loan or investment

- Apply and use the RATE function in Excel to calculate the interest rate per period of a loan
- Determine if cash flow is positive or negative in a financial transaction
- Demonstrate how to use the type argument in the Excel financial functions
- Apply a balloon payment to the various financial functions in Excel

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