Excel for Economists

Economics Department, UNC at Chapel Hill, Spring 2021

1.0 Credits

Instructor Information

Prof. Aguilar ‖ maguilar@email.unc.edu ‖ mikeaguilar.web.unc.edu

Office Hours: TBA ‖ https://unc.zoom.us/my/mikeaguilar (ID: 494-763-4438)

Class Schedule and Delivery

This course is delivered in a synchronous format. Topics are grouped into 3 modules, each consisting of roughly 4-4.5 hours of live instruction. Students should expect to be working with real data inside of Excel during the entire course. Active participation is necessary for success.

Grading

This course is graded Pass/Fail. A homework will be assigned after each module. Students will have approximately one week to complete each homework. Students must score $\geq 65\%$ on each homework in order to pass the course. Students have two attempts at each homework assignment. Failure to score at least 65% on any of the assignments by the second attempt will result in a failing grade for the course.

Communication

Assignments, announcements, grades, readings, and other information will be posted on sakai. The sakai site will be the primary method of communication for this course, so please check it frequently.

Prerequisites

None. No prior experience with Excel is expected upon entry to this course.

Software

Access to Microsoft Excel is required for this course. See https://software.sites.unc.edu/software/microsoft-products/ for details. A Windows operating system is recommended to take advantage of the full functionality of Excel. MacOS users should run Windows virtualization software (such as Virtual Box, Bootcamp, Parallels or VMWare) in order to run Windows-only programs on their computers. Using virtualization software, students can install a Windows operating system on their Mac and then install the necessary Windows applications. It is expected that students will have virtualization software installed BEFORE it is needed in classes. Please note that the process of installing virtualization software and applications can take several hours. Boot-Camp is available for free by visiting the ITS Service Desk https://its.unc.edu/sd-walkin/. Alternatively, the ITS Virtual Lab https://its.unc.edu/resource/virtual-lab/ offers many Windows application to Mac users through a simple browser interface.

Code of Conduct

The University Honor Code is in effect. In particular, this implies that all work submitted is your own. Moreover, I expect professional behavior at all times. For example, the non-academic use of personal electronic devices is prohibited.

Course Description

Excel is a vital tool for anyone in economics or business. As students, you will use this tool in your advanced classes. After graduation, you will almost assuredly encounter Excel in your career.

At all times the examples and datasets used in this course are grounded within your economics training and are practical in nature. By the end of the course you should be able to address questions like: How do I download data from the Bureau of Labor Statistics? How do I compute growth rates of economic activity? How do I measure the correlation between GDP growth in the US and Canada? How do I visualize the movements of exchange rates over time? How do I run a regression to compute the marginal propensity to consume? How do I simulate returns? How do I optimize utility?

The course has three modules. Each module will culminate in a knowledge check. Students must exhibit satisfactory mastery of all three modules to earn course credit.

Course Outline

Module 1 - *Basic Functionality*

- Entering and loading data

- Sorting and filtering data

- Writing formula and cell referencing

- Charting

- Dates and Date functions

- Conditional Statements

- Lookup Functions

Module 2 - *Statistical Analysis*

- Descriptive Statistics

- Statistical functions

- Regression

- Pivot Tables

Module 3 - *Advanced Features*

- Random Number Generation

- Macros and VBA

- Optimization via Solver

- Matrices and Arrays