



THE OHIO STATE UNIVERSITY

JOHN GLENN COLLEGE OF PUBLIC AFFAIRS

Public Affairs 6514: Skills – Advanced Excel

Syllabus

Autumn 2016

Instructor Information

John Snedeker

2080 Blankenship Hall

snedeker.5@osu.edu

614-688-4351

Office Hours: By Appointment

Email is the best way to contact me. I check email often, and will attempt to respond to all emails within 24 hours of receiving them.

Course Information

Meeting Day/Time: Tuesday, 5:45-7:35 (October 18 – December 13)

Class #: 34643

Location: Page Hall 0040

Credit Hours: 1

Course Description

Overview

Every day, businesses, governments, schools, alumni clubs, political organizations, charities, healthcare and virtually any other type of organization you can name, are collecting and creating a vast amount of data. Data comes in all forms – surveys, banking transactions, purchases, loyalty programs, student progress, student placement, etc. Many different tools are available for tracking, analyzing and management of this data so that it can become useful information, providing meaningful results which harness the power of data collection, whether it be on a massive scale (think Macy's or Wal-Mart) or a small scale (Tommy's Pizza or *The Lantern*). One of the most common tools used is Microsoft Excel, which has made it a primary tool for performing a number of different tasks such as keeping simple lists, tracking hours or work completed, managing complex analyses of data and creating efficient and effective reports.

As such, it is important to learn how to effectively use the tool and to understand some of the benefits and challenges of Excel. While it is a powerful tool, data within Excel can be easily changed or your formulas can become corrupt either intentionally or unintentionally. By understanding these challenges, we can incorporate functionality built into Excel to increase

the confidence in the data. This course focuses on how to use intermediate to advanced Microsoft Excel functionality, from nested formulas to data analysis, through the use of pivot tables and interactive worksheets. A variety of techniques and data management concepts will be presented and discussed. Real world examples will be used to provide context.

Who Should Take the Class?

Students should take this course if they have taken the Basic Excel class during 1st session and/or have an understanding of how to use formulas, create basic graphics, and can navigate the Excel menu's. If you are not comfortable with creating formulas and graphs, this class may not meet your needs.

Student Learning Objectives

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

- Gained an understanding of the advanced functionality of Microsoft Excel
- Use Excel to manage and analyze data
- Apply advanced skills to manipulate and create complex spreadsheets in Excel
- Utilize Excel to support decision making and communicate with decision makers

Class Structure

The class will consist of a mixture of lectures, discussions and hands-on work in Microsoft Excel. In addition to thoroughly explained in-class hands-on examples, students will be expected to work independently to complete assignments outside of class. Some time may be provided at the end of each class to work on assignments and the final project.

Course Materials (Optional)

1. Choose the book that matches the software version of Microsoft Excel you will be using outside of the classroom. While the overall concepts will be the same in each book, the layout and screenshots of Excel will vary by software version.

Walkenbach, John (2013). Excel 2013: Bible. Wiley. ISBN: 978-1-118490365.

2. All other readings and course materials will be supplied by the instructor through <https://carmen.osu.edu>.

Students can access textbook information via the Barnes & Noble bookstore website: www.shopOhioState.com as well as from their BuckeyeLink Student Center. This information is disseminated by B&N to all area bookstores. You may buy from a store of your choice and/or shop for books (always use ISBN# for searches) online.

Course Requirements

The following components make up the final course grade:

Class contribution:	15%
Advanced Formula Exercise:	10%
Formula Mgt. Exercise:	10%

Table/Pivot Exercise:	10%
Final Project Progress:	15%
Final Excel Project:	40%

Transformation of numerical grade to a letter grade will be according to the schedule below:

A	93-100	B-	80-82	D+	68-69
A-	90-92	C+	78-79	D	60-67
B+	88-89	C	73-77	E	<60
B	83-87	C-	70-72		

Class Contribution

Class contribution is critical to making this course as valuable as possible for you and your fellow students. This includes having read assigned readings before class, active participation in conversations regarding those readings, asking questions, clarifying assignments, participating in the lab portion of the class, and sharing personal and professional experiences that can aid the class during discussions. Attendance is considered part of class contribution and lack of attendance or leaving the lab portion of the class early will reduce this portion of your grade. Lack of evidence that class readings were completed will also affect this portion of your grade.

Course Exercises / Projects

Advanced Formula Exercise 1

Building on the skills you already have, along with those skills we have developed thus far in the class, you will use a dataset uploaded to Carmen to analyze the data and create new fields using various advanced formulas. You will create new fields using advanced formulas (must have more than 2 functions in each formula) based on the prompts in the dataset. You will be graded on the accuracy of the formulas created (partial credit will be given if pieces of the formula are correct but not the whole). You will create one additional formula of your choice related to the dataset. You can choose from two datasets provided and answer any combination of prompts from either as long as you answer at least three total and create one of your own.

Please be sure to provide the excel sheet that contains the dataset, formulas you created, and explanations you feel are necessary.

This exercise will be due to the Carmen Dropbox by 5:30PM on Tuesday, November 1.

Final Project Progress Report

To help you learn and retain the information from this class, it is expected that you select a topic and find a dataset for your final project and work on that project throughout the term. For the project progress report, please identify the topic you have selected and provide at least 1 dataset for that topic. Include a brief outline of what you plan to do with the data provided as part of your final project. For example, you could provide a dataset of airline departures from

Port Columbus and outline what type of information you want to report on, such as on-time departures during heavy snowfall in leap years.

This exercise will be due to the Carmen Dropbox by 11:59pm on Sunday, November 13.

Formula Management Exercise 2

Building on the skills you already have, combined with those skills we have developed thus far in the class, you will use a dataset uploaded to Carmen to show some formula management techniques.

- Create at least 2 defined Names and use those names in a formula.
- Fix at least 4 of the 8 formulas that have errors.
 - For 2 of the errors you fixed, included a brief outline of how you fixed those errors. (What tools did you use in excel, how did you find the error, etc.)

Please be sure to provide the excel sheet that contains the dataset, formulas and how you fixed the errors.

This exercise will be due to the Carmen Dropbox by 5:30PM on Tuesday, November 15.

Table / Pivot Exercise 3

Utilizing techniques learned in class and a dataset provided, create tables and pivots and utilize them with formulas.

- Create 2 tables.
- Create 2 formulas to answer questions provided. Formulas must be use reference tables by table name and field names.
- Create two pivot tables and use those to answer 4 questions provided.
 - Explain how what the pivot tables are showing.

Please be sure to provide the excel sheet that contains the dataset.

This exercise will be due to the Carmen Dropbox by 5:30PM on Tuesday, November 22.

Final Project

Using dataset(s) of your choice, you should create a report that includes the following sections:

- Overview and inclusion of the original dataset
- Data preparation: What you did to the data to make it usable for your analysis.
- Analyze the data using at least:
 - 3 Unique Columns Added to Dataset (using formulas)
 - Examples will be provided in class
 - 2 standalone formulas (made up of at least 2 functions)
 - Examples will be provided in class
 - 2 Unique Pivot Tables

- 2 Unique Graphs
- For each item created above, explain what the item created is showing. Be sure to include why that information is important and what, if any, question you are answering with that item. This information can be kept in Excel via a comment or other method.
- Create an executive summary section that summarizes the key findings. You can use any information created above, as long as you put it in an easy to read format that fits on 1 page.
 - An executive summary can be done a number of different ways, including the creation of a dashboard, a handout with explanations, through the use of footnotes, etc. You can be creative, but remember that the objective is to create something that senior management would recognize as professional and in which they will find value.
 - This executive summary should not simply include data copied and pasted from other parts of the document, but should involve some direct data pulls from other worksheets (such as using a formula to pull the data), to help develop the summary. The purpose of this is to allow for changes in the underlying data that would flow through to the summary automatically.
- Final Project Grading
 - The final project is worth 40 points. Points will be distributed as follows:
 - Overview and data preparation sections (5 points)
 - Analysis (15 points)
 - Executive Summary (15 points)
 - Visual appeal and overall look and flow (5 points)

Final Project due to the Carmen Dropbox by 8pm on Tuesday, December 13

Course Policies

Assignment Submission

All assignments should be submitted through Carmen by the day they are due. Informing the instructor of your intention to be absent does not waive your obligation to submit assigned work. **Late work will be accepted with a one-third-letter grade penalty each day that it is late (A- to B+), unless prior approval is granted by the instructor.**

Grade Appeals

Grades on assignments are intended to reflect the overall quality of performance of the student. You may appeal your grade on an assignment if you think the grade does not reflect the quality of your performance on the assignment. To appeal a grade, submit a clear written explanation via email describing why you believe the assigned grade is inappropriate within one week after your work is returned. I will carefully consider all such appeals.

Academic Integrity

The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's [Code of Student Conduct](#), and that all students will complete all academic and scholarly assignments with fairness and honesty.

Failure to follow the rules and guidelines established in the University's *Code of Student Conduct* may constitute "Academic Misconduct." Sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

In the Ohio State University's [Code of Student Conduct](#), Section 3335-23-04 defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and excessive quotation and paraphrasing of other's work with or without citation. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact the instructor.

Glenn College Diversity Values Statement

The Glenn College is committed to nurturing a diverse and inclusive environment for our students, faculty, staff, and guests that celebrates the fundamental value and dignity of everyone by recognizing differences and supporting individuality. We are dedicated to creating a safe space and promoting civil discourse that acknowledges and embraces diverse perspectives on issues and challenges that affect our community.

Disability Services

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

Mental Health Statement

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance

or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of

confidential mental health services available on campus via the **Office of Student Life Counseling and Consultation Services (CCS)** by visiting ccs.osu.edu or calling 614-292- 5766.

CCS is located on the 4th Floor of the Younkin Success Center and 4th Floor of the PAES Building. 24 hour emergency help is also

available through the National 24/7 Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org

Course Schedule

Week 1: October 18

Topics:

- Welcome and Introduction to the course
- Overview of syllabus and course requirements
- Framing final project
- Introduction to Advanced Formulas
- Explain Exercise 1 (Due November 1)

Week 2: October 25

Topics:

- Advanced formula (cont.)
- Formula Management
- Explain Final Project (Progress Status Due November 13 @ 11:59pm)

Week 3: November 1

Topics:

- Advanced formula (cont.)
- Formula Management
- Data Validation
- Explain Exercise 2 - Formula Management (Due November 15)

Week 4: November 8

Topics:

- Connecting to Databases/Other Excel files
- PivotTables to Summarize Data
- How to use Tables to Organize Data
- Explain Exercise 3 – Table/Pivot (Due November 22)

Week 5: November 15

Topics:

- Tables and PivotTables (Cont.)

Week 6: November 22

Topics:

- Review / Catchup

Week 7: November 29

Topics:

- Templates
- Introduction to Macros

Week 7: December 6

Topics:

- Introduction to Macros (Cont.)

Finals Week: December 13

Topics:

- Final Project – Due by December 13 @ 8:00pm

SAMPLE