Rubric for APEC 1201 Final Memo – Basic Information

# Introduction

The purpose of this class is to prepare you to use Microsoft Excel as a tool in the real world. In the final memo of this class, you’ll use the tools we discuss in this class to explore real world data to uncover interesting findings based on that data. Then you will then develop those findings into a graph and a table of your own design.

This memo should try to clearly communicate your findings with your graph and table. You do not need to perform complicated statistical analysis or create a huge repository that has a bunch of different variables. It is more important to clearly communicate your central findings. You also do not need to write an entire report, you only need to provide enough context to interpret your table and graph.

Your findings don’t need to be complicated, but you do need to make something new; you should not just change the appearance of the original data. You also should demonstrate that you carefully considered the best way to use Excel to communicate your findings. Your graph and table should be communicating two different things, so carefully think about which finding is better expressed as one or the other. If you have questions about your topic, please discuss it with us and we will give you guidance.

# Schedule

This memo is broken up into a number of smaller assignments.

For Discussion 2, find a data set that allows you to explore a topic that interests you. This doesn't have to be related to applied economics. The only limitations are that the data set is from the real world, and either public use, or you have the written permission of the data set’s author. (You will be sharing with your fellow students, you need permission to do so). If your data is from another class, you will need permission from your other professor.

After you pick a data set, spend some time exploring the data and identify two interesting findings. This can either be a conclusion that you think is worthy of being *highlighted* or a pattern that you think is informative if the data were *organized* appropriately.

Discussion 5 asks you to share two interesting findings from your data. Represent one finding in the form of a table and another in the form of a graph. It is OK if your findings are similar, but they should not be exactly the same.

For example, you might choose to highlight which age group has the highest likelihood of earning the minimum wage in the state of Minnesota, and you may choose to do that in the form of a table. You then may choose to show the trend in the total number of people who earn the minimum wage over the last 20 years, and you may represent that in a graph. Notice these findings are related, but not identical.

For Discussion 7, you will submit a first draft of your table and graph. You will also answer a few brief questions so your grader has context. These questions are in the assignment page. Explain your interesting finding so I can get a sense of what you are trying to show. You will receive feedback about ways to change your table and graph to more clearly communicate your goal.

The second draft is a part of Discussion 9 Part 1. You will then have time to incorporate this feedback into your draft, if you so choose. Your second draft will include :

* your table and graph
* a written set of instructions for how to recreate both
* a discussion of the layout and design choices you made to help the reader reach your stated objectives

This will be graded on completion, so do not worry about making the written portion up to the standards of a finished product, but do use this as an opportunity to ask for feedback.

After everyone has turned in their second draft, you will then receive 3 second drafts from your fellow peers. This will provide the basis for Discussion 9 Part 2. You will provide feedback to your peers on how to change the /design or layout/ of their \*graph and table\* to better accomplish their stated communication objectives.

You will then have time to incorporate the feedback of your peers into your final draft, which is due during Finals Week.

# Time Expectations

You should plan to spend 30 to 40 minutes a week working on your memo. I will provide a list of recommendations for how to stay on track, but it is also important that you reach out if you have any questions.

Early in the semester your work will mostly be about exploring your data set. The middle of the semester will mostly involve making a graph or table based on the appropriate principles we discuss in class. The end of the semester will involve fine tuning your graph and table based on the reviews you receive.

The early drafts are graded on completion, but you should try to make something that shows progress over the semester. It is ok to change your mind about your topic or your data set through the semester, but you should check in with us first to make sure if that is necessary.

# Citations

Check your data source for a preferred citation if available, otherwise MLA is my preferred method of citation for a data set:

Last Name 1, First Name 1; Last Name 2, First Name 2; etc.. *Name of Data Set in Italics: Version.* City, State, Country of Publisher. Published on *Date*. Accessed on *Date*. <web address>

For example:

Durfee, Thomas; Smith, Adam. *Student Wages Survey: Version 3.* St Paul, Minnesota, USA. Published on 1/1/2016. Accessed on 1/1/2020. <https://apec.umn.edu/data/sws/v3>

Notice that authors are listed last name first, and each author is separated by a semicolon.

If your data set was designed by an organization instead of a set of people, list the name of the organization instead.

Rubric for APEC 1201 Final Memo – The First Draft

First Draft  
Create a sheet called “Read Me” that answers the following questions:

[RM-1] Where is your draft table stored in this file?

[RM-2] Where is your draft graph stored in this file?

[RM-3] Is there any special terminology the reader needs to know before they view your draft?

[RM-4] What is the finding your table represents? Include context is necessary for this finding, like if your result demonstrates a historically or scientifically important value.

For example, “*Minnesota* *unemployment increased by 5.0 percentage points during April, which is the largest one month increase on record”*

Or, “*The variance in Canadian tomato prices are usually at their lowest in August compared to other months, which is just before harvest”*

[RM-5] What is the finding your graph represents? What context is necessary for this finding? For example, see [RM-4] above.

[RM-6] How is your table a novel work? What new variables or measures did you need to make to produce the finding in your table?

[RM-7] How is your graph a novel work? What new variables or measures did you need to make to produce the finding in your graph?

[RM-8] Where does your data come from? Provide a citation using the formatting from the Final Memo Basic Information rubric.

Note: you can use as many sheets you need for scratch work or to help create your figures, just make sure to avoid using the same sheet names for your draft versions and your support sheets.

This assignment will be graded on completion and is worth 1.0 point of your final grade.

Rubric for APEC 1201 Final Memo – The Second Draft

# Second Draft – Part 1

Your Second Draft will meet the following organizational requirements:

[1] Update questions RM-1 through RM-8 in your “Read Me” from the previous draft. It is ok if the answers are similar from draft to draft, but make sure the answers are up to date in case you made changes.

[2] Create a sheet called “Instructions” that covers the instructions for how to create your table and your graph.

Describe how you generated your graph/table. Your instructions should be clear enough that you could give them to another student who hasn't seen your draft yet, and they could repeat your steps to make the same graph/table you did. The more specific the better.

[3] Create a sheet called “Data Context.”

[DC-1] Define the Original Data’s Variables and Unit of Measure

For example, throughout this course, we looked at data on the number of initial unemployment claims in the state of Minnesota each year. This was separated by gender groups. The variable of interest is the count of initial unemployment claims. The unit of measure is unemployment for gender group by year.

[DC-2] Are there any limitations or assumptions made about this data by its publishers? List any of these assumptions made by the data’s publisher.

For example, The Current Population Survey will report very high wages as “98” to protect the identity of their survey respondents even if their wage rate is above $98.00.

[DC-3] Define the variables in your table.

What are the units and do they have a special or technical meaning? Remember to specify if your variable is a raw count, a percent point change, an indexed term, etc. For example, don’t say “Age Income” say “annual income indexed to inflation in 2015 USD according to five year age bracket.”

[DC-4] Define the variables in your graph

What are the units and do they have any special or technical meaning? Again, remember to specify if your variable is a raw count, a percent point change, an indexed term, etc.

[4] Create a sheet called “Memo Objectives.”

This can be blank for now, but you will need to fill it out during the final draft.

[5] Create a sheet called “Design Discussion”

This can be blank for now, but you will need to fill it out during the final draft.

[6] Include a sheet that contains your original data called “Original Data”.

You may create as many supplementary sheets as you need, but give them different names. Also, this draft is graded on completion, so it is ok if your written portions are more of an outline. This assignment will be graded on completion and is worth 1.0 point of your final grade. Once the class turns in their second draft, you will also be asked to provide three peer reviews which will be worth 3.0 points each.

# Second Draft – Part 2 (The Peer Review)

You will be assigned peers *after* the due date of the Second Draft, so all students get a chance to submit their file. When peers are assigned, go to the Canvas assignment page, you should have been assigned three peers to review worth 3.0 points per review. You may leave your review as an attachment file to the peer’s submission page. Your review will refer to the questions listed below.

You must turn in your draft on time so your peers can schedule their time to give you feedback. If you turn in the draft after peers have been assigned, you will get no points for this assignment because everyone will already be matched. If you anticipate you will not be able to turn it in on time due to health or extraordinary conflicts, please contact me as soon as possible so we can plan accordingly.

Your peer review will answer the following questions:

[PR-0] Before your read their Read Me, look at their table and their graph to gather your first impressions.

[PR-1] Discuss the Table’s objectives by answering the following (0.2 points) :

[1a] What do you think is the finding of this table based on your first impressions?

[1b] Now look at their Read Me. Are there any differences between the author’s intended objectives and your first reaction? Tell the author the differences between their intended effect and your received effect.

[PR-2] Are there any components of the Anatomy of a Table that are missing or unclear? (0.1 points)

[PR-3] Consider this table’s data layout {wide vs long, scale of units, summary statistics, order} by answering the following (0.6 points) :

[3a] In what ways do this table’s layout support the table’s objectives?

[3b] In what ways do this table’s layout conflict with the table’s objectives? Do you think a change in data layout would be helpful?

[PR-4] Consider this Table’s Attributes of Design, according to Stephen Few by answering the following (0.6 points) :

[4a] List three attributes of this table’s design supports the table’s finding. Include a discussion of \*how\* these attributes work to achieve this goal.

[4b] List three changes the author might consider, and specify how these changes reflect attributes of this table’s design that would better support the table’s stated goal. If you cannot think of three ways to improve this draft, and you think this table is perfectly designed, then repeat 4a with three *different* attributes.

[PR-5] Discuss the Graph’s objectives by answering the following (0.2 points) :

[5a] What do you think is the finding of this graph?

[5b] Now look at their Read Me. Are there any differences between what the author intended and your first reaction? Tell the author the differences between their intended effect and your received effect.

[PR-6] Are there any components of the Anatomy of a Graph that are missing or unclear? (0.1 points)

[PR-7] Consider this graph’s data layout {Axis scale, Graph Type, Unit of Analysis, etc.} by answering the following (0.6 points) :

[7a] In what ways do this graph’s layout help the graph achieve the author’s stated objectives?

[7b] In what ways do this graph’s layout conflict with the graph’s stated goal? Do you think a change in data layout would be helpful?

[PR-8] Consider this graph’s Attributes of Design, according to Stephen Few by answering the following (0.6 points) :

[8a] List three attributes of this graph’s design supports the graph’s finding. Include a discussion of \*how\* these attributes work to achieve this goal.

[8b] List three changes the author might consider, and specify how these changes reflect attributes of this graph’s design that would better support the graph’s stated goal. If you cannot think of three ways to improve this draft, and you think this graph is perfectly designed, then repeat 8a with three different attributes.

Rubric for APEC 1201 Final Memo – The Final Draft

Part 0: Organization  
The organizational requirements are the similar to the second draft.

[1] The “Read Me” sheet that answers the same eight questions identified in the First Draft discussion assignment

[2] The “Instructions” sheet covers the instructions for how to create your table and your graph

[3] The “Data Context” sheet describes some basic information about the variables in your memo

[4] The sheet “Memo Objectives” includes more detail why you chose some functions over others to create your data layout and achieve your objectives.

[5] The “Memo Design” sheet covers the design choices you made to highlight or organize your objectives.

[6] Include a sheet that contains your original data called “Original Data.”

You may create as many supplementary sheets as you need, but give them different names.

Part 1 : The Read Me

Update questions RM-1 through RM-8 in your “Read Me” from the previous draft. It is ok if the answers are similar from draft to draft, but make sure the answers are up to date in case you made changes. The points of this component are distributed through the following sections.

## Part 2 : Instructions Describe how you generated your graph/table (2 points each).

Your instructions should be clear enough that you could give them to another student who hasn't seen your draft yet, and repeat your steps to make the same graph/table you did. The more specific the better. Don’t just list that you made a step, specify how you made it.

Part 3 : Data Context

Update your answers to the questions DC-1 through DC-6 since the previous draft (6 points overall) :

[DC-1] Define the Original Data’s Variables and Unit of Measure

[DC-2] Are there any limitations or assumptions made about this data by its publishers? List any of these assumptions made by the data’s publisher.

[DC-3] Define the variables in your table.

[DC-4] Define the variables in your graph

Part 4 : Memo Objectives

Clarify your memo’s objectives by discussing the following (6 points overall) :

[MO-1] Copy your answer from Read ME RM-4. What is the finding the reader should realize when they see your table? Your finding should be specific.

[MO-2] Refer to your answers in Data Context section that mention to your table. Explain *why* you changed this data from the original variable & unit of measure into the variable & unit of analysis in your table. How do these changes serve your objectives?

[MO-3] Provide some context for the terms in your table. Are there any critical values?

For example, if your table includes weather temperatures, does your data begin from zero degrees Kelvin, or does it range from the historical minimum for that region? Does a one degree change refer to a change in Celsius or Fahrenheit? Do you need to clarify at which temperature water freezes? What counts as a “big” change?

[MO-4] Discuss how your table organized and why that layout serves your objectives.

For example, is your data organized alphabetically, or from smallest to largest values? If you have multiple variables, what is the reasoning for the order you chose.

[MO-5] What kind of table is it (wide or long, and if wide, with respect to which variable)? Discuss why this table type is appropriate for your objectives.

[MO-6] Copy your answer from Read Me RM-5. What is the finding the reader should realize when they see your graph? Your finding should be specific.

[MO-7] Refer to your answers in Data Context section that mention to your graph. Explain *why* you changed this data from the original variable & unit of measure into the variable & unit of analysis in your graph. How do these changes serve your objectives?

[MO-8] Provide some context for the terms in your graph. Are there any critical values?

[MO-09] Discuss how your graph organized and why that layout serves your objectives.

For example, if you have multiple vertical axes, which variable did you chose to be on the secondary axis?

[MO-10] What kind of graph is it (bar, scatter, line, box and whisker, etc.)? Discuss why this graph type is appropriate for your objectives.

Part 5 : Memo Design  
Discuss the attributes of design of your table and graph (3 points each).

For \*each\* of the ten of Stephen Few’s Attributes of Design, mention what effect this attribute has on achieving your stated goal. You need to specify if these attributes are either *highlighting* attention to one place or *organizing* the attention of the reader across many places.

If some of these components are irrelevant to your product, just say “not applicable” (for example, don’t discuss area unless you are making an area chart). If some are applicable, but you didn’t do anything to change their expression, you still should talk about why the default settings help you achieve your goal by highlighting or organizing the aspects you want.

Review module 98 for a review of these attributes.

## Part 6 : Design of Graph and Table

Your graph and table should clearly communicate your stated objectives (2 points each).  
We will review your Read Me, and then evaluate how clearly you achieved your objectives. Grading will be based on the design of your table and graph, according to Few's attributes we discussed {orientation, hue, shading, enclosure, proximity, shape, length, area, size, and labeling} and according to the appropriate format of data layout.