

Department of Economics
BUAN 4220: Data Communication

Class/Exam Location: **Tuesday and Thursday** from 6:00PM-8:00PM synchronously on Zoom. You are expected to be in the Zoom classroom each class session, unless otherwise mentioned before class.

Instructor: Nick Huntington-Klein

Class: Zoom - <https://seattleu.zoom.us/j/94195085446>

E-mail: nhuntington-klein@seattleu.edu

Phone: 206-296-5815 (physical office phone; I won't pick up but it will email me the voicemails)

Office hours: 11:30AM-12:30PM each Tuesday and Thursday, or by appointment, in a DIFFERENT Zoom room: <https://seattleu.zoom.us/j/92516256926>

Response time

I tend to respond to emails very quickly, and email is a great way to reach me. At most it will take me 48 hours to respond to an email, but that would be much longer than normal.

COURSE COMMUNICATION

All course announcements and individual emails are sent through Canvas. You **MUST** check your email on a regular basis (several times a week) for the duration of the course.

COURSE OBJECTIVES AND LEARNING GOALS

Economics is the study of how humans respond to incentives and make tradeoffs. Economics can guide policymakers and businesses by providing a framework predicting how businesses, individuals, and markets will respond to new policies, products, or unforeseen events. In this class, students will be able to examine and understand market forces and how markets respond to change. Students will be able to understand how incentives and economic principles explain the world around them using economic reasoning and formal models.

REQUIRED TEXTS

The required textbook for this course is Cole Knaflic's "Storytelling with Data", available in the bookstore or in your favorite online bookseller's.

There is also a set of **videos** for use in this course. These videos follow along with the course content, although they are much shorter than full lectures. You can see them at <https://nickchk.com/videos.html#dcomm>.

RECOMMENDED MATERIALS

Recommended:

- "Data Visualization: A Practical Introduction" by Kieran Healy. This book is strongly recommended for getting into the finer details of visualization, especially if you plan to work

more in ggplot2 or make high-quality visualizations as a part of your job later.

- Code for the course slides, which can be handy to see how I do stuff you may want to replicate, can all be found here: <https://github.com/NickCH-K/DataCommSlides>
- Data Visualization Blogs: <https://www.tableau.com/learn/articles/best-data-visualization-blogs>
- The R Graphics Cookbook: <https://r-graphics.org/>

EXAMINATIONS

You must contact me at least two days before the exam or provide a doctor's note to make up an exam.

ASSIGNMENT DESCRIPTIONS

Grading

Homework: 40%

Visualization Critique Paper: 10%

Data Exploration Assignment: 25%

Data Translation Challenge: 25%

More detailed information about each assignment will be given in class.

Homework

All homework assignments are available on Canvas. **Homework is worth 40% of your final grade, which is a lot!** Most of these homework assignments will require you to create a visualization, either of your own design or following an existing design. For many of these we will follow along with whatever [Tidy Tuesday](#) is doing. I expect these to be good! Do not expect to just make a visualization and be done with it – you should plan to have time to revise your visualization until it looks good.

Projects

There are three projects in this class.

Visualization Critique Paper: You will find a data visualization “in the wild”, perhaps from a news article, book, or TV show (it doesn't necessarily need to be a terrible one, but there should be some room for improvement). You will be writing about how effective the visualization is and how it holds up to the principles we cover in class. You will also be designing and drawing, by hand (or computer drawing), an improved version.

Data Translation Challenge: In this project you will select between a few different data sets that I provide. Your task is to explore the data, and produce a report telling a cohesive story from it, including multiple visualizations and text connecting them.

Data Exploration Assignment: This is a group project with requirements very much like the data translation challenge, except that you will have the option of finding your own data, and will be preparing a presentation instead of a report. You will be encouraged to present your data in dashboard format.

ATTENDANCE POLICY

You are expected to be present at all class meetings, although there is no explicit attendance policy. If you miss a day it is your responsibility to catch up on the material

LATE ASSIGNMENTS

You have one week after the due date to turn in work at a grade penalty of 10%. One week after the due date, work will not be accepted outside of special circumstances. Let me know if you have special circumstances.

EXTRA CREDIT POLICY

For extra credit, you may do **one** of the following. **Ask me before starting so you know the level of expectations about quality:**

- (1) Teach yourself to use the `gganimate` package in R or animations in Tableau, then find some data and create a high-quality visualization in which the animation really helps to tell the story. Send me your animation.
- (2) Find some interesting data that isn't ready-made, perhaps from a government data source, or on a website somewhere. Clean and prepare it for use, and then make a high-quality data visualization that tells a clear story. Send me your raw data, cleaned data, and code/workbook.
- (3) Get the `fivethirtyeight` package in R. Find a dataset and the original article that the dataset goes with (should be linked in the dataset's help file). Recreate one of the original visualizations (doesn't need to be exact, but reasonably close), and then make a variation that improves upon it, telling more or less the same story. You aren't required to make your visualization in R. Send me the article, which visualization you're replicating, your version, your improved version, and any code.

Doing one of these things will give you a 2 percentage point grade bump. **Due by the Friday the last week of classes.**

GRADING STANDARDS, AND CRITERIA

The grade breakdown is as follows. **I round to the third decimal place – the cutoffs have to be somewhere!**

94 – 100% = A

90 – 93.99% = A-

87 – 89.99% = B+

84 – 86.99% = B

80 – 83.99% = B-

77 – 79.99% = C+

74 – 76.99% = C

70 – 73.99% = C-

67—69.99% = D+

64 – 66.99% = D

61 – 63.99% = D-

0 – 60.99% = F

Keep all assignments and exams returned to you so that any discrepancies can be easily and fairly straightened out.

ACADEMIC RESOURCES

- Library and Learning Commons (<http://www.seattleu.edu/learningcommons/>)
(This includes: Learning Assistance Programs, Research [Library] Services, Writing Center, Math Lab)
- Academic Integrity Tutorial (found on Canvas and SU Online)

UNIVERSITY POLICIES

Academic Policies

(<https://www.seattleu.edu/redhawk-axis/academic-policies/>)

- Academic Integrity Policy
- Academic Grading Grievance Policy
- Professional Conduct Policy

Notice for Students concerning Disabilities

If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

Notice Regarding Religious Accommodations

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, *Policy on Religious Accommodations for Students* (<https://www.seattleu.edu/media/policies/Policy-on-ReligiousAccommodations-for-Students---FINAL.PDF>).”

Office of Institutional Equity

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct. Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student. For more information, please visit <https://www.seattleu.edu/equity/>. If you have any questions or concerns, you may also directly

contact the Title IX Coordinator in the Office of Institutional Equity (email: oi@seattleu.edu; phone: 206.296.2824).

TENTATIVE SCHEDULE

Week 1:

Principles of Clear Visual Communication

Week 2:

DUE: Presidential Visualization

Principles of Clear Visual Communication

Starting in Excel

Week 3:

DUE: Spotify Visualization

Decorating in Excel

Starting in R

Week 4

DUE: West Point Excel Visualization

DUE: Visualization Critique paper

START: Data Translation Challenge (explore the data and make plans for your story/visualizations)

Structuring ggplot2

Styling ggplot2

Week 5:

DUE: College Expenses Visualization

WORK ON: Data Translation Challenge (start putting together notebook, process data so you can use it)

What surrounds visualization (data preprocessing, notebooks)

Week 6:

DUE: Tidy Tuesday 1

WORK ON: Data Translation Challenge (have at least drafts of most of your visualizations)

Line graphs and scatterplots

Week 7:

DUE: Tidy Tuesday 2

CONSIDER: Trying to finish Data Translation this week so there's less going on next week

START: Data Exploration Project (Group Project)

Tableau

Week 8:

DUE: Tidy Tuesday 3

DUE: Data Translation Challenge

DUE: Select data for data exploration project

Dashboards, Dashboards in Tableau

Week 9:

DUE: Tidy Tuesday 4

DUE: Outline for data exploration project and at least one visualization
Dashboards in R

Week 10:

Group Presentations (End of week: Peer review due, Extra credit due)

Finals Week (Friday):

DUE: Tidy Tuesday 5