

**Daniel J. Evans School of Public Policy & Governance**  
*University of Washington*

## **PUBPOL 598 C: Introduction to Tableau and Data Visualization**

Winter 2017

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**Instructor:** Adam Sherman, JD/MPA  
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**Office Hours:** Thursdays, 9:30-10:30 and by appointment

**Class Location:** Parrington Hall 108

**Class Dates:** January 12, January 26, February 9, February 23, March 9

**Class Hours:** 2:00pm-3:50pm

**Course Site:** <https://canvas.uw.edu/courses/1102513>

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### **COURSE DESCRIPTION**

This workshop will introduce you to Tableau software and data visualization basics. The focus will be on data visualization best practices and learning how to use Tableau to build dynamic, interactive, and impactful dashboards to help you explore data trends, discover patterns, and inform policy decisions. This course will teach students how to connect their data sources to Tableau, develop basic and intermediate level charts and dashboards, map geographic elements of data sets, and present results of survey data. The workshop will also cover important ethical implications of data visualization choices.

### **COURSE FORMAT AND EXPECTATIONS**

This class meets five times during the winter quarter, every other Thursday in 2-hour sessions. Class meetings will generally be hands-on and participatory and therefore you are required to bring your laptop to follow along. However, some topics and information will be presented in lecture format. Classroom conversations, even those focused on data, are opportunities for personal and professional enrichment. To ensure the classroom environment is constructive and respectful, please familiarize yourself with the Evans School's community conversations norms and diversity imperative below.

#### **Evans School Community Conversation Norms**

At the Evans School, we value the richness of our differences and how they can greatly enhance our conversations and learning. As a professional school, we also have a responsibility to communicate with each other—inside and outside of the classroom—in a manner consistent with conduct in today's increasingly diverse places of work. We hold ourselves individually and collectively responsible for our communication by:

- **Listening** carefully and respectfully
- **Sharing** and teaching each other generously
- **Clarifying** the intent and impact of our comments
- **Giving and receiving** feedback in a "relationship-building" manner
- **Working** together to expand our knowledge by using high standards for evidence and analysis

## **Evans School Diversity Imperative**

Communities in today's world are diverse social entities that face increasingly complex challenges both locally and globally. Leaders must be adept at responding to the great variety of groups and individuals that they may serve and be able to lead with compassion, vision, analytic rigor, and practicality. We understand that to achieve excellence, the Evans School must continue to make diversity an imperative.

We believe that our community should reflect the diverse backgrounds, opinions, experiences and perspectives evident in the world we live in. We strive for substantive inclusion and equity and continually work to increase our awareness and understanding of ourselves and the communities we serve. Our active and ongoing engagement with a variety of individuals and communities, both on and off the UW campus, informs and enriches our research, teaching, and learning. We understand that in order to effectively serve the public, we must be exposed to multiple perspectives including ***physical, cultural, intellectual, and economic diversity***. We are committed to further developing our capacity to participate in and facilitate honest discussions about potentially contentious issues.

## **GRADING AND CREDIT**

This workshop is a Credit/No Credit course. Credit will be awarded to students who satisfy **ALL** of the requirements as outlined below.

### **Attendance**

Because we will only be meeting five times during the quarter, attendance is required for all sessions. If you are unable to attend a session, advanced notice must be submitted via email to me with an explanation of the reason why. In case of an excused absence, the student and instructor will discuss how the student can catch up with the course content.

### **Participation**

Credit will be assigned in part for active and engaged participation in the course. There are a number of ways in which students can satisfy the participation requirement throughout the quarter including:

- Thoughtful contributions to classroom conversations
- Posting or responding to posts on the course's Canvas discussion board
- Bringing questions and observations to office hours
- Presenting the data visualization assignment during the final course gathering.

### **Data Visualization Project and Memos**

All students will create a data visualization based on a data set of their choosing and publish that visualization on the Tableau Public server. A one-page proposal memo (due on January 26<sup>th</sup>) will explain the dataset you plan to work with and how you want to visualize that data. Students will also submit their final visualization and a two-page memo by March 9<sup>th</sup> at 5pm. The final memo must explain:

- the overall purpose of the visualization including key questions it answers or information it communicates,
- the underlying dataset, including any limitations of the data,
- potential practical applications of the visualization
- any ethical considerations raised by the data or visualization structure

While the final memo should address each of these topics, students are welcome to choose a memo format that suits the purpose of their project. For example, students interested in practical applied experience may wish to address their memo to a real or hypothetical client and focus the discussion on

responding to a real or hypothetical question. Alternatively, students are also welcome to address their memo to me and discuss the visualization from an academic or theoretical perspective.

## **COURSE SCHEDULE**

Before the first day of class, please download your free copy of Tableau Desktop software (<http://www.tableau.com/academic/students>). If you have any issues downloading or opening the software, I will be available to help immediately following the first class and during office hours.

Please follow the links provided below to Tableau’s online tutorials **prior to the beginning of each class** and watch at least the first related short video on that content (usually 3-5 minutes). Time in class will be used for reviewing concepts, walking through examples, and answering questions rather than introducing the concepts.

<b>Date</b>	<b>Topic</b>
January 12	<ul style="list-style-type: none"> <li>• <b>Course introduction</b></li> <li>• <b>Data visualization best practices</b></li> <li>• <b>Ethical dimensions to data presentation and visualization</b></li> </ul>
January 26	<ul style="list-style-type: none"> <li>• <b>Preparing Data and Connecting to data</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/getting-started">http://www.tableau.com/learn/tutorials/on-demand/getting-started</a></li> <li>• <b>Tableau user interface overview</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/tableau-interface">http://www.tableau.com/learn/tutorials/on-demand/tableau-interface</a></li> <li>• <b>Creating basic charts</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/getting-started-visual-analytics">http://www.tableau.com/learn/tutorials/on-demand/getting-started-visual-analytics</a></li> </ul> <p><b>Due: by 5pm: Data visualization project proposal memo and proposed dataset</b></p>
February 9	<ul style="list-style-type: none"> <li>• <b>Creating dashboards and stories</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/getting-started-dashboards-and-stories">http://www.tableau.com/learn/tutorials/on-demand/getting-started-dashboards-and-stories</a></li> <li>• <b>Formatting basics</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/formatting">http://www.tableau.com/learn/tutorials/on-demand/formatting</a></li> </ul>
February 23	<ul style="list-style-type: none"> <li>• <b>Calculated fields</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/getting-started-calculations">http://www.tableau.com/learn/tutorials/on-demand/getting-started-calculations</a></li> <li>• <b>Maps</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/getting-started-mapping">http://www.tableau.com/learn/tutorials/on-demand/getting-started-mapping</a></li> </ul>
March 9	<ul style="list-style-type: none"> <li>• <b>Publishing to servers and Tableau Public</b> <a href="http://www.tableau.com/learn/tutorials/on-demand/publishing-tableau-online">http://www.tableau.com/learn/tutorials/on-demand/publishing-tableau-online</a></li> <li>• <b>Student presentations</b></li> </ul> <p><b>Due by 5pm: Data visualization project and final memo</b></p>

## **ADDITIONAL RESOURCES**

There is a wealth of information online about data visualization best practices, how to use Tableau effectively, and tools for data analysis. Here are just a few:

### **Tableau Training Videos**

<http://www.tableau.com/learn/training>

### **Tableau's Online Community Forums**

<https://community.tableau.com/welcome>

### **Tableau Public "Viz of the Day"**

[https://public.tableau.com/s/gallery?qt-overview\\_gallery=1](https://public.tableau.com/s/gallery?qt-overview_gallery=1)

### **Data Revelations Blog on Prepping and Visualizing Survey Data**

<http://www.datarevelations.com/visualizing-survey-data>

### **Flowing Data - Data Science & Stunning Visuals Membership Site**

<http://flowingdata.com/>

### **The Information Lab (Tableau Partner)**

<http://www.theinformationlab.co.uk/category/blog/>

### **PDF Scraping**

<http://tabula.technology/>

### **Web Scraping**

<https://www.import.io/> (free and paid versions)

## **DISABILITY RESOURCES FOR STUDENTS**

Students with a wide array of physical, sensory, cognitive and mental health disabilities attend and enrich the university community. The university provides reasonable accommodation to the known physical or mental limitations of qualified disabled students so long as doing so does not impose an undue hardship on the university or fundamentally alter the educational program. If you would like to request accommodations please contact me or the DRS office at [uwdrs@uw.edu](mailto:uwdrs@uw.edu). More information can be found at <http://depts.washington.edu/uwdrs/>.