COURSE INFORMATION

Course Title	Intro to Data Visualization
Course #	DMD 250
Credit Hours	3-credit (2.5 hours of classroom instruction per week)
Prerequisites	DMD 105

INSTRUCTOR INFORMATION

Instructor	Professor Christopher Previte
Office Location	Fitzwater Center
Office Hours	Click HERE to see my weekly office hours schedule
E-Mail Address	previtec@franklinpierce.edu

COURSE DESCRIPTION AND LEARNING OUTCOMES

Course Description Data presentation can be done creatively, combining a wide range of visual elements that aid in ready understanding. Students will use a variety of tools, which employ such devices as maps, photos and illustrations, as they become familiar with methods of data visualization. No coding or technical skills are needed to be successful in this course.

Student Learning Outcomes Upon successful completion of this course, students must demonstrate that they possess the following learning outcomes as determined by their performance assessments:

1. Demonstrate a working knowledge, through research and inquiry, of the history and historical figures associated with data visualization.

2. Apply research and organizational techniques to specific data sets in preparation for creating data visualizations.

3. Conceptualize and create multiple data visualizations (and iterations of each) using traditional and digital media.

4. Identify common types of data visualizations including diagrams, maps, tables, and charts with an understanding of the appropriate usage of each.

5. Thoughtfully critique and be critiqued by other students.

Grading and Assessment Methods

Your progress is assessed based on *attendance and class participation* as well as *projects*, *assignments*, and/or *quizzes*.

Each of these are graded using rubrics or guidelines published under Assignments in Canvas.

Critiques follow the Functional Criticism technique. Students are expected to make use of critiques to revise and improve projects.

1. THE FOLLOWING IS THE BREAKDOWN OF YOUR GRADE:
Projects (3) - worth 60%
Data visualization projects serve as the principle means through which the student demonstrates the objectives of their learning. Please see the requirements in each project handout.

Research & Inquiry Project (1) - worth 20%
Early in the semester, students will choose a research and inquiry topic from the history and historical figures associated with data visualization, devise a question, and create a final presentation that answers that question. Please see the requirements in this assignment handout.

Attendance/Participation – worth 20%
See the Attendance and Class Participation Policy

2. DUE DATES

ITEM/DELIVERABLE	DUE DATE
PROJECT 1: Visualize Your Life	WEEK 6
PROJECT 2: Research & inquiry	WEEK 7
PROJECT 3: Illustrated Map	WEEK 11
PROJECT 4: Interactive Data Visualization	WEEK 16

Specific deadline dates are found in the assignment details under Assignments on Canvas.

Extra Credit

Some projects contain an option for extra credit. It is strongly suggested you take advantage of these.

Grade Points

Letter Grade	At Least	Below	Value	Letter Grade	At Least	Below	Value
A	93		4.00	C	73	77	2.00
A-	90	93	3.67	C-	70	73	1.67
B+	87	90	3.33	D+	67	70	1.33
B	83	87	3.00	D	63	67	1.00
B-	80	83	2.67	D-	60	63	0.67
C+	77	80	2.33	F		60	0.00

Please see the Franklin Pierce University catalog for details.

COURSE MATERIALS

Software   [Microsoft Office 365](#), [InfoGram](#), [Adobe Express](#)

File Storage   Portable, external hard drive (200GB min.) *OR*
Access to cloud storage (OneDrive, DropBox, iCloud, etc.)

Other Supplies   Sketch Book, Drawing or Layout Paper, Pencils, Pens, and Markers/Colored Pencils

Consumables   All weekly consumables, which can include readings, videos, and podcasts, will be included in the Weekly Modules and/or Announcements in Canvas. Students are expected to consume and take notes on all of these as they are made available.

There is no textbook in this class.

Suggested Reading   **W. E. B. Du Bois's Data Portraits: Visualizing Black America** by Britt Rusert
Princeton Architectural Press (October 23, 2018)
ISBN-10: 9781616897062

COURSE POLICIES

Attendance and Class Participation   Traditional attendance is not taken in this class. Instead, students are expected to be active online, in Canvas, periodically throughout each week of the term/semester. Being active means participating fully in **discussion boards**, providing classmates with thoughtful **critiques** of their submitted work, completing and submitting weekly **assignments** on time, and working on, completing, and submitting larger **class projects** as scheduled throughout the term. Additionally, students are expected to participate in any **group work** that may be required and respond to **emails** from their professor and classmates in a timely, professional manner. In these ways, students will earn credit for attendance and participation in this class.

If a student does not participate in any way online, in Canvas during the first week of class, they will be dropped from the course.

Discussion Boards   Students are required to fully participate in all discussion boards by the Friday of the week they are assigned (by 10PM). To "fully participate" in a discussion board means to reply to the given prompt in a thorough, well-researched, and thoughtful manner that addresses all given instructions. Additionally, all students must respond to *at least* two classmates' posts within each discussion board in an equally thoughtful manner.

Any research referenced in your posts must be cited.

Timely participation in discussion boards is essential to the relevancy of the given discussion. Late participation, within the assigned week, will result in a reduced grade. Participation after the Saturday of a given week or not at all will result in a '0' for that discussion boards.

| **Course Writing Guidelines** | All written assignments and content for class will be written using the following guidelines: |

- A page of writing is approximately 250 to 500 words per page. So, if an assignment requires 3-pages, that's 750 to 1,500 words.

- You must write in 11-point font, with 1.5 line spacing throughout the whole document.

- You can use any of these fonts: Times New Roman, Avenir, Calibri, Helvetica. Only 1-font per document. You can use any included type styles (bold, book, italic, etc.) for emphasis.

While you may certainly do your initial writing by hand, on paper, all *submitted* writing must be done using one of the following digital writing tools: Microsoft Word, Google Docs, Apple Pages.

| **Late Work** | Students are expected to turn assignments and projects in on time, based on posted deadlines. The expectation is that work will be completed on time. Any work that is not submitted when due may be marked down by one letter grade ("B" to "C", "C" to "D"…) for each week that it is late. |

Students must submit the final assignment no later than the last day of the term/semester. No assignments are accepted after the last day of the term/semester.

Students needing extra time to submit work are expected to contact the instructor via email to explain their circumstances and request an extension. The instructor will then decide whether or not to grant an extension or maintain the failing grade ('F').

| **Missed Assignments** | Failure to submit an assignment will result in the assignment receiving a failing grade ('F'). |

| **Plagiarism or Other Forms of Academic Dishonesty** | "Plagiarism is the act of stealing or passing as one's own the ideas or words of another" or "re-submitting work in whole or in part that has previously been submitted in another course, without the permission of the current instructor." according to the Franklin Pierce University Catalog. |

As this is a visual design class, I extend that definition to include any imagery such as photography, illustration, iconography, or graphics that are not your own original creation. Using photography as reference when creating an original illustration or graphic, is not the same as plagiarism. We will discuss the difference in detail, in class.

Any instance of plagiarism or academic dishonesty as defined above and in the Franklin Pierce University Catalog, will result in an "F" for that assignment and will be reported to the Office of Academic Affairs.

Per university policy, "a second offense… will receive a non-deferrable suspension of one semester or term" and, for a third offense "the student will be dismissed from Franklin Pierce University."

Academic Integrity

Academic integrity is built upon the values of honesty, fairness, social responsibility, trustworthiness, and ethical awareness and are at the core of a Franklin Pierce education. The Academic Integrity Policy is intended to provide guidelines as to the University's expectations and procedures for enforcing its commitment to academic values and goals in the instances of suspected or alleged academic misconduct. It is in the interest of students, faculty, and all University members to maintain the highest standards of academic integrity ensuring the value of the educational process and the credibility of the institution.

Any action or attempted action that by reasonable standards is considered to violate these fundamental values creating an unfair advantage for oneself/or for another strikes at the very heart of the academic enterprise and would constitute academic misconduct. For the definitions of academic misconduct, the procedural process, and sanctions, see the Academic Integrity policy available from the Office of Academic Affairs. A detailed explanation of the policy, definitions of academic misconduct and more may be found at this link.

Learning Differences and Accommodations

It is Franklin Pierce University policy to provide reasonable accommodations to students with disabilities. If you would like to request such accommodations, please contact the Coordinator of Student Accessibility Services, located in the Center for Academic Excellence, call 603-899-4126, or email studentaccessibility@franklinpierce.edu

A Notice to Student-Athletes

University policy states that student-athletes are only permitted to miss class time for a competition or for traveling for a competition. Students cannot miss any part of class for practice, strength and condition sessions, community service, or anything else.

Students are also required to submit an **early dismissal form** to their professors at the beginning of each semester. This sheet maps out what dates and times the team will depart for a game and it is signed by the coach of that sport. Be sure to ask your professor for this form the first week of class.

Student-athletes should also send a **reminder email** to the professor when that game is coming up.

Inclement Weather Policy

In the instance of inclement weather that precludes us from meeting in person, we will meet via Zoom using the link available on our Canvas home page.

WEEKLY MODULES

Week	Day/Date	Weekly Topics and Events
1	**Week Of 01/15/23** -- (No Class 01/16/23)	**WHAT IS DATA VISUALIZATION?** **Class Goal:** Introduce the class and provide an overview of data visualization. **Discuss & Demonstrate:** Discuss class expectations, the syllabus, and what the heck data visualization is – and is not. InfoGram, MS Excel, Apple Numbers, Google Sheets **Consumables:** **Read:** What is Data Visualization? **Note:** Welcome to class. Let's learn something together. --- **DUE:** NA **HW:** Procure all needed supplies, software, books.
2	**Week Of 01/22/23**	**HISTORY OF DATA VISUALIZATION, PART 1** **Class Goal:** Explore the history of data visualization (1786 to 1917). Introduce PROJECT 2: Research & inquiry. **Discuss & Demonstrate:** William Playfair, Florence Nightingale, W.E.B. Du Bois, Russian Constructivism, Italian Futurism, De Stijl. **Consumables:** **Read:** History of Data Visualization_Part 1 **Note:** 131 years in 3 days. Now…Go! --- **DUE:** NA **HW:** Begin PROJECT 2: Research & inquiry
3	**Week Of 01/29/23**	**HISTORY OF DATA VISUALIZATION, PART 2** **Class Goal:** Explore the history of data visualization (1919 to 2019). **Discuss & Demonstrate:** The Bauhaus, Isotype Picture Language, International Typographic Style, John Wilder Tukey, Edward Tufte. **Consumables:** **Read:** History of Data Visualization_Part 2 **Note:** Whoa…what!? Another 100 years!? --- **DUE:** NA **HW:** PROJECT 2: Research & inquiry – Part 1 Background Research, Inquiry Question

4	**Week Of 02/05/23**	**THE FORMS DATA VISUALIZATIONS TAKE** **Class Goal:** Explore and identify common types of data visualizations. Introduce PROJECT 1: Visualize Your Life. **Discuss & Demonstrate:** Diagrams, maps, tables, and charts with an understanding of the appropriate usage of each. InfoGram, Google Sheets **Consumables:** **Read:** The Forms Data Visualizations Take **Note:** Mmmmm…that Pie Chart looks good enough to eat. --- **DUE:** PROJECT 2: Research & inquiry – Part 1 Background Research, Inquiry Question **HW:** Begin PROJECT 1: Visualize Your Life, Continue PROJECT 2: Research & inquiry
5	**Week Of 02/12/23**	**BASIC DATA VISUALIZATION, PART 1** **Class Goal:** Introduce data visualization and spreadsheet software. **Discuss & Demonstrate:** Data collection, spreadsheet creation, creation and editing of charts and graphs. InfoGram, Google Sheets **Consumables:** **Note:** With the wave of my hand, I will turn this boring spreadsheet into… --- **DUE:** PROJECT 1: Visualize Your Life Final (Draft); PROJECT 2: Research & inquiry – Part 2 Secondary Source Research **HW:** Continue PROJECT 1: Visualize Your Life, Continue PROJECT 2: Research & inquiry
6	**Week Of 02/19/23** -- (No Class 02/20/23)	**BASIC DATA VISUALIZATION, PART 2** **Class Goal:** Introduce data visualization and spreadsheet software. **Discuss & Demonstrate:** Spreadsheets as creative media beyond charts and graphs. **Consumables:** **Note:** a beautiful and engaging data visualization. Ta Daa. --- **DUE:** PROJECT 1: Visualize Your Life (Final) **HW:** Continue PROJECT 2: Research & inquiry

7	**Week Of 02/26/23**	**DECONSTRUCTION OF REALITY, PART 1** **Class Goal:** Introduce Iconography and Info Graphics. **Discuss & Demonstrate:** Historical iconography as communication. Adobe Spark, Illustrator **Consumables:** **Video:** From Cave Drawings to Emojis The Birth of Writing **Note:** When is an apple really not an apple but exactly an apple? --- **DUE:** PROJECT 2: Research & inquiry – Part 3 Presentation of Findings **HW:** NA
8	**Week Of 03/05/23**	**DECONSTRUCTION OF REALITY, PART 2** **Class Goal:** Continue exploring Iconography and Info Graphics. **Discuss & Demonstrate:** The reduction of visual narrative, societal expectations. **Consumables:** **Read:** Basics of Semiotics **Note:** Wait…can I at least eat the apple? --- **DUE:** NA **HW:** NA
9	**Week Of 03/19/23**	**WAYFINDING, PART 1** **Class Goal:** Introduce the science and creativity of wayfinding. Introduce PROJECT 3: Illustrated Map. **Discuss & Demonstrate:** Diagrams, maps, typography, systems. **Consumables:** **Read:** Wayfinding **Video:** Aris Venetikidis - Making Sense of Maps **Note:** Okay, now I'm lost. If only I had a map… --- **DUE:** NA **HW:** Begin PROJECT 3: Illustrated Map

10	Week Of 03/26/23	**WAYFINDING, PART 2** **Class Goal:** Continue exploring wayfinding. **Discuss & Demonstrate:** Diagrams, maps, typography, systems. **Consumables:** **Note:** Oh, waitaminute. --- **DUE:** PROJECT 3: Illustrated Map (Draft) **HW:** Continue PROJECT 3: Illustrated Map
11	Week Of 04/02/23	**WAYFINDING, PART 3** **Class Goal:** Continue exploring wayfinding. **Discuss & Demonstrate:** Diagrams, maps, typography, systems. **Consumables:** **Note:** Now we can get from point A to B. --- **DUE:** PROJECT 3: Illustrated Map (Final) **HW:** NA
12	Week Of 04/09/23	**DATA VISUALIZATION FOR NON-PROGRAMMERS** **Class Goal:** Explore data visualization as a design deliverable. **Discuss & Demonstrate:** Data visualizations role in the design toolbox. **Consumables:** **Note:** Is this like Art for Non-Artists? --- **DUE:** NA **HW:** NA
13	Week Of 04/16/23	**SOUND WAVES as DATA VISUALIZATION** **Class Goal:** An exploration of sound (ambient, music, voice) as raw data used in the creation of data visualization. Introduce PROJECT 4: Interactive Data Visualization. **Discuss & Demonstrate:** Visual interpretations of sound. WaveFormer **Consumables:** **Read:** Interactive Data Visualization **Note:** Hang Ten. Ride that wave of sound. --- **DUE:** NA **HW:** Begin PROJECT 4: Interactive Data Visualization

14	**Week Of 04/23/23**	**INTERACTIVE DATA VISUALIZATION, PART 1** **Class Goal:** Introduce innovative data visualizations for the web. **Discuss & Demonstrate:** Data visualization as an evolving, 2-way narrative structure. InfoGram, Google Sheets **Consumables:** **Note:** So, can I talk to it? --- **DUE:** PROJECT 4: Interactive Data Visualization (Draft) **HW:** Continue PROJECT 4: Interactive Data Visualization
15	**Week Of 04/30/23**	**INTERACTIVE DATA VISUALIZATION, PART 2** **Class Goal:** Introduce innovative data visualizations for the web. **Discuss & Demonstrate:** Data visualization as an evolving, 2-way narrative structure. **Consumables:** **Note:** But will it respond? --- **DUE:** NA **HW:** Continue PROJECT 4: Interactive Data Visualization
16	**REMOTE 05/09**	**FINAL PRESENTATION** **Class Goal:** A final presentation of PROJECT 4. • Block C, Tuesday, May 9 @ 10:15AM • [Zoom Link HERE](#) **Note:** Visualize this...you have completed this class. --- **DUE:** PROJECT 4: Interactive Data Visualization Final **HW:** Take a really long nap and dream in charts and graphs.

The schedule and material in this class may be updated or changed upon the instructional needs of students in the course and any changes in university schedules.

Created by: Christopher Previte

Last updated: December 13, 2022

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