# VISUALIZATION TECHNOLOGIES 1: FUNDAMENTALS

**ARTG 5330**
Fall 2021 Semester
Tuesdays 6:00–9:30
Ryder Hall 236

**INSTRUCTOR**
Dave Landry
d.landry@northeastern.edu

**COURSE DESCRIPTION**
Introduces students to beginner to intermediate level topics in web-based interactive visualization. Focuses on building familiarity with HTML, CSS, JavaScript, and the d3js library, as well as teaching best practices and common patterns in data visualization problem solving. Through lectures, workshops, and an over-arching final project, the class offers students an opportunity to learn to effectively deploy their data visualization skills on the web and to explore and extract understanding from data in a critical and efficient manner.

**SCHEDULE**
Each class in the first part of the semester will focus on a selection of widely used concepts for creating engaging interactive web visualizations. After that foundational work, each student will begin creating an individual data narrative. From that point forward, class lectures will be structured around critiquing eachothers projects to help iterate each individual design, followed by in-class guided coding. As needed, lectures on any additional "on demand" concepts that each unique project might require may occur.

09.14 – Github, Servers, and HTML
09.21 – SVG and CSS
09.23 – JavaScript and D3 Basics
09.28 – Data, Manipulation, and APIs
10.05 – SVG Text
10.12 – Axes
10.19 – Color Scales and Legends
10.26 – Geographical Maps
11.02 – Project Pitches, Page Structure, and Listeners
11.09 – Dataset Critiques and Ideation
11.16 – Prototype Review
11.23 – Narrative Review
11.30 – Mock-Critique and Final Goalsetting
12.07 – Final Presentations/Critique
12.14 – FINAL PROJECTS DUE

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**TECHNOLOGY**
Students are expected to bring their own personal laptop to each class, which we will be setting up as their programming environment.

**FINAL PROJECT**
Using a dataset of their choosing, students will be creating a visualization narrative that must:
- guide users to gain an insight from the selected dataset
- animate at least 1 visualization via user interaction
- include at least 3 sentences of data-driven text description

Projects will be graded on implementation, design, and the overall narrative of the page.

**GRADING**
Final grades are calcualted as a weighted average between the final project (70% weight) and the average of all homework assignments (30% weight).

Final project grading and homework assignment grading are both based on rubrics that will be discussed in class when first assigned. At any point during the semester, students may e-mail the instructor to receive their current grade based on time elapsed.

**ATTENDANCE POLICY**
Presence in class is mandatory, and only one unexcused absence is allowed. Any other unjustified absences will result in the dropping of half a letter grade from the student's final grade.

**ONLINE RESOURCES**
All of the class slides, code references, and resources are hosted at the following URL:
- http://www.dave-landry.com/classes/artg5330-fall2021/

Students are also encouraged to participate in a group chat set up by the instructor on Gitter. In addition to sharing ideas and helping eachother, the instructor will be checking the board periodically throughout each week to answer any of the trickier questions:
- https://gitter.im/NEU-ARTG5330-Fall-2021/community