

# MEJO-583 Advanced Interactive Media

Lee Trout, Adjunct

UNC School of Media and Journalism

Monday and Wednesday from 12:00pm-1:45pm, Carroll Hall CA-59

Office Hours: Wednesday 10-11am Room 390 and by appointment

Office: Room 390 (Carroll Hall).

Course Website:

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## **COURSE DESCRIPTION**

Advanced web programming and storytelling using modern interactive media technologies. Students will learn fundamental, modern JavaScript as a foundation to modern frameworks and tools to create interactive storytelling and data visualization projects. Students will collect and incorporate data via APIs, datasets, databases and web scraping along with photos, text, video and graphics to create interactive multimedia presentations using advanced, modern JavaScript concepts, libraries and frameworks such as React, D3.js, three.js, Node.JS, TypeScript, and Deno.

This course will expand on the knowledge and skills learned in previous classes by increasing your ability to develop and present media, specifically data. You will learn to collect and process data, plan visualizations and user interactions, implement and debug your plans and finally deploy them to the web using modern tooling.

Producing effective multimedia projects requires extensive and detailed skill sets, including:

- Working knowledge of an IDE / code editor (Visual Studio Code), Git and scripting
  - Expertise in website development using HTML, CSS, and JavaScript
  - Effective use of photography, graphics, artwork, audio, video and the written word
  - Solid, ethical journalistic decision-making
  - Design thinking and visual problem solving
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## PREREQUISITES AND PRIOR KNOWLEDGE

JOMC 586 Intermediate Interactive Media or proven JavaScript experience.

## ACCREDITATION

The School of Journalism and Mass Communication's accrediting body outlines a number of values you should be aware of and competencies you should be able to demonstrate by the time you graduate from our program.

Learn more about them here:

<http://www2.ku.edu/~acejmc/PROGRAM/PRINCIPLES.SHTML#vals&comps>

No single course could possibly give you all of these values and competencies; but collectively, our classes are designed to build your abilities in each of these areas. In this class, we will address a number of the values and competencies, with special emphasis on "Professional values and competencies" listed below.

- Understand concepts and apply theories in the use and presentation of images and information;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Think critically, creatively and independently;
- Apply tools and technologies appropriate for the communications professions in which they work.

## COURSE POLICIES

### Attendance and Assignments

**Attendance is required, participation is expected and deadlines are absolute.**

To succeed in this class you must attend and participate in the discussion and hands-on, in-class assignments. Each in-class assignment is worth 20 points and can only be completed during class and will not be turned in at a later date. You are allowed one un-excused absence. Any other missed class assignments will receive a 0 grade.

**LATE ASSIGNMENTS WILL NOT BE ACCEPTED** unless special arrangements are made prior to the due date. Major projects will be due at 11:59 p.m. Deadlines are vital to success in this industry and you are expected to make deadline.

### Honor Code and Plagiarism

It is expected that each student in this course will conduct himself or herself within the guidelines of the UNC honor code. All academic work should be done with the high level of honesty and integrity this university demands. You are expected to produce your own work in this class. If you have any questions about your responsibility or your instructor's responsibility as a faculty member under the Honor Code, please talk with me or Senior Associate

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Dean Charlie Tuggle, or you may speak with a representative of the Student Attorney Office or the Office of the Dean of Students.

It is acceptable to use coding resources such as tutorials, libraries and **some** source code on sites like GitHub but the software license must allow for the usage and the **code should be credited**, linked and commented in your source code and credited visibly on the site either in the footer or a credits page.

### Seeking Help

If you need individual assistance, it's your responsibility to contact me. If you are serious about wanting to improve your performance in the course, the time to seek help is as soon as you are aware of the problem – whether the problem is difficulty with course material, a disability, or an illness.

### Diversity

The University's policy on Prohibiting Harassment and Discrimination is outlined in the 2011-2012 Undergraduate Bulletin <http://www.unc.edu/ugradbulletin/>. UNC is committed to providing an inclusive and welcoming environment for all members of our community and does not discriminate in offering access to its educational programs and activities on the basis of age, gender, race, color, national origin, religion, creed, disability, veteran's status, sexual orientation, gender identity, or gender expression.

### Special Accommodations

If you require special accommodations to attend or participate in this course, please let the instructor know as soon as possible. If you need information about disabilities visit the Accessibility Services website at <https://accessibility.unc.edu/>

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## Grading Policy and Scale

There are basic expectations that any supervisor or project manager would have for a project undertaken by a multimedia design specialist. All of your assignments must meet the following minimum basic standards to be considered for a grade of “B” or better.

The project must be:

- completed according to the assignment specifications.
- completed on time.
- free of code style violations (linted)
- free of typographical, grammatical and mechanical errors.
- completed so as to evidence a clear grasp of interactive development standards and design concepts.

<b>A</b>	>=94%
<b>A-</b>	90-93
<b>B+</b>	87-89
<b>B</b>	84-86
<b>B-</b>	80-83
<b>C+</b>	77-79
<b>C</b>	74-76
<b>C-</b>	70-73
<b>D+</b>	67-69
<b>D</b>	60-66
<b>F</b>	<=59%

When appropriate your multimedia work also will be evaluated for:

- consumer value
- architecture of information presentation
- aesthetic design choices
- creativity and innovation

## RESOURCES AND SOFTWARE

### Text Books

(E-books are OK)

JavaScript: The Good Parts

Douglas Crockford

<https://www.amazon.com/JavaScript-Good-Parts-Douglas-Crockford/dp/0596517742>

A Philosophy Of Software Design

John Ousterhout

<https://www.amazon.com/Philosophy-Software-Design-John-Ousterhout/dp/1732102201>

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## Software

All software used in the class is free to use or open source. The list below identifies the major tools but is not an exhaustive list.

- Visual Studio Code (Other IDEs are available and may be used but students must support themselves)
- Docker
- Git & GitHub
- JavaScript (ECMAScript 6 & ECMAScript 2016+)
- ESLint
- React
- Node.JS
- TypeScript
- Deno

## Services

We will use “cloud” computing services from various vendors. Many of these have a free plan but there may be a case when some subscription fees could be required but we will work to will ensure students have experience using real world services at minimal cost.

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## ASSIGNMENTS

This class follows a project-driven approach and is built on major projects that demonstrate the skills taught in the class.

### In-class Assignments and Quizzes

In-class exercises will cover the reading assignments and issues pertaining to the particular week's lessons. You always will be able to use your notes and textbook to complete the exercises, so be sure to bring them to class everyday. Some of these assignments may count as a quiz grade.

You also will have unannounced more traditional quizzes on reading assignments throughout the semester. If you keep up with the reading assignments, the quizzes will be easy to complete.

### Progressive Project

Throughout the semester, the class will work on a single project in-class and you will do a second but similar project using a topic and data of your choice. Each week this project will grow and develop over time.

### Projects

The final project should demonstrate a comprehensive menu of data collection and visualization skills commensurate with what you learned during this course. The same grading criteria used for other assignments submitted during the semester will be used when evaluating your final project but this project is worth 2x the points because it requires extra efforts and proves you have mastered all the skills and concepts for the entire semester. Think of it as your final exam. Additional information about required elements will be provided during class.

Assignments	Points Each	% of Grade
Exercises and Quizzes	20	10%
Progressive Project	100	45%
Final Project	200	45%
<b>Total</b>		<b>100%</b>

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## Schedule

Week	Monday	Wednesday	Topic
1		1/9/2019	Welcome
2	1/14/2019	1/16/2019	Tools (IDE, Git, CI/CD) & Practices (linting, documentation)
3	1/21/2019	1/23/2019	Javascript Fundamentals
4	1/28/2019	1/30/2019	Node.JS & Javascript Tools
5	2/4/2019	2/6/2019	Project 1
6	2/11/2019	2/13/2019	Consuming Basic APIs
7	2/18/2019	2/20/2019	Designing APIs & User Experiences
8	2/25/2019	2/27/2019	Scraping
9	3/4/2019	3/6/2019	Deploying & Project 2
<b>10</b>	<b>3/11/2019</b>	<b>3/13/2019</b>	<b>NO CLASS - Spring Break</b>
11	3/18/2019	3/20/2019	Project 2 due & Intro to automation via CI/CD
12	3/25/2019	3/27/2019	Designing Visualizations (D3.js)
13	4/1/2019	4/3/2019	TypeScript*
14	4/8/2019	4/10/2019	Deno*
15	4/15/2019	4/17/2019	3D Visualizations with Three.JS*
16	4/22/2019	4/24/2019	Final Project Due

\*Schedule is a guide and a goal for the class but is subject to change based on how quickly the class understands the material, weather and other factors.

## Final

Tuesday April 30th - 12:00pm

Our final will be a comprehensive, oral review of the class topics and projects completed.

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