J583 Advanced Interactive Media

Professor: Steven King, Assistant Professor of Interactive Media
UNC School of Media and Journalism
Monday and Wednesday from 11:15 am -1pm in Room 58
Office Hours: Wednesday 10-11am Room 77 and by appointment
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COURSE DESCRIPTION

Advanced Web programming and storytelling for the Web with focus on data visualization and data storytelling. Students will use learn Python,JavaScript and other web publishing languages while creating 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 Python and javascript concepts, libraries and frameworks such as D3.js, Flask and Pandas

This course will expand on the knowledge and skills learned in J586 and multimedia design by increasing your ability to develop and present media, specifically data. You will learn to collect and process data in Python and Pandas and then get a deeper level of JavaScript and how to use and implement D3 (JavaScript Framework).

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

- Expertise in Web site layout using html, CSS, a code editing program and JavaScript/jQuery
- effective use of photography, graphics, artwork, audio, video and the written word
- solid, ethical journalistic decision-making
- Design thinking and visual problem solving

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 at a later date. You are allowed one un-excused absence. Any other missed class assignments with 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 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/

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 typographical, grammatical and mechanical errors.
- completed so as to evidence a clear grasp of interactive development standards and design concepts.

When appropriate your multimedia work also will be evaluated for:

- consumer value
- architecture of information presentation

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

- aesthetic design choices
- creativity and innovation

RESOURCES AND SOFTWARE

Text Book

Python the Hard Way by Zed Shaw

https://learnpythonthehardway.org/book/ (optional purchase)

Data Visualization with Python and JavaScript by Kyran Dale

https://www.amazon.com/Data-Visualization-Python-JavaScript-Transform/dp/1491920513

Software

We will use Terminal, Atom and iPython but any IDE or HTML/CSS/JavaScript Code editor will be fine. Many students use Sublime Text or Atom but NEVER USE Dreamweaver.

ASSIGNMENTS

This class follows a project-driven approach and is built on two 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 Quizes	20	10%
Progressive Project	200	45%
Final Project	200	45%
Total		**100%**

Class	Date	Topic/Assignment
1	Wednesday, Jan, 10, 2018	Introductions, Policies Intro to Python
2	**Monday, Jan 15**	**MKL Day NO CLASS**

Class	Date	Topic/Assignment
3	Wednesday, Jan 17	**Understanding Data** The Tool Kit and the Stack Dev Setup: Anaconda, VM, Python Python Logic and Operators
4	Monday, Jan 22	The Medium of Data Viz Writing Data Files (CSV, JSON) in Python
5	Tuesday, Jan 24	Representing Data Scraping Basics: Beautiful Soup
6	Monday, Jan 29	Scraping Adv: Scrapy
7	Wednesday, Jan 31	**Exploring Data** Visual Exploration of Data NumPy and Pandas
PP	**Sunday, Feb 4: 11:59 pm**	**Data Collected and Stored**
8	Monday Feb 5	Cleaning Dataa with Pandas
9	Wednesday, Feb 7	Viz with Clarity Exploring with Matplotlib
PP	**Sunday, Feb 11: 11:59 pm**	**Data Cleaned and Visualized**
10	Monday Feb 12	Exploring more with Pandas
11	Wednesday, Feb 14	**Delivering Data** Dynamic Data with Flask
12	Monday, Feb 19	RestAPI with Flask
13	Wednesday, Feb 21	**Planning a DataViz** Intro to D3
PP	**Sunday, Feb 24, 11:59 pm**	**API Built**
14	Monday Feb 26	Basics of D3 and Charts
15	Wednesday Feb 28	Advanced Charting
PP	**Sunday, March 4, 11:59 pm**	**Data Visualized**
16	Monday March 5	More D3 controls and polish
17	Wednesday, March 7	Lab Time in D3
PP	**Friday, March 9, 11:59 pm**	**Progressive Project Due**

Class	Date	Topic/Assignment
BREAK	**Monday, March 12**	**SPRING BREAK**
BREAK	**Wednesday, March 14**	**SPRING BREAK**
18	Monday, March 19	Designing DataViz for specific audience Mapping with D3
19	**Wednesday, March 21**	Mapping with D3
20	Monday March 26	D3 Continued
21	Wednesday March 28	Gathering Data
22	Monday, April 2	Gathering Data
23	Wednesday, April 4	Cleaning Data
24	Monday, April 9	Cleaning Data
25	Wednesday, April 11	API Development
26	Monday April 16	API Development
27	Wednesday April 18	DataVis Development
28	Monday, April 23	DataVis Development
29	Wednesday, April 25	Final Project Due
EXAM	Wednesday, May 8 at Noon	Final EXAM

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