Course Syllabus

**Visual Analytics DSBA 5122**

Fall 2019, Mondays 12-2:45pm, Center City 1101

**Instructor:** Wenwen Dou, [wdou1@uncc.edu](mailto:wdou1@uncc.edu)

**Teaching Assistant:** Yousef Muhammad, [ymuhamm1@uncc.edu](mailto:ymuhamm1@uncc.edu)

**Syllabus**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/26</td>
<td>Introduction to Visual Analytics</td>
<td></td>
</tr>
<tr>
<td>9/2</td>
<td>No class (Labor Day Holiday)</td>
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<tr>
<td>9/9</td>
<td>Introduction to R and ggplot</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>9/16</td>
<td>Visual Representation Basics I, HTML&amp;CSS</td>
<td>Assignment 2</td>
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<tr>
<td>9/23</td>
<td>Visual Representation Basics II, SVG1</td>
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<tr>
<td>9/30</td>
<td>Multi-dimensional Visualization, SVG-2</td>
<td>Assignment 3</td>
</tr>
<tr>
<td>10/7</td>
<td>No class (Student Recess)</td>
<td></td>
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</tbody>
</table>
10/14  Multi-dimensional Visualization II, Javascript

10/21  Design Contest Presentation, Intro to D3.js  
Design contest due

10/28  Natural Language Processing, D3-1

11/4  Text Analysis and Visualization, Stratifyd Platform 
(Stratifyd Inc.)

11/11  Trees & Networks, D3-2  
Final project proposal 
due

11/18  Time Series Visualization, D3-3

11/15  Tableau  
Tableau assignment

12/2  D3-4; Final Project question answering

12/9  Final Project Presentations  
Final Project due

- Assignments are small problem sets (non-time consuming to complete) designed to reinforce the concepts learned in class.
  - Assignment 1 (5pts) – visualization exercise with ggplot in R.
  - Assignment 2 (10pts) – Creating your own personal UNCC webpage with HTML and CSS.
  - Assignment 3 (10pts) – Creating a bar chart with SVG
  - Tableau assignment (10pts) – Creating visualizations in Tableau

- There will be 5 quizzes throughout the semester.
- Pop-up Quiz 1 – 4 (20pts total): 5 points each
- Javascript Quiz (10pts) – a 10 question quiz on the reading materials related to Javascript
- Design Contest Presentation (10pts) – The design contest is a good exercise to go through for designing an interactive visualization for a given dataset and audience
- Final Project (25pts) – Developing interactive visualizations with D3.js
  - Group project final presentation + demo (15pts)
  - Group project final report (10pts)

**Syllabus Subject to Change:** The standards and requirements set forth in this syllabus may be modified by the course instructor. Notice of such changes will be made in advance and by announcement in class.

**Book (recommended but not required)**


**Supplemental Reading**

• Mathew Ward, Georges Grinstein, and Daniel Keim. Interactive Data Visualization – Foundations, techniques, and applications. A K Peters, 2010

Visualization Blogs

• Visualizing data by Andy Kirk: visualisingdata.com (http://www.visualisingdata.com/)
• FLOWINGDATA by Nathan Yau: https://flowingdata.com/ (https://flowingdata.com/) The Tutorials section provides good examples for developing data visualizations.
• KANTAR Information is Beautiful Awards: https://www.informationisbeautifulawards.com (https://www.informationisbeautifulawards.com/) Annual awards celebrate excellence and beauty in data visualizations, infographics, interactives & information art

Grading Policy

• Grading Scale:
  • A (Excellent) = 90.00% – 100.00%
  • B (Good) =80.00% – 89.99%
  • C (Fair) = 70.00% – 79.99%
  • D (Passing) = 60.00% – 69.99%
  • U (Failing) = below 60%

Grade Breakdown

Total for Semester: 100 points

• Quizzes: 30 points total
• Assignments: 35 points total
• Design contest: 10 points
• Group project final presentation + demo: 15 points
• Group project final report: 10 points
• Extra Credit Assignment*: 5 extra credit
*The extra credit assignment may or may not be available during the spring semester.

Classroom Policies

- **Orderly and productive classroom conduct:**

  I will conduct this class in an atmosphere of mutual respect. I encourage your active participation in class discussions. Each of us may have strongly differing opinions on the various topics of class discussions. The conflict of ideas is encouraged and welcome. The orderly questioning of the ideas of others, including mine, is similarly welcome. However, I will exercise my responsibility to manage the discussions so that ideas and argument can proceed in an orderly fashion. You should expect that if your conduct during class discussions seriously disrupts the atmosphere of mutual respect I expect in this class, you will not be permitted to participate further.

- **Recording in the classroom**

  Electronic video and/or audio recording is not permitted during class unless the student obtains permission from the instructor. If permission is granted, any distribution of the recording is prohibited. Students with specific electronic recording accommodations authorized by the Office of Disability Services do not require instructor permission; however, the instructor must be notified of any such accommodation prior to recording. Any distribution of such recordings is prohibited.

- **Discussion of grades and performance**

  Such discussion shall occur between the student and the instructor(s). Sharing information regarding grades and performance in places such as discussion forums or email blasts is prohibited.

- **Code of Student Responsibility**

  “The UNC Charlotte Code of Student Responsibility (the Code) sets forth certain rights and responsibilities in matters of student discipline. The Code defines these responsibilities and guarantees you certain rights that ensure your protection from unjust imposition of disciplinary penalties. You should familiarize yourself with the provisions and procedures of the Code” (Introductory statement from the UNC Charlotte brochure about the Code of Student Responsibility). The entire document may be found at this Internet address: [http://legal.uncc.edu/policies/ps-104.html](http://legal.uncc.edu/policies/ps-104.html)

- **Academic Integrity**

  All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Students are expected to submit their own work,
either as individuals or contributors to a group assignment. Definitions and examples of plagiarism and other violations are set forth in the Code. The Code is available from the Dean of Students Office or online at: http://www.legal.uncc.edu/policies/ps-105.html.

Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Course Summary:

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
<th>Due Time</th>
</tr>
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<tbody>
<tr>
<td>Mon Sep 9, 2019</td>
<td>Reading assignment (<a href="https://uncc.instructure.com/courses/110216/assignments/699370">https://uncc.instructure.com/courses/110216/assignments/699370</a>)</td>
<td>11:59pm</td>
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<tr>
<td>Mon Sep 16, 2019</td>
<td>R ggplot2 exercise (<a href="https://uncc.instructure.com/courses/110216/assignments/708706">https://uncc.instructure.com/courses/110216/assignments/708706</a>)</td>
<td>11:59pm</td>
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<tr>
<td>Tue Dec 3, 2019</td>
<td>Tableau Assignment (<a href="https://uncc.instructure.com/courses/110216/assignments/735092">https://uncc.instructure.com/courses/110216/assignments/735092</a>)</td>
<td>9:59pm</td>
</tr>
<tr>
<td>Mon Dec 9, 2019</td>
<td>Final Project Presentation (<a href="https://uncc.instructure.com/courses/110216/assignments/734952">https://uncc.instructure.com/courses/110216/assignments/734952</a>)</td>
<td>11:59am</td>
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