MSA 8020 Data Visualization
Sample Syllabus

Class Information:

Instructor: Yichen Cheng
Instructor Office Hour: Monday 4 - 5 PM or by appointment
TA Office hour: Wednesday 2:00 - 3:00 pm
Friday 10:30 – 11:30 am
Location: This course will be taught online at https://zoom.us/j/9837544147
iCollege Website: https://icollege.gsu.edu/
Discussion Website: piazza.com/gsu/fall2020/msa8020
Software: R, Tableau
Email: ycheng11@gsu.edu

TA Information:

Nimeelitha Akkiraju: nakkiraju1@student.gsu.edu
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Course Description:

This course introduces students to basic visualization tools as well as data exploration and data presentation skills. This course mainly covers 3 parts: visualization in R using ggplot2; visualization in Tableau; and advanced visualization tools including interactive visualization and spatial visualization.

Textbooks:

[C] Chang W., Cookbook for R. Springer. http://www.cookbook-r.com/ (reference)

[W] Wickham, H., ggplot2: Elegant Graphics for Data Analysis. Springer, 2nd ed. – Intro to ggplot2 by Hadley Wickham, the creator of the package. (reference)

[P] Class notes will be posted on iCollege.

Course Learning Outcomes:

At the end of this course students will be able to:

1. Use different types of graphs for illustrating different data type.
2. Feel comfortable with using different types of software (including R and Tableau) for data pre-processing and data visualization.
3. Use informative visualization to present business insights.
4. Utilize advanced visualization functions such as interactive visualization.

Attendance Policy:

Lecture attendance is mandatory and will count towards your grade.

Homework:

Both the homework and final project are group based. Students will form group in first week and work on the tasks as a team. There will be three homework assignments. Homework assignments will be posted on iCollege. Homework is due on iCollege by 6 PM on the due date. One submission per team, or per student as relevant. No late submission will be accepted.

Final Project:

This course is a project-based class. You need to select a data set and convey business insights via visualization techniques learned in this class.

Grading:

10% Class participation (assessed by faculty)
40 % Homework (assessed by faculty and weighted by group member evaluation)
50 % Final presentation and report (assessed by faculty and weighted by group member evaluation)

The anticipated grading scales for this class is as follows:

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
98	95	90	85	80	75	70	65	60	55	50	<50

Please advise the instructor if you have a documented disability that needs to be accommodated.
As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. See the University's policy on Academic Honesty (Section 409, http://www2.gsu.edu/~wwwfhb/sec409.html) for details.
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of the instructor's intellectual property and the privacy rights of students attending the class, and is prohibited.

Detailed Outline of the class:

Date	Topics	Readings (Textbook)	Due
Week 1	Introduction Different types of graph	https://rkabacoff.github.io/datavis/DataPrep.html	
Week 2	Data visualization with Tableau	https://www.datacamp.com/community/tutorials/data-visualisation-tableau	
Week 3	R graphics -- Basics	http://www.cookbook-r.com/Graphs/	**Homework 1 Due**
Week 4	R graphics – ggplot2	https://rkabacoff.github.io/datavis/	
Week 5	Working with spatial data	https://journal.r-project.org/archive/2013-1/kahle-wickham.pdf	**Homework 2 Due**
Week 6	Interactive visualization	http://www.rebeccabarter.com/blog/2017-04-20-interactive/	**Homework 3 Due**
Week 7	Final Presentation		**Final report Due by Sunday of Week 7**

Note that this course syllabus provides a general plan for the course; deviations may be necessary.