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Syllabus for Data Visualization
Zhejiang University

My Teaching Philosophy

Give a man a fish, feed him for one day; teach a man how to fish, feed him for a lifetime. *- Quoted from Chinese Taoist*

Welcome and Introduction

Welcome to the Data Visualization course at Zhejiang University. I'm your instructor, Wei Lu. For the next 12 of weeks, I will help you learn the basics of data visualization for data analysis purpose (principles, tools, resources, etc.).

Prerequisites: this is a beginner's class and should be suitable for students of all levels. However, computer literacy and Microsoft Excel operations are required for this class. If you have any question/concern, please do not hesitate to email me.

Required Textbook: there is no required textbook for this course. However, I would recommend you read: ***The Visual Display of Quantitative Information, by Edward Tufte (2001)*** ***Amazon Link***

Course Objectives

- Knowledge & Comprehensive: Learn and understand the principles, goal, budget, and limits.
- Application: be able to find a publicly available database.
- Analysis: Given a data set, be able to find its type using the LATCH model.
- Synthesis: create a data visualization based on a given data set, individually or as a team
- Evaluation: given works of other people be able to tell the pros

and cons of that visualization.

Methods of Instruction

This is an online course and will be delivered via Moodle (www.moodle.com). It is highly encouraged that you learn the course materials at your own pace. Although we will not meet in person on a regular basis, we will still have group discussions and hands-on project that requires teamwork. The class schedule is for your reference, please feel free to proceed at your own preferable pace. However, you do have to turn in your final project **on or before** May 15, 2017. For details about assignments, quizzes, and final project, please see Schedule section below.

Course Policies

Please keep in mind that your attitude, effort, knowledge, and participation all affect your learning result and final grade.

No plagiarism or cheating will be allowed in this course. Please be respectful and responsible.

I do give attendance points for group discussion and project participation.

Make-Up policy: make-up for assignments and/or exams will be granted only for the following reasons:

- Official campus activities (designated by the Vice President for Academic Affair)
- Family or personal emergencies
- Medical reasons (need to be verified with a Doctor's note)
- Work-related travel (need to be verified with employer)

Please make an appointment with me as soon as possible to arrange time for your make-up assignments/exam. You are responsible for getting class notes from a classmate. Make-up assignments are due by

the end of the class following the missed class.

Grades

The highest possible score for this course is 110, including 10 points of extra activity, Group discussion (20 points), Assignment (30 points), Quizzes (20 points), Final project (30 points).

Letter grade will be used as your final grade:
A (90+), B (80-89), C (70-79), D (61-69), F (<60), I.
Grade "I" means "incomplete" which can only be granted for medical reasons.

Important Dates & Hours

- Office Hours: by appointment only.
- How to reach me
  See the information on the top of this syllabus. Please call if you have questions or to schedule make-up work or an appointment. If I am unavailable, I will get back to you ASAP, usually within 24 hours.
- The last date for withdrawal from the course is (April. 7, 2017).

List of Assignments

- Discussion 1: What do you know about data visualization? Have you seen any data visualization in the past (example) (10pts)?
- Discussion 2: do you think interactivity is necessary? Use an example to illustrate your point (10pts).
- Assignment 1: Choose a data set for your final project and explain your goal (10pts)
- Assignment 2: Evaluate an example of data visualization using principles and method learned in this class (10pts)
- Assignment 3: Sketch up your idea (10pts)

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- Final Project: Complete a data visualization and submit a PDF file (30pts)

  Due date: last day of class (May 12, 2017)

- Extra 10 points: Evaluate classmate's work (pick one)

Note: all the assignments are due by the end of the last day of this course: 05/12/2017

Schedule

Date		Topic	Activities
Week 1	Preparation	Introduction	Discussion 1 (10 pts)
Week 2		Formats and Principles	
Week 3		Understanding Data	Quiz 1 (10 pts) Assignment 1 (10 pts)
Week 4		Data Visualization Tools	Reading: statistics review.
Week 5	Visualization	Charts	Quiz 2 (10 pts) Assignment 2 (10 pts)
Week 6		Visual Encoding	Reading: Visual Encoding by Michael Dubakov
Week 7		MS Excel as An Essential Tool	Optional: Advanced Excel Tutorial
Week 8		Sketch up Your Idea	Assignment 3 (10 pts)
Week 9		Add Customization	
Week 10		Add Interactivity	Discussion 2 (10 pts)
Week 11		Resources	Extra reading (video tutorial): Creating an engaging infographic
Week 12	Project	Work on Final Project	Final project (30 pts) Extra 10 points: evaluate classmate's work