CS 67302/77302  INFORMATION VISUALIZATION  3 Credit Hours

Instructor’s Name: ________ Ye Zhao________________________________________

(Textbook Title, Author, Year)
No single specific textbook required.

(Other Supplemental Material)
Information Visualization: Perception for Design. by Colin Ware, Morgan-Kaufmann.

Course Content:
(Cross-listed with CS 77301) study algorithms and systems for visually exploring, understanding, and analyzing large, complex data sets. Information visualization focuses on abstract data such as symbolic, tabular, networked, hierarchical, or textual information sources.

Prerequisites or co-requisites: Graduate standing
Required, elective, or selected elective

Topics to be Covered: Total 45 hours

1) Multidimensional visualization, tree visualization, graph visualization, and time series data visualization techniques; (25 hours)
2) Visual perception, cognitive issues, evaluation, as well as other theory and design principles behind information visualization; (5 hours)
3) Basic interaction techniques such as selection and distortion; evaluation; (5 hours)
4) Programming of information visualization applications and systems. (10 hours)

Learning Outcomes:
The objectives of the course are to learn the principles involved in information visualization and a variety of existing techniques and systems. The students will also gain backgrounds and skills that will aid the design of new, innovative visualizations in realistic applications.

Learning Outcomes Assessment:
1. Reading and presentation: Students are required to read technical papers related to class topics. Each student will be required to give a presentation of your reading of technical papers during the semester. The presentation can use the given paper or other technical paper upon the lecturer’s permission.
2. Paper examinations: Two paper-based exams will be given during the semester. Students are asked to answer questions of general knowledge we studied on class and on your readings.
3. Projects: Programming projects will be evaluated by project design, work load, and results, as well as the presentation students give on class.