INFO 5960 Section 001/005 Data Visualization and Communication

Instructor
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Course Description
This course introduces principles and techniques for data visualization for creating meaningful displays of quantitative and qualitative data to facilitate decision-making. Emphasis is placed on the identification of patterns, trends, and differences among data sets.

Course Prerequisites
None.

Learning Objectives
Upon successful completion of this course, students will:
- Develop an understanding of the fundamentals of communication and alignment around concepts required for effective data visualization
- Understand the grammar of graphics and select appropriate visualization
- Develop proficiency in creating static and interactive visualizations for a variety of disciplines
- Use visualization to support decision-making and critical thinking
- Critique various visualization representations

Course Format
This course will be delivered through a web-based format with 10 learning modules. There will be several online sessions via GoToTraining; see the "Online Sessions" section of our course site. Students' attendance is not required but highly recommended.

Textbooks
There is no required textbook.
However, each module has required readings that are listed in the "Reading" section of the modules. Use of the UNT library electronic resources may be necessary as some readings can be retrieved electronically.

Software
Various visualization software tools will be used for class exercises and assignments; some are open-source and others are proprietary software. A fully licensed version of proprietary software (e.g., Tableau) is made available to each student for the duration of the class.

Assignments
1. Module Exercises (70 points)
Each module has a single deadline for completion of its required exercise. The module exercises are designed to reinforce the concepts taught in the modules and to give students hands-on experience with visualizing data.

2. Mid-semester quiz (5 points)
The mid-semester quiz consists of 10 multiple choice questions.

3. Final Project (25 points)
Students will define testable questions to be addressed and identify/select data sources to be aggregated, analyzed, and visualized. Then they will create visualizations using one of the tools practiced in class. The final project paper should include your project description, data source, data preparation and design, visualization, and discussion.

Grading
Grades will be determined as follows:

Grading Scale	
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

Course Policy
APA Style
When doing the assignment, it is important to provide details of all the sources of information that you have used to prepare your work. All written assignments should follow APA style to ensure that all sources are cited completely, correctly, and with consistency. The purpose of APA style is to 1) give credit to the author whose ideas or research you have used, 2) provide the exact location for sources of information used in the text of your paper, and 3) enable your reader to verify information you have provided or to explore your topic in greater depth. Consult the Publication Manual of the American Psychological Association, 6th edition.

Late Assignments
All students are expected to submit their module discussions and other assignments by the due date. The due dates are listed on the schedule section of the course syllabus and also marked on the calendar of the course site so that students can work around any planned events that would interfere with their completing the assignments on time. This prevents students from getting too far behind in the course and allows the instructor to assign grades in a consistent manner.
All students who do not post all their assignments by 11:59 PM Central Time on Sunday will be penalized a point for each date late unless there are extenuating circumstances. The instructor will consider extenuating circumstances, which may cause an assignment to be late.

Incompletes
A grade of incomplete (I) will be given only for a justifiable reason (such as a serious illness or military service) and only if you are passing the course. It is your responsibility to contact the instructor to request an incomplete and discuss requirements for completing the course. If you do not remove the incomplete within the timeframe agreed upon with the instructor or within one calendar year, you will receive a grade of an F. Please refer to http://essc.unt.edu/registrar/academic-record-incomplete.html for more information.

Withdrawal
A grade of withdraw (W) or withdraw-failing (WF) will be given depending on your participation and grades to date. If you simply disappear and do not file a formal UNT withdrawal form, you may receive a grade of an F.

Schedule

8/29 – 9/4	Orientation
9/5 – 9/11	Module1: Introduction
9/12 – 9/18	Module2: Understanding data
9/19 – 9/25	Module3: Preparing data
9/26 – 10/2	Module4: Creating charts
10/3 – 10/9	Module5: Adding calculations to charts
10/10 – 10/16	Mid-semester review
10/17 – 10/23	Module6: Creating maps
10/24 – 10/30	Module7: Visualizing texts
10/30	Final Project Plan due 10/30
10/31 – 11/6	Module8: Exploring visualization tools
11/7 – 11/13	Module9: Assessing visualization
11/28 – 12/4	Module10: Communication
12/4	Final Project Paper due 12/4

UNT Policy
ADA Statement
The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.

Academic Dishonesty
Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam [or specify alternative sanction, such as course failure]. Additionally, the incident will be reported to the Office of Student Rights and Responsibilities, which may impose for further penalty. According to the UNT catalog, the term "cheating" includes, but is not limited to: a. use of any unauthorized assistance in taking quizzes, tests, or examinations; b. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; c. the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; d. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or e. any other act designed to give a student an unfair advantage. The term "plagiarism" includes, but is not limited to: a. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and b. the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Acceptable Student Behavior
Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct.
The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at www.unt.edu/csrr.