Course Description
This course emphasizes the exploration of how data-cum-information can be organized and visualized to enhance a particular audience’s ability to a. comparatively and contextually interpret meaning and b. (perhaps) think differently and (perhaps) act based on this interpretation. More specifically, students will learn to design visually communicative depictions of sequential and time-based data that helps audiences make effective comparisons between and derive contextualized understandings from key concepts and patterns at work within given data sets.

To achieve these goals, students will be immersed in learning situations wherein they will learn to utilize user-centric, conceptual and method-based approaches to develop the effective formal and functional realization of information delivery systems. Over the course of the semester, students will complete four to five assigned projects and—time permitting—an individually guided research project using a variety of design tools and media that could possibly span a wide gamut, from static, pencil-and-paper models, to video, animation, three-dimensional/sculptural realizations and the interactive web.

Prerequisites
(for MA in Des w/ Concentration in IXD students): Admittance into the MA in Design with a concentration in IXD program; (for students from Computer Science, Merchandising and Digital Retailing, Technical Communications, Anthropology, Journalism, Marketing, Logistics and Operations Management, Sociology, ITDS, Psychology, Information Science, CVAD grad students outside of the MA in IXD program, and working professionals from outside UNT’s graduate programs students): permission of the instructor.

Materials
In addition to weekly readings from your course textbooks, other reading material will be posted as PDFs or MS Word documents in the Readings folder on the Canvas-facilitated course website. You should bring a sketchbook (roughly 9” x 12” in size), and a dark pen(s), pencil(s), or other sketching tool(s) you’re comfortable using (e.g., an iPad or other form of digitally enhanced rendering tablet). You may also find that you need to make use of photographs or video sequences you have shot, as well as graphics applications software such as Adobe InDesign, Illustrator and/or Photoshop, as well as Sketch (of these three, Adobe Illustrator and Sketch will likely prove most useful to you). As a UNT grad student, you have free access to online-facilitated tutorials re: all of these softwares via Lynda.com tutorials.

Course Objectives
Through the completion of course assignments, students will acquire competency in the following areas:

Required Texts


Recommended Texts

· The ability to effectively analyze common data domains—text, cartography, dynamic information contextualization networks, multivariate data—to discern essential patterns and relationships that could guide the development of particular data visualizations;
· The ability to effectively develop and design these interpretations of patterns and relationships from particular data domains to guide the development of data visualizations that function as analytical tools on behalf of given audiences;
· Practical experience using iteratively structured design processes to create effective data visualizations from initial idea generation and rough-sketching to final realization as interactive entities;
· Practical experience using visual narrative/visual storytelling principles and techniques to guide the design of effectively communicative data visualizations.

Through the completion of course assignments, students will develop competency in the following areas:
· Develop the capacities and competencies necessary to engage in visualization as both a means to a) explore relationships and patterns contained within data and as b) a means to explain these to a specific audience;
· Understandings of how to iteratively structure, represent and communicate information across different media platforms in ways that allow periodic assessment by sample, persona-based users to affect design development;
· Classifying information gleaned from data according to the following six structural rubrics: Hierarchical, Relational, Temporal, Spatial, Spatio-Temporal, and Textural;
· The ability to iteratively design representative data sets that lack inherent spatial components in physical forms such as statistical charts, graphs, maps and diagrams;
· The ability to iteratively design informational graphics in ways that combine various statistical expressions and visualizations with some form of narrative (including those that are normative or polemic in nature).

Course Structure
This course is offered in a design studiolab format, and will meet for one, 170-minute class session per week. Course content and studiolab etiquette during critically dialectic exchanges between fellow-students and students and faculty are all consistent with the requirements of pursuing a career in professional User Experience and Interaction Design environments.

Students will likely have to work four to six hours per week outside of class to complete their assigned coursework. Students may work in the studiolab as required, and must participate in class discussions and critical dialogues during class hours. Students will submit their work on assigned course projects in iterative phases as stipulated by a per-project development schedule. The CVAD Computer Lab in the Art and Design Building complex in Denton is available to students to work on assigned course projects outside of scheduled class time. The CVAD Computer Lab and the computing facilities in room 112 of the New College are available (during their respective hours of operation and if they are not otherwise in use or are under use restrictions as mandated by CVAD or New College in Frisco IT personnel) to students to work on assigned course projects outside of scheduled class time. With that stated, it is hereby suggested that students create work that satisfies the requirements for this course on their own, personal computing rigs.
EVALUATION/GRADING
Each assigned and independent project will be worth a specific number of total course points to individual students or students working in design teams. Each assigned project will be evaluated according to criteria articulated to all students on the day it is launched. How effectively each student or student team is assessed to have addressed specific project criteria will be recorded on an assessment document that each student will receive one to three weeks after the culmination of each project. The per-project course points (see below) each student earns as the semester progresses will be added together at the end of the semester to determine that student’s final course grade. There is no final exam for this course.

Articulation of per-project course points:
01 | Assessment of two information visualizations from the “Places and Spaces: Mapping Science” exhibit website:
   10 points (08.29.18—09.12.18)
02 | Autobiographically driven data visualization:
   15 points (09.12.18—10.03.18)
03 | Using visualized data to chronicle change over time:
   15 points (10.03.18—10.24.18)
04 | Mapping the future of UNT Denton’s library system:
   20 points (10.24.18—11.21.18)
05 | Using the visualization of information to address a S.T.E.E.P. issue of personal concern/individual interest:
   20 points (11.21.18—12.12.18)

The remainder of each student’s grade (20 course points) will be calculated according to the following criteria:
- daily class participation + in-class + group work

Please note: as 1) our class size is relatively small, and 2) Canvas’ facilitation of its “Assignments” feature leaves much to be desired re: usability by all its target users, please send me your homework assignments either as e-mail attachments or place them in a to-be-determined online repository (likely in Dropbox). To avail yourself of the “e-mail option,” send me your documents in whatever format I call for (per assignment, likely in .pdf form or as MS Word documents), AND—please use the following language in your subject line: “ADES 5450-YourLastName-assignment title.”

ATTENDANCE POLICY
Attendance is mandatory. The instructor will take roll at the beginning of each class session. Every unexcused absence over two will result in a letter grade reduction of the final course grade beginning with the third unexcused absence. Each two instances of tardiness over an initial two of these will be counted as one absence. A student is tardy if he/she arrives after the first 15 minutes of class have elapsed. No make-up opportunities for a missed class session will be given to any student enrolled in this course unless that student presents the professor with a UNT-Approved Absence Verification form within 72 hours of the ending of the class session that was missed. Students are hereby notified that meeting with the Instructor of Record for this course during an office hours session does NOT make up/cannot be substituted for a class session that was missed.

COURSE RISK FACTOR
This class has been assigned a Level 1 Risk Rating, a course in which students are exposed to some minor hazards (most particularly,
repeated computer usage), but are not likely to suffer bodily harm.

**American Disabilities Act**
The College of Visual Arts and Design is committed to full academic access for all qualified students, including those with disabilities. In keeping with this commitment, and in order to facilitate equality of educational access, faculty members in the College will execute reasonable accommodations for qualified students with a disability, such as making appropriate adjustments to the classroom environment, as well as to the teaching, testing, or learning methodologies that are operated within the structure of the course, as long as actuating any of these adjustments does not fundamentally alter the content that must be delivered within the structure of the course.

If you have a disability, it is your responsibility to obtain verifying information from the Office of Disability Accommodation (ODA; https://disability.unt.edu/), and to inform the instructor of your need for an accommodation. It is preferred that requests for accommodation be given to the instructor no later than 5 pm CDT on the final day of the first week of classes for students registered with the ODA as of the beginning of the current semester. If you register with the ODA after the first week of classes, your accommodation requests will be considered after this deadline.

Grades assigned before an accommodation is provided will not be changed. Information about how to obtain academic accommodations can be found in UNT Policy 18.1.14, at https://disability.unt.edu/, and by visiting the ODA in Sage Hall on the UNT Denton campus, room 167 (visit the UNT website for updated location information). You also may call the ODA at 940.565.4323.

**Building Emergency Procedures**
In case of emergency, an alarm will sound. If this occurs, please follow the building evacuation plans posted on each floor of your building and proceed to the nearest parking lot. In case of a tornado (campus sirens will sound), or other weather-related threat, please go to the nearest hallway or room on your floor without exterior windows and remain there until an all clear signal is sounded. Follow the instructions of your instructors and act accordingly.

**Student Rights and Responsibilities**
Each University of North Texas student is entitled to certain rights associated with higher education institutions. See www.unt.edu/csrr for further information.

**Faculty Evaluation**
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized courses at UNT. This short survey will be made available to you at the end of the semester so that you can offer constructive criticism regarding how this class is taught. I consider the SETE to be an important part of your participation in this course, as I utilize the feedback I get from it to improve my teaching. You will be notified of the dates for the Spring administration of the SETE by the University.

**Concerning Plagiarism**
Plagiarism is a serious violation of UNT’s code of academic conduct. The UNT Code of Student Conduct and Discipline, Policy Manual, Graduate Catalog, and Undergraduate Catalog explain specific policies, penalties, and the appeals process. The UNT Policy on Academic Misconduct provides definitions of plagiarism and states that the instructor can assign penalties for violations of the policy.

The Graduate Catalog states: 
“The term plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. Plagiarism also
includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.“

The UNT policy further states that all students: “…are responsible for making themselves aware of the definitions and implications of academic misconduct. For further information on academic misconduct, penalties and appeal procedures, the student should refer to the “Code of Student Conduct and Discipline.”

Penalties are assigned by instructors and can range from reducing the grade for a test or assignment to revoking an academic degree already granted.

It is the policy of this instructor re: the operation of this course that individual cases of plagiarism—once proved—will result in automatic course failure and a recommendation for removal or expulsion from any and all other courses in the MA in Design with concentration in Interaction Design curriculum at UNT.

Plagiarism described more specifically
Plagiarism is copying: retyping, cutting and pasting, or paraphrasing. All students in this course are warned as follows:

· Do not quote or paraphrase published sources, including assigned readings and Web-based sources, without explicit reference to the original work. Credit the source using guidelines provided in the 16th edition of the Chicago Manual of Style.

· Do not insert parts of class lectures, online modules, or tutorials, including examples, into your own work. These are published by the instructors, who properly cite the sources of any external published sources.

· Do not insert parts of previous students’ work into your own work.

· Do not insert parts of current students’ work into your own work without his or her express permission to do this. If the current student is your project draft exchange partner, that student trusts you to respect his/her intellectual product.

You are expected to study and learn from the materials provided, then to use your own words in your assignments, or clearly credit sources using the guidelines provided in the 16th edition of the Chicago Manual of Style.

Disclaimer
The instructor retains the right to change the course syllabus and schedule without notice.

For more crucial information about this course—including our weekly schedule—please continue reading on p. 6 (the next page), and beyond.
AN OVERVIEW OF THE ASSIGNED AND INDEPENDENT COURSE PROJECTS AND READINGS

Project 01
08.29.18–09.12.18 (two weeks)
Assessment of two information visualizations from the “Places and Spaces: Mapping Science” exhibit website (choose one that you assess to be effective and another that you assess to be ineffective and write + present a critical analysis of each).

Readings re: Project 01

Project 02
09.12.18–10.03.18 (three weeks)
Autobiographical data visualization in two phases. Phase one involves working with a partner for a week—in-class and outside—to develop an array of character and personality-based traits/correlations that others whom your partner does not know could begin to utilize to “virtually” learn about them (due for presentation and discussion on 09.19.18). Phase two involves individual students using the data cultivated and categorized/organized from phase one to fuel/inform the design of a five-to eight-minute visual and verbal presentation. Initial plans, sketches, roughs—to each his/her own—must be presented and discussed in class on 09.26.18, with the final visual and verbal presentations due on 10.03.18. These presentations should, in their visual forms, be offered as a slide deck comprised of one to six images that measure 1024 x 768 at 72 dpi.

Readings re: Project 02
§ They are listed in the order in which the instructor feels it would be most advantageous for you to read them in.
Critical analysis of “Spaces and Places”

Science Maps

Students will work individually during this assignment to critically analyze two pieces from the “Places and Spaces: Mapping Science” exhibit website at http://scimaps.org/maps/browse/.

(The specific parameters for these written analyses are presented below.)

This website consists of so-called “science maps” or “maps of science” that have been exhibited around North America over the course of the last seven years or so as part of a series of traveling exhibits curated by information scientist Katy Borner from the University of Indiana.

The two pieces—there are about 200 in total in this archive—about which you are to write critical analyses should be placed into two distinct categories for analysis. The first can be defined using this simple descriptor: “[map x] has been visually configured so that its aesthetic forms work to effectively facilitate its functionality, which is to communicate its information to a given audience in a manner that makes that information understandable to them.”

The second can be defined in terms that oppose the first: “[map x] has NOT been visually configured...”

Try to choose the two maps you’ll analyze so that each one can be used as an “effective counter” to the criticism you offer for the other. By doing this, you’ll allow the readers of your two analyses to perceive the two of them as a kind of matched set, so that what you write in support of your analytical criticism for one piece becomes much more effectively understood when it is read in context with its “partner.”

Each of your two paired analyses must be written at a length of no shorter than 600 words and no longer than 1,000. Please plan on either printing out (at actual size) or displaying the science maps you’ve chosen to criticize using our in-class computing facilities in New College room 121, so your audience can gain an accurate, sense-based perception of the pieces you’ve chosen to criticize. Please also include/incorporate a copy of each of your chosen maps somewhere in the body of the papers you write.

What follows are some of the critical issues that should be accounted for in each of your analyses (each of you must address at least four of the seven that have been articulated below in each of the two criticisms you write). Please bear in mind that you must provide well-articulated rationales for why you have chosen to laud or castigate particular aspects of the pieces you have chosen to criticize as you address the following critical issues:

· Assess each piece from a connotative and denotative perspective;
· As these pieces each depict visualizations of data, assess how effectively they stimulate viewer attention and engagement (bear in mind that a piece that may garner attention and engagement from one persona may not garner it from another);
· Assess each piece semiotically—the challenge for each re: satisfying this parameter will be to “get beyond description and your opinion” to arguments that are effectively bolstered by your ability to interpret the cultural signs/indicators that are manifest in each of them;
· Assess each piece in terms of how effectively it allows its audience(s) to recognize patterns of particular types of occurrences within the data;
· Assess each piece in terms of how effectively it allows its audience(s) to infer particular types of relationships between the sets of data that are being presented;
· Assess each piece as an entity that must allow its audience(s) to engage in whatever cognitive processes are necessary for it/them to derive meaning from it that facilitates their ability to quantitatively compare data within the construct itself (ask questions that examine whether or not the graphic
realization of forms distorted or obscured the understanding of essential statistical data, or caused it to be misinterpreted... a good starting point for this line of inquiry is “can the audience[s] effectively discern and then utilize a hierarchy of information to cognitively ‘navigate their way through’ the array of data?”

- Assess each piece as a purely aesthetic entity, which will require you to critically examine whether or not the array of typographic, symbolic, and photographic forms (as well as the spaces that occur between them...) that comprise the entire construct were arranged and physically treated in a manner that contributed to its empirical “success or failure;” this last parameter affords you the opportunity to opine on the relative strength or weakness of the use of color, scale, texture, etc.—and the contrast or lack thereof between them—in each of the two pieces you choose to analyze.