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 c. (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 using a variety of design tools and media that span a broad gamut (depending on individual students’ areas of interest and expertise) from static, pencil-and-paper models, to video, animation, three-dimensional/sculptural realizations and the interactive web.

Prerequisites
(for MA in IxD students): Admittance into the MA in Design with a concentration in IxD program; (for students from Com Sci, Tech Comm, Anthropology, Journalism, Marketing and Logistics, Sociology, ITDS, the Department of Design, Tech. Comm. Business Management, Biology, Art Ed, and Sociology, and working professionals from outside UNT’s graduate programs students): permission of the instructor.

Required Texts

Course Syllabus | fall 2022
ADES 5450.501 | Data Visualization + Information
Design Keith Owens, Instructor of Record
k.owens@unt.edu

This course meets on Wednesdays from 6:30 to 9:20 pm in room 112 at UNT’s New College at Hall Park A in Frisco.
to use your smartphones to easily photograph 8.5” × 11” sheets of paper. Here’s where to find a good one online:

“Scanner Bin-The Clever Document Scanning Solution:”
https://www.amazon.com/Scanner-Bin-Doc-
ument-Scanning-Solution/dp/B00XM7LKZM/
ref=asc_df_B00XM7LKZM/?tag=hyprod-20&link-
Code=df0&hvadid=312267316042&hvpos=&h-
venetw=g&hvrand=17545480000675549037&h-
vpone=&hvptwo=&hvqmt=&hvdev=c&hvlocm-
dl=&hvtargid=pla-568119642867

§Instructions re: how to access this new, internal digital storage area can be found on p. 10 of this document.

In light of our need to guard against COVID-19
Each of you is required to be physically present in room 112 on Wednesday evenings this semester from 6:30 am until 9:20 pm with myself and a select group of your peers until and unless we are at some point mandated by the university to switch to a so-called “completely remote, synchronous” teaching and learning modality. Each student must physically (or, in some cases, virtually or digitechnically) present whatever work the daily course schedule calls for on a given day. This may mean using small magnets to attach sketches you’ve drawn to a section of the whiteboards in the room designated ONLY for your individual use (you’ll each need to purchase some of these for your own use: https://
www.magcraft.com/magcraft-nsn0732 OR https://
www.officedepot.com/a/products/351910/Fash-
ion-Magnets-Assorted-Shapes-Assorted-Colors/j-
sessionid=00ooikFl-hmhHZN7fCws9Q81dBuQ:17h-
417coJ).

Additionally, this may mean that you will be required to use your personal computing rig to 1) access work you will have created outside of class using Adobe InDesign, Illustrator, Photoshop and XD software, and then 2) present this work to the instructor and your peers using a combination of the in-classroom computing facilities and some form of external digital storage (this will likely be the new “Screaming Eagle”§ CVAD, Department of Design server storage space set aside specifically to be used by students and the instructor of this course), but, if this can’t be made to work, we’ll resort to using some form of external storage space that will be announced during class).

As the semester progresses, it may become necessary to use Zoom, and—specifically—Zoom’s screen sharing feature to facilitate critical discussion of the work being presented during particular class sessions. Additionally—on occasion—we may also make use of an online-facilitated, digital collaboration tool + portal known as “Mural” (https://www.mural.co/; how extensively we’ll use this will depend literally on how much access I can obtain for us as a group for NO MONEY).

AGAIN—this bears repeating—each student enrolled in ADES 5450 will need to be sure they can access UNT CVAD’s new Screaming Eagle§ internal digital storage facility. We’ll likely make extensive use of it—or some form of external digital storage—as the semester progresses.

An enactment of measures designed to prevent the spread of COVID-19
Please DO NOT physically come to class with the instructor and your classmates if you are feeling ill, or are exhibiting symptoms of illness (i.e., you have a fever of 100° or higher, you are actively and consistently coughing or sneezing, you have shortness of breath, you are experiencing nausea and/or headaches, you are experiencing diarrhea).

Each student enrolled in ADES 5450 may wear a non-ventilated face mask to our class sessions.
More information about the types of masks that have been approved for on-campus wear during the pandemic, please visit: https://www.untsystem.edu/covid-response-guidelines#toc-3, and then please scroll down to the subhead that reads: “Face coverings and PPE.”

Each student should plan to enter room 112 five to ten minutes before 6:30 pm on Wednesday nights this fall so they he/she/they will have ample time to clean and sanitize the chair and the desk they will use throughout the class session as roll is being taken that night between 6:30 and 6:35 pm. Each student must also do this just prior to leaving each class session at about 9:15 or so each evening of the coming semester.

Each student MUST occupy his/her/their specified chair and desk area for the entirety of the class session EXCEPT when he/she/they must get up to use lavatory facilities OR when he/she/they will hang work drawn or printed on paper WITH HIS/HER/THEIR own magnets on his/her/their designated section of whiteboard (https://www.magcraft.com/magcraft-nsn0732 OR https://www.officedepot.com/a/products/351910/Fashion-Magnets-Assorted-Shapes-Assorted-Colors/j-sessionid=0000kFlhmhHZN7fcws9Q81dBuQ:17b-4h7cou). Students MAY NOT SHARE their magnets with each other at any time during the semester.

**Course Objectives**

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

- The ability to effectively analyze common data domains—text, cartography, networks, multivariate data—to discern essential patterns and relationships that could guide the development of particular data visualizations;
- The ability to 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. Outside of class time, students may work in the UNT Denton CVAD computing lab on the third floor of the CVAD Building Complex if and when it will be open this semester (this is likely to fluctuate...), and must participate in class discussions and critical dialogues during our class time together. Students will submit their work on assigned course projects in iterative phases as stipulated by a per-project development schedule.

The computing facilities in room 121 of the New College at Frisco may also be available for students to use—likely on quite a limited basis—to complete some aspects of the coursework assigned in this course, but be advised that, for your own safety and that of other others in the UNT community, it is hereby strongly recommended that most of the coursework required for successful engagement in ADES 5450 be completed on computing facilities/equipment that each student either owns or personally controls.

**Course Components**

Each of the four to five aforementioned information design challenges that will evolve as this course progresses will necessarily involve a good deal of in-class critical analysis and discussion. Because of this, these activities will constitute the primary “course component” of ADES 5450. Specifically, this means engaging in critical, broadly informed analysis of human-centered, user-experience-based design decision making. Each student will be required to actively contribute to the critical dialogues that will transpire in our classroom during almost every class session of the semester. Each of the four to five assigned, information design challenges that will be addressed by either individual students or student teams will be assessed for grading once they have been turned in.

**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 (08.26.20–09.09.20)

02 | Autobiographically driven data visualization: 15 points (09.09.20–09.30.20)

03 | Using visualized data to chronicle change over time (team-based): 15 points (09.30.20–10.21.20)

04 | “Rhetorically loaded” mapping (team-based): 20 points (10.21.20–11.18.20)

05 | Using the visualization of information to address a S.T.E.E.P. issue of personal concern/individual interest (team-option) 20 points (11.18.20—12.09.20)
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) the fact that Canvas’ facilitation of its features that facilitate the “turn-in” of specific assignments that require large amounts of memory leaves much to be desired re: general usability, please send me your homework assignments either as e-mail attachments or place them in a to-be-determined online repository (most likely in Screaming Eagle or we may make use of “WeTransfer…”). 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-Your-LastName-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.

The Assignment parameters re: your first course project in ADES 5450 begin on the next page of this document (p. 08)

Why couldn’t these just be allowed to begin on this page, right here?!…

Please feel free to spend far too many hours of your precious time over the course of the next two to three weeks trying to ascertain this, especially if this deep contemplation causes you an inordinate amount of sleep loss. (Please do NOT do this: I’ve chosen to begin the copy that articulates the assignment parameters for Project One on the next page due to the fact the content of that section of this document is so very different from the content of the section that will culminate with the ending of the next paragraph.

“Breaking up” text typography into discreet sections, even if it means exposing a fair amount of negative space near the outside, or “edge,” of a given page layout, is a good, rather than a bad, thing to do in terms of how a reader will perceive this visually and process this mentally. Negative space, especially in the universe of visual information design, needs to become one of your best friends forever.)
Critical analysis of "Spaces and Places" Science Maps or other broadly available information design artifacts and systems; Parameters for "Assignment 01"

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.) Alternatively, you may choose to source examples/artifacts of information design from other sources, such as the New York Times, The Guardian, BBC News, etc.

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 it 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 500 words and no longer than 750. Please plan on either printing out (at actual size) or displaying the science maps you’ve chosen to criticize, 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 with regards to their cultural signs/indicators;
· 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 whether each piece utilizes a hierarchy of information;
· 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.
**INSTRUCTIONS FOR ACCESSING OUR NEW**

**Screaming Eagle** internal digital file storage facility

Here’s an IP address to the Screaming Eagle internal digital file storage that has been specifically set up to meet the needs of the course sections I’ll be teaching this fall: smb://cvad.nas.untsystem.edu/Students

This IP address—rendered above in green—is something that ALL OF Y’ALL SHOULD PLEASE WRITE DOWN AND STORE IN Y’ALL’S PHONES AND COMPUTING RIGS FOR FUTURE REFERENCE! Here’s a step-by-step breakdown of how to gain access to Screaming Eagle:

01 | (you’ll each only have to do this one time, specifically, the first time you attempt to use Screaming Eagle): visit the URL https://it.unt.edu/installing-vpn-client in your browser of choice, which I’d recommend to be Brave, Firefox or Chrome. Once you’re there, you’ll need to please download the Cisco AnyConnect Secure Mobility Client app into the applications folders of your respective computing rigs, and then be sure it’s ready to operate during the entirety of the semester.

02 | You’ll need to fire up the Cisco AnyConnect Secure Mobility Client app BEFORE you try to navigate to Screaming Eagle.

03 | Once you’ve opened the Cisco AnyConnect Secure Mobility Client app, a small action window of information will appear somewhere on your computing screen. It will render the following verbiage: “VPN: Ready to connect,” and the IP string “vpn.unt.edu” will appear in a window just beneath this verbiage. Click the “Connect” button immediately to the right of this window.

04 | You should now see another small action window of information (W.O.I) either immediately beneath or to the right of the first one you worked with. This W.O.I. will contain three manipulable fields: a) leave the topmost at “General;” b) enter Students\ your EUID§§ in the “Username” field; c) enter whatever password you’ve set for yourself as a UNT students in the “Password” field. Click “OK” once you’ve attended to all of these.

05 | Doing that will yield a W.O.I. that reveals UNT’s legalese that you must click “Accept” to advance beyond.

06 | “Ummmm… I did all that stuff and I don’t see anything on my screen that looks any different than it used to.” Before you curl yourself into a fetal position and engage in some moaning therapy, know that there are a coupla more things you need to do. Specifically, you must now use your computing rig’s onboard “Go to Server” feature to get you access to the actual Screaming Eagle repository. To do this, be sure the “Finder” menu is active atop the upper-left portion of your computer’s screen, and under the “Go” tab, click “Go to Server” (command + K).

07 | Once you’ve done this, enter the following URL in the topmost field in the W.O.I. that appears: smb://cvad.nas.untsystem.edu/Students. Once you’ve done this, click the “Connect” button in the lower right portion of the W.O.I.

08 | You should now see a pretty standard-looking array of file folders stored in a window. You’ll be using the “Gibson,Michael-ADES5450.001” folder to support your studies in this course this semester. Inside that folder, you’ll find another with your name and EUID in the folder title: this will be YOUR VERY OWN digital storage space between 08.25.20 and 12.14.20. You’ll also see a “_Share” folder, which contains material I’ll be sharing with you as this semester progresses.

§§ Your EUID consists of some combination of your initials rendered with lowercase letterforms, followed immediately—with NO wordspace—by four (4) numerals. For example, the EUID of Misty Lou Shoofly (currently enrolled in UNT’s world-renowned exotic poultry and hamster studies program) would be: mls1369.