ADES 3513 | “Information Design & Data Visualization” | Course Syllabus

Course Description

This three-semester-credit-hour undergraduate course will transpire over a 15-week span of time and is designed to build upon knowledge students enrolled in it will have constructed during their prior enrollments in the array of courses that precede it in the BFA in Communication Design: User Experience Design Track (BFA CDES: UXDT) degree plan sequence. This course is designed to be taken during the first semester of the third year of enrollment in the curriculum that facilitates the BFA CDES: UXDT degree plan, and has been designed to complement the learning experiences students enrolled in it will experience during their concurrent enrollment in ADES 3503 “Planning and Developing UX and IX Systems.”

The primary goals, expressed as student learning outcomes, of the learning experiences that constitute ADES 3513 Data Visualization and Information Design are to allow each individual BFA CDES: UXDT candidate enrolled in it to:

1. engage in the contextual research necessary to gather and critically analyze the key issues, conditions, networks and actors—expressed as sets or types of data—that have affected, are affecting or could affect the evolution of a given social, technological, environmental, economic or political/public policy situation;
2. formulate a hierarchy of information based on the data gathered and analyzed in item 1 to iteratively develop multiple approaches for diagrammatically structuring this data in visually communicative ways that would allow a specific target audience to compare and contrast the most crucial data points, or concepts and ideas, as they evolve over time, or as a result of the affect or influence of a particular variable—these may sometimes expressed as trends, patterns or systems, and may be expressed using standard data visualization tropes and conventions, such as (but not limited to) fever graphs, bar charts, proximity diagrams, progression diagrams, maps and mapping conventions, and axial diagrams;
3. learn to express the data gathered during their engagements in items 1 and 2 (what is described in item 2 is referred to as data visualization), in ways that may incorporate data visualization, illustration(s), typography, photography, symbology and the considerate assertion of color into a visually congruent format that allows a specific target audience to discern a complete story;
4. learn to determine whether the complete story described in item 3 would be best expressed in a manner that a. persuades, b. informs, and/or c. entertains, and then engage in design decision-making that yields an outcome or multiple outcomes that achieves one or more of these ends;
5. learn to present the outcomes described in item 4 in ways that effectively include “framing information,” such as introductory, or contextualizing, copy, as well as conclusions, and, as necessary, calls to action;
6. learn to edit the data-cum-information developed during steps 1-5 into a form or forms within a format that allows the target audience to convert this material into usable, useful and, if necessary, actionable knowledge;
7. become familiar with the approaches for and develop the skills necessary to develop and execute a. simple data visualizations, b. static infographics (print and online), c. dynamic infographics and d. interactive infographics.

Credits and Prerequisites

All students enrolled in this course must have already taken and successfully passed (i.e., earned a final course grade of “C” or better): the following courses: ADES 1500, ADES 1513, ADES 1543, ADES 2513, ADES 2518,
and ADES 2523. ADES 3513 is a three-credit hour, undergraduate course that is required for all UNT CVAD Communication Design majors seeking a B.F.A. in Communication Design with a concentration in User-Experience Design.

Course Content
This course will be comprised of four visual communication design projects that will challenge students to convert complex sets of data-cum-information into visually compelling, effectively conveyant information design artifacts and/or systems. These projects will help students learn to effectively develop and execute one or more data visualization or infographics-based artifacts or systems guided by project-based-learning approaches. Each of these should, when completed, function to allow a given audience to discern meaning from them in ways that effectively inform their decision making processes about how they think, feel and wish to act in response to a particular social, technological, economic, environmental or political/public policy situation or set of circumstances. Each project will adhere to the same development and design schedule. The work of individual students and student teams has the potential to be guided by individually or team-asserted biases and working parameters on a per-project basis.

Each BFA CDES: UXDT student enrolled in ADES 3513 "Data Visualization and Information Design" will be challenged—on a per-project basis—to construct and discover new knowledge and understandings as he/she engages in various iterative design processes, prototype(s) development, and some degree of testing and implementation required to successfully realize the completion of the assigned course projects (particularly with regard to the final two of these).

A select array of technical skills that will help students facilitate particular aspects of the development and design of their data visualization and infographic-based artifacts and systems will be addressed or demonstrated by the instructor on a limited basis as the course schedule progresses, but the majority of class time will be spent engaging in the critical analysis of each student's evolving work (again, on a per-project basis). It is expected that each student will augment the development of each of his/her course projects as necessary with their own, self-guided construction of knowledge regarding the operation(s) of various types of software, programming and other aspects involving individual project execution and delivery.

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

- the construction of knowledge that informs how individuals and groups think and make choices as they engage in everyday interactions with information presented in visually communicative artifacts and systems
- a set of core skills and a knowledge base necessary to effectively plan and guide the development of data visualizations and informational graphics artifacts and systems
- processes for iteratively developing effectively communicative, visually realized and broadly disseminated data visualization artifacts and systems
- the formal skills necessary to configure combinations of data visualization, illustration(s), typography, photography, symbology and the considerate assertion of color in ways that facilitate effective decision-making regarding a specific situation or set of circumstances on behalf of a particular target audience or user group.
the ability to make broadly informed, deeply considered choices about what aspects of data to include and exclude from particular manifestations of data visualizations and informational graphics to ensure that the essential meaning they wish to convey is effectively understood by a given target audience or user group

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

- the ability to plan and operate the development and then the design processes necessary to effectively guide the evolution of the kinds of complex, multi-faceted projects they will be challenged to resolve in this course, and beyond it
- the ability to account for the social, cultural, economic and political biases among their assigned or chosen target audiences and user groups, so that they can make appropriate design decisions on behalf of many different types of these as they progress through the BFA CDES: UXDT degree plan and beyond it into their respective career paths
- the ability to cultivate knowledge gleaned from existing informational graphic design tropes and conventions so they can effectively utilize this to guide their design decision-making when they are challenged to make complex information understandable and actionable to a specific target audience or user group
- The ability to logistically plan the evolution of a complex information design project so that the manner in which it evolves can account for criticism offered by whatever stakeholders and/or project collaborators are involved in attempting to realize this project to good effect
- The ability to design-and-write, or write-and-design, effectively communicative and emotionally engaging introduction, main content area, and conclusion copy/text, and the imagery to support this, in ways that effectively inform the decision-making of a specific target audience or user group

Through the completion of course assignments, students will continue to develop competency in the following areas:

- The ability to glean useful and usable information gleaned from human-centered design research about the biases, needs and aspirations of a specific target audience or user group
- The ability to articulate key rationales for making particular design decisions so these can be openly and critically discussed by project stakeholders and collaborators, as well as their instructor
- The abilities necessary to consistently and effectively combine arrays of typographic, symbolic, illustrative, and photographic imagery to create visually communicative design work that is aesthetically compelling and conceptually engaging
- The abilities necessary to engage in various types of digital products and systems programming necessary to facilitate effective and delightful interactions between the systems they design and those target audiences or user groups on whose behalves these products and systems were designed

Course Structure

This course is offered in a design studiolab format, and will meet for two, 170-minute class sessions 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. Under the guidance of the instructor, each BFA CDES: UXDT student enrolled in ADES 3513 will spend
specified amounts of time—between three and five weeks—engaged in developing and designing four or five assigned projects that must endeavor to satisfy a particular set of data visualization or informational graphics parameters. Students must be present for each class session that transpires over the course of the semester, and actively participate in the class discussions and critiques that will occur during these spans of time. Individual students will be responsible for showing and being prepared to explicate and defend whatever project-based work the course schedule specifies for critical review and discussion on specific days. The CVAD Computing Labs at the CVAD Building Complex in Denton are available to ADES 3513 students to work on assigned course projects outside of scheduled class time.

Each student will need to spend approximately two to three hours working outside of class time for each hour he/she spends in class each week. This will amount to a total of approximately 12 to 18 hours spent outside of class each week completing the assigned coursework. Not being able to devote this much time per week to the assigned coursework of ADES 3513 could jeopardize an individual student’s ability to effectively learn in this course.

**Course Components**

Each of the two aforementioned user-experience-based, visual communication design problems 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 2523. 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 two assigned, user-experience-based, visual communication design problems that will be addressed by the student teams will be assessed for grading once they have been turned in.

**An Overview of How Students Enrolled in This Course Will Be Graded Combined with the Project Schedule**

Each of the four assigned data visualization or informational graphics projects that will evolve over the course of the semester schedule will be worth a specific number of total course points that will accumulate toward each student’s final course grade. Each of these projects will be evaluated according to criteria articulated to all students in writing on the day it is launched. How effectively each student is assessed to have addressed specific “per project” criteria will be recorded on an assessment document that each student will receive one to two weeks after the culmination of each of the four projects that comprise the coursework for ADES 3513. The final informational graphic project and final project presentation of it, or “pitch,” must be completed by the final exam date and time for this course (Tuesday, December 10 at 10:30 am). There is no final exam for this course, as the final project functions in lieu of this. An outline of the project schedule and a depiction of how the weighted percentage that the grade earned for each project will affect the final course grade for an individual ADES 3513 student appears below.

Please note: team projects that fail to be turned in prior to the deadlines specified in the Daily Class Schedule will not be graded (they will earn final project grades of “0”; this is worse than earning a final project grade of “F”).

**Project 01 | Depicting comparative data-cum-information sets to change thinking and motivate action**

A stand-alone, data-cum-information design visualization of tightly contextualized material in a 4-color-printed, 17” x 22”/22” x 17” surface area: develop and design a “wall piece” targeted at an audience YOU qualify that might compel them to a. think differently about the S.T.E.E.P. issue assigned to you, and b. act differently/take action.
[08.27.19–09.12.19; teams of three to four students will gather research, but each individual student must render his/her own project outcome by 11:00 am on the deadline date and turn this project in for grading at that time. Please note that each student team must present a project schedule to the instructor on the second day of this project's allotted time span and then—upon approval by the instructor—follow that schedule.]

Project 02 | Designing a multi-screen/page infographic system that utilizes storytelling to support its rhetoric
A hypothetically commissioned, online-facilitated or delivered artifact that combines a mixed use of at least two of the following elements: data visualization components, symbols, illustrations, photographs, typography, and/or numerics to visually communicate a data-driven story in a persuasive/rhetorically charged way to a given audience.

[09.12.19–10.03.19; teams of three to four students will gather research, but each individual student must render his/her own project outcome by 11:00 am on the deadline date and turn this project in for grading at that time. Please note that each student team must present a project schedule to the instructor on the second day of this project's allotted time span and then—upon approval by the instructor—follow that schedule.]

Project 03 | Designing an interactive, "map-based" means to communicate comparative information
A hypothetically commissioned, DYNAMIC (i.e., zooming, clickable, animated or containing animated elements, or some combination of these) informational graphic/"infographic" artifact that combines a mixed use of at least three of the following elements within/atop some form of mapping configuration: data visualization components, symbols, a timeline(s), illustrations, photographs, typography, and/or numerics to visually communicate a data-driven “story” that affords a given audience multiple opportunities to convert information into knowledge about how and why a given array of events in a particular place or places has had the S.T.E.E.P. effects over a set span of time.

[10.03.19–10.31.19; teams of three to four students will gather research, and the entire team will then work together to realize a viable, effectively communicative outcome to this project, which must be presented to the entire class beginning at 11:00 am on the deadline date. Please note that each student team must present a project schedule to the instructor on the second day of each project's allotted time span and then—upon approval by the instructor—follow that schedule.]

Project 04 | Designing an interactive, DYNAMIC informational graphic/"infographic" system
Each team is responsible for identifying an NGO, a non-profit organization, a governmental agency (this doesn't necessarily mean that it must be overseen by the U.S. federal government; if your team wishes to hypothetically work on behalf of the Rwandan or Sri Lankan governments, or one of about 236 others, that's fine, as long as you can make a credible case for doing this…) or a philanthropic group on whose behalf it will create an well-contextualized, comparatively presented, interactive, information design experience targeted at a particular audience or set of audiences. that would allow them to convert the contextualized, comparative information you choose to present/reveal into some combination of knowledge and understanding that would allow them to change or advocate for change in and/or around a S.T.E.E.P. issue that the organization you have chosen to work on behalf of would support. The “dynamic” aspect of this project will require each team to 1) combine a mixed use of at least four of the following elements: data visualization components, symbols, illustrations, photographs, mapped and/or mapping elements, video clips, typographic elements (arranged/configured hierarchically), and/or numerics to 2) visually communicate a data-driven “story” to a given audience in ways that 3) make use of dynamic, interactive
elements and features that facilitate zooming, are clickable, are animated or that contain animated elements, or that involve the user-based operation of some combination of these.

[10.31.19–12.10.19; teams of three to four students will gather research, and the entire team will then work together to realize a viable, effectively communicative outcome to this project, which must be presented and “pitched” to the entire class beginning at 11:00 am on the deadline date. Please note that each student team must present a project schedule to the instructor on the second day of each project's allotted time span and then—upon approval by the instructor—follow that schedule.]

Course Risk Factor
ADES 3513 has been classified as a course that carries a UNT Policy Risk Factor of Category Two (2). Students enrolled in this course may be exposed to some significant hazards, but these are not likely to cause serious bodily injury. In this course, those risks are related to X-Acto knife usage, and exposure to adhesives and the fumes they generate, as well as repetitive stress injuries related to extended computer usage. Students enrolled in ADES 3513 will be informed of any potential health hazards or potential for bodily injury connected with the use of any materials and/or processes they may encounter during their enrollment in this course, and will be instructed as necessary regarding how to proceed without endangering themselves or others.

Required Texts

Recommended Texts

Books and other “Information Design-rooted” Resources on Reserve in the UNT Library for YOU
- *History of Information Graphics* (multilingual) by Sandra Rendgen (Author), Julius Wiedemann (Editor)
- *Info We Trust: How to Inspire the World with Data* (1st Edition) by RJ Andrews
- *Dear Data* by Giorgia Lupi (Author), Stefanie Posavec (Author), Maria Popova (Foreword)

The UNT Libraries have this book in an ebook format. There are six individual user licenses for this one, which means that six students can read an ebook copy online at the same time. Here is the link to this ebook that y'all will need: https://iii.library.unt.edu/record=b6151393~S12. Once you've navigated to this, click on the "Find It" button or "Connect to Online Resource" link to open and read it. If you are accessing this title from an off-campus location, you will be asked for an EUID and EUID password to open this title.
Required Supplies

- well-equipped personal computers loaded with the Adobe CC Creative Suite,
- access to as much Dropbox storage space as you can afford,
- access to InVision Studio,
- at least one, preferably two, external hard drive(s) with at least 1TB capacity to facilitate your "hard storage" of data
- at least 200 Post-It Notes™ in at least five different low chroma colors
- a 25' to 50' roll of inexpensive, white butcher paper that is 36" wide
- a "cheap" box of eight (8) Crayola, washable markers
- one (1) Bienfang brand, 100-sheet "Parchment 100 Tracing Paper" pad (9" x 12")
- one (1) Bienfang brand, 50-sheet "Graphics 360" pad (9" x 12")
- At least four (4) Sharpie brand "Fine Point" black markers
- At least four (4) Sharpie brand "Ultra-Fine Point" black markers
- At least four dry erase markers (these are the ONLY types that can be used on the whiteboards in room 284)

ADES 3513 Attendance Policy

Good attendance and punctuality are expected for this class and will strongly affect your grades. Roll will be taken at the beginning of each class session. A student will be considered late/tardy if he/she arrives after roll has been taken. If a student is late/tardy, it is his/her responsibility during that class session to make sure the instructor knows that he/she is present before he/she leaves that particular class session. Each student will receive two (2) “free tardies” over the course of the semester. After the first two tardies, every two (2) tardies will equal one (1) unexcused absence. Only two (2) unexcused absences over the course of the will be accepted. The third unexcused absence will lower a student's final course grade by one letter grade. The fourth unexcused absence will lower a student's final course grade by two letter grades. The fifth unexcused absence will lower a student's final course grade by three letter grades. A total of six absences, excused or unexcused, will result in the student receiving a final course grade of “F,” which will result in a flunking of ADES 3513 during the fall semester of 2019. Students who sleep during class will be counted absent.

There are no excused absences for anything other than a verifiable death in the immediate family (obituary, funeral home notice or death certificate must be presented), or a verifiable illness suffered by the student accompanied by printed and signed doctor's note provided on his/her stationery with a telephone number. The doctor's note
must be presented during the class immediately after the one that was missed. A receipt from the doctor's office is not acceptable. A dental appointment—unless it was necessitated by an emergency—does not count as an excused absence.

Because this course meets twice per week, a student will be counted absent—and this absence will be unexcused—if he/she comes to a given class session more than 30 minutes late. A student who exhibits a pattern of not bringing any or bringing only incomplete work to a series of three or more class sessions may earn additional unexcused absences at the discretion of the professor. If a student comes to a class session without his/her assigned work for that day, that student will be counted absent. If a student is absent from a given class session, that student is responsible for contacting a class member in order to get any information or assignments that were given during the class session that was missed. INDIVIDUAL STUDENTS MAY NOT CONTACT THE INSTRUCTOR TO GAIN INFORMATION ABOUT "WHAT THEY MISSED DURING A GIVEN CLASS SESSION," NOR CAN "WHAT THEY MISSED" BE MADE UP DURING AN OFFICE HOURS SESSION WITH THE INSTRUCTOR. The instructor will not use any class time to repeat missed lectures or assignments. Do not—for any reason—call the main office or the Department of Design office of UNT CVAD to leave the instructor a message that you will be missing a given class session of ADES 3513. Under no circumstances should you leave a project with anyone in either of these offices for the instructor to “retrieve later.” Neither of these offices will accept student projects.

**Personal Computer and Smartphone Use Policy**

All smart phones, tablets, and phablets must be turned off/switched into “airplane mode” as soon as class begins, but they may, out of necessity with regard to engaging in the coursework of ADES 3513, be switched on again as a given class session progresses. Laptops should only be opened to engage in class work. No social media, checking email or text messaging will be allowed for any reason during class time. Failure to comply with this policy may result in point deductions on the “Main Project” grade for whichever of these the student was working toward when a given “failure to comply with this policy” occurred. Let your instructor know in advance if you have an extenuating circumstance with regard to abiding by any of these policies (if you have a need to “check your device” due to these types of circumstances, please step outside the classroom space and into the hallway to do this).

**Plagiarism**

Plagiarism is literary or artistic theft. It is the false assumption of authorship, the wrongful act of taking the product of another person’s mind and presenting it as one’s own. Copying someone else’s writing, design or art work, intact or with inconsequential changes, and adding one’s name to the result constitutes plagiarism. If the instructor suspects a given student of an incidence of plagiarism, he/she will notify this student of this concern within 72 hours of the suspicion being raised. Plagiarism may result in disciplinary probation, suspension from the university, expulsion (permanent), or the revocation of your degree, and it will cause you to flunk this course.

**Accommodations for Students with Special Needs or Disabilities**

Please notify the instructor if you have a disability that requires accommodation. It is also required that you register with the UNT Office of Disability Access, Sage Hall, Room 167 or Room 202. The College of Visual Arts and Design policy on accommodation is available upon request in the CVAD Dean’s offices, (these occupy the “101 suite” on the first floor of the CVAD Building Complex in its southwest corner). Further questions and problems on
accommodation may be addressed to Erin Donahoe-Rankin, UNT CVAD’s Director of Advising, Art Building, Student Advising, Room 345D (940.565.2216; artadviseasst@unt.edu).

Dealing with Fire and Weather-Related Emergencies

In case of an emergency (an alarm will sound), please follow the building evacuation plans posted on each floor of your building—in this case, the Art Building—and proceed to the nearest parking lot (due to construction near the Art Building, please gather in the parking lot immediately west of Curry Hall). 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 instructor(s) and act accordingly.

Changes to the ADES 3513 Course Syllabus

The instructor reserves the right to make adjustments/changes to the course syllabus with or without notice as he/she sees fit/deems necessary as the semester progresses. The daily course schedule for ADES 2523.501 begins two pages hence.

A Brief Note on the Danger to Com Design, UX Track Majors Who Are Easily Bored, or Who Are Simply Not Particularly Interesting People

To quote from Gloria Steinhem, “Those [people] who are ‘boring’ have a high tendency to be easily ‘bored;’ those [people] who are ‘easily bored’ have a high tendency to be ‘boring.” Com Design is a major that leads to entry into a professional discipline that demands a broadly informed, deeply examined sense-of-self. Those who practice it well enough to sustain careers and fulfill life paths cultivate knowledge and understandings from diverse sources, are well and broadly read, and are good at formulating probative questions that interrogate status quos across extant social, technological, economic, environmental and political spectras. They listen as well as they speak, and develop the ability to engage in working processes that do not usually yield predictable outcomes.

If one of your primary goals in college and life is to “go with flow,” “not stick out too much,” “wait to see how everyone else is acting before you act;” Com Design is not the major for you. This is also not the major for you if you can’t figure out how to disconnect from social media and other e-based modes of communication for the extended periods necessary to construct the kinds of knowledge you’ll need to succeed in this demanding but richly rewarding major and career. If you can’t “go dark” for the few hours necessary almost every day to “get thoughtful work planned and done,” you won’t make it in Com Design. You also won’t make it if you haven’t matured enough to treat your collegiate experience as something beyond “13th grade.”