

**Data Visualization**

JOUR 4920/6920-001

Fall 2016

Meeman 202

3:55-5:20 p.m., TR

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## COURSE REQUIREMENTS

**CATALOG DESCRIPTION:**

Visual presentation of quantitative and spatial information. Examines the planning, design, and preparation of statistical graphs, charts, timelines, diagrams, and maps.

**PREREQUISITE:**

JOUR 3900.

**CLASS INSTRUCTION:**

This course is designed to advance the understanding of visual presentation of quantitative and qualitative data. Students will learn about graphs, alternative story forms, infographics, maps, timelines, and charts as they relate to the goals of journalism and mass communication. Students are required to complete multiple design activities and design projects throughout the semester, as well as a final project. The design activities reinforce principles of the software and teach techniques for creative work. The design projects allow students to work creatively for various applications of graphic design skills. The final project should invoke all skills learned in the course.

**TEXTBOOK:**

**Cairo, A. (2012).** *The functional art: An introduction to information graphics and visualization.* Berkeley, CA: New Riders.

**REQUIRED SOFTWARE:**

Adobe Photoshop CC, Adobe InDesign CC, Adobe Illustrator CC, Microsoft Excel, SPSS, Tableau, multiple online tools

*Note: You may purchase the Adobe Creative Cloud on a month-to-month basis from Adobe.com.*

**OTHER REQUIREMENTS:**

One Flash Drive (At least 2GB capacity)

**GRADING:**

A=90-100; B=80-89; C=70-79; D=60-69; F=Below 60

Grading Philosophy: A=Professional quality work that could be use with little or no modification; B=Good to excellent work and exceeds requirement, but would require revision to be used professionally; C=Satisfactory work and adequately meets requirement, but would need significant revision; D=Barely satisfies minimum requirement and below average quality; F=Unsatisfactory work and does not meet minimum requirement.

Grade Distribution:

<b>Assignment</b>	<b>Percentage</b>
Design activities	20
Design projects	50
Final project	20
Portfolio	10

### **ATTENDANCE & CLASS CONDUCT**

Attendance is mandatory and will be taken at the beginning of each class session. Students are allowed three unexcused absences; after three, additional unexcused absences will drop the student's final grade by one letter grade for each absence. Missing a total of seven classes will result in the student failing the course. University policy for excused absences apply to this course.

Tardiness will not be tolerated. After two tardies, one percentage point will be deducted from the student's final grade for each additional tardy.

Attendance will be determined by signing the daily sign-in sheet for the course.

Mobile and electronic devices:

The use of electronic devices is permitted, as this class focuses on design and technology. Mobile telephones must be turned to vibrate during class and should be used only for emergencies. Excessive text messaging will not be tolerated.

### **DEADLINES:**

All deadlines are firm. This is journalism and mass communications. Assignments turned in late will be deducted a letter grade for each day late. Exceptions will be made for reasonable circumstances if the student notifies the instructor prior to or on the due date. Work will be collected at the beginning of class, and must be printed and mounted or prepared for presentation before class.

### **COMPUTER USAGE:**

Students are expected to use a computer in this course. Students will use Apple computers running the Macintosh operating system in class, but may use Windows computers at their own discretion. Students will work with the design software standard in the professional world. At this time, the professional standard is the Adobe Creative Cloud, particularly Adobe InDesign, Adobe Photoshop and Adobe Illustrator.

### **WRITING STYLE:**

While this is primarily a design course, students will be required to write a minimal amount as part of their study. In these cases, students are expected to adhere to the Associated Press style guide. Additionally, in design projects, students will use text as part of their projects. Within creative reason, the text used in these projects must also follow the AP guidelines.

### **ASSIGNMENT FORMAT:**

All assignments are to be submitted electronically via eCourseware.

Generally, each assignment will come with unique formatting guidelines. Be sure to follow these guidelines exactly. Work that does not comply to these guidelines, as well as the production specifications indicated for the assignment, will receive a grade of 0.

All major projects (except the final) can be resubmitted with corrections and revisions one week after it is returned to you.

Work will be critiqued in the classroom and must be suitable for presentation. Students are encouraged to work ahead on assignments to develop their creative processes for the work.

## **6920 GRADUATE STUDENTS:**

In addition to completing the course requirements, graduate students are required to complete an original project or paper, to be determined by the student and approved by the instructor. Grading for graduate students will be figured in with the final project grade.

## **SCHEDULE**

### **Week 1: August 22-26**

Overview of data visualization. Infographics, maps, charts, and Big Data. Why visualize data?

*Read: Cairo 1*

### **Week 2: August 29-September 2**

Software for data visualization. Illustrator, Excel, SPSS, Tableau, Google Charts, eSpatial. Classic alternative story forms. Text graphics. Parts of an infographic. Controlling type, tone and color. Layering information/visual hierarchy.

*Read: Harrower online*

### **Week 3: September 5-9**

Forms and functions. Visualization as a technology. Art and Communications.

*Read: Cairo 2-3*

### **Week 4: September 12-16**

Statistics that matter. Central tendency. Significance. Change over time.

*Read: Notes online*

### **Week 5: September 19-23**

The complexity challenge: Presentation and Exploration.

*Read: Cairo 4*

### **Week 6: September 26-30**

The Eye and the Visual Brain. Visualizing for the Mind. Images in the Head.

*Read: Cairo 5-7*

### **Week 7: October 3-7**

Creating infographics. Interactive graphics.

*Read: Cairo 8-9*

### **Week 8: October 10-14**

Mapping. Maps in Tableau. Maps in Illustrator..

*Read: Readings online.*

### **Week 9: October 17-21**

Social network analysis.

### **Week 10: October 24-28**

Graphics for social media.

### **Week 11: October 31-November 4**

Data mining. Work time.

### **Week 12: November 7-11**

Work time.

**Week 13: November 14-18**

Work time.

**Week 14: November 21-25**

Work time.

**Week 14: November 28-December 2**

Final presentations.

**NOTE: Schedule and syllabus are subject to change based on the needs of this class.**

**FIVE PILLARS OF JOUR4920**

- *Professionalism*: Students must consider the legal and ethical implications of communicating data to the public.
- *Writing*: Students will write information for graphics and use them to communicate a message to a target audience.
- *Multimedia*: Students will engage multiple visual storytelling platforms to communicate data messages.
- *Critical Thinking*: Students must determine the best means to communicate data visually. Further, students must understand and interpret statistical output to make meaningful communication.
- *Media Literacy*: Students must understand the shortfalls of data visualizations, the tendencies of some media outlets to use them improperly, and the capabilities of data visualizations on all communications platforms.

**ASSESSMENT**

**PROFESSIONAL VALUES AND COMPETENCIES FOR JOUR4920:**

- Demonstrate an understanding of the history and role of professionals and institutions in shaping communications;
- Demonstrate an understanding of gender, race, ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications.
- Demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society.
- Understand concepts and apply theories in the use and presentation of images and information;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Think critically, creatively and independently;
- Conduct research and evaluate information by methods appropriate to the communications professions in which they work;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;

- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply basic numerical and statistical concepts;
- Apply tools and technologies appropriate for the communications professions in which they work.

**HOW PROFESSIONAL VALUES AND COMPETENCIES WILL BE MET:**

**Cognitive Objectives To Be Mastered (Ability To Explain, Analyze, Understand, Think Critically):**

- Acquire a technical awareness of the computer as a tool in design through class assignments, lectures and demonstrations.
- Establish a working knowledge of data visualization
- Understand the basic principles of presenting quantitative and qualitative information visually
- Integrate photos, graphics, and text.
- Become familiar with state-of-the-art developments in technology and the use of contemporary software for the design and production of specific editorial, print and collateral material.

**Performance Standards To Be Met (Demonstrable Skills, Abilities, Techniques, Applied Competencies):**

- Create multiple charts and graphs
- Create a detailed infographic styled for print publication
- Create an interactive graphic for the Web
- Create a social media driven graphic.
- Create a portfolio of data visualizations

**PROFESSIONAL VALUES AND COMPETENCIES FOR JOURNALISM PROGRAM:**

The Accrediting Council on Education in Journalism and Mass Communication requires that, irrespective of their particular specialization, all graduates should be aware of certain core values and competencies and be to

- Understand and apply the principles and laws of freedom of speech and press, for the country in which the institution that invites ACEJMC is located, as well as receive instruction in and understand the range of systems of freedom of expression around the world, including the right to dissent, to monitor and criticize power, and to assemble and petition for redress of grievances;
- Demonstrate an understanding of the history and role of professionals and institutions in shaping communications;
- Demonstrate an understanding of gender, race, ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications.
- Demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society.
- Understand concepts and apply theories in the use and presentation of images and information;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Think critically, creatively and independently;

- Conduct research and evaluate information by methods appropriate to the communications professions in which they work;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply basic numerical and statistical concepts;
- Apply tools and technologies appropriate for the communications professions in which they work.

#### **ASSESSMENT OF STUDENT LEARNING FOR JOURNALISM PROGRAM:**

The Council seeks to promote student learning and encourages experimentation and innovation. Assessment is a system of evaluation of student learning at the course or unit level (as opposed to grading at the individual level). Three criteria should guide assessment of student learning:

- *Awareness*: familiarity with specific information, including facts, concepts, theories, laws and regulations, processes and effects.
- *Understanding*: assimilation and comprehension of information, concepts, theories and ideas.
- *Application*: competence in relating and applying skills, information, concepts, theories and ideas to the accomplishment of tasks.

### **DEPARTMENT POLICIES**

#### **PORTFOLIO REQUIREMENT:**

All students in the Department of Journalism and Strategic Media are required to develop and maintain an active portfolio of their work. Students are to begin the portfolio in JOUR 2121 and contribute to it from every course thereafter. The portfolio should contain samples of the student's work from his/her courses and/or professional experience and should develop as the student builds skills. Portfolios will undergo a final, external review while students are enrolled in the capstone course for their majors.

Students may use any type of web hosting for their portfolios, but it must have an independent and professional URL. The department requires students to use WordPress to build their portfolio sites. Students are encouraged to consider purchasing a URL and hosting if they plan to use the portfolio for a long term, but must keep the portfolio active for six months following graduation from the University of Memphis.

Students should have a professional email address they plan to use throughout their professional life, via a common email service, such as Gmail or Yahoo.

All portfolios must contain the following items:

- Samples of work from courses and/or professional activities. (Example: Broadcasting students must include a video reel)
- A current résumé
- A personal profile
- Contact information/means of contact
- Social media links

Students might wish to include a blog, video reels, photograph galleries, SoundSlides presentations, design PDFs, audio files, and Storify pieces as examples of professional work. The professional work should ultimately be tailored to the career the student seeks after graduation. Thus, each student's portfolio should show a unique blend of work.

**EMAIL:**

You must have your UM email account activated. If you are using another provider such as Google, you are required to have your UM email forwarded to that account. Go to the <http://iam.memphis.edu> website to implement forwarding of UM email. You are required to check your email daily. You are responsible for complying with any email sent to you by your professor or the University.

**MOBILE PHONES AND LAPTOPS:**

Some classes require a tablet, laptop or a smartphone. Others do not. Your instructor will set the policy for her/her specific class.

**ATTENDANCE:**

Class attendance is mandatory in the Department of Journalism and Strategic Media. You may be assigned a failing grade for the semester for nonattendance, or habitual late arrival. No late work will be accepted without prior arrangements, which are acceptable to your professor. Students may not be permitted to make up any missing work unless it is for an absence due to illness or other catastrophic emergency such as a death in the family that can be documented (e.g. with a doctor's note or a copy of the newspaper obituary). This is a professional program for journalists who are expected to understand and comply with deadlines. If you have some problem making it to class on time make arrangements to fix the problem or consider taking another class. You should consider this class your "job" in the educational process and be on time just as you would elsewhere.

**CHEATING:**

In addition to university-wide policies stated in the Code of Student Rights and Responsibilities, the Department of Journalism considers making up quotes from sources, turning in substantially the same assignment for credit in two different courses, or a student receiving any assistance from others for work assigned to be done on his/her own, as acts of cheating punishable to the degree determined appropriate by the course instructor and department chair. That may include grade reductions or seeking dismissal of the student from the university.

Further, as this is a journalism/mass communication class, students are expected to comply with copyright law, and must have sufficient permission to use any copyrighted materials used in creative projects, unless otherwise informed in cases of exercises or reproduction.

"Your written work may be submitted to Turnitin.com, or a similar electronic detection method, for an evaluation of the originality of your ideas and proper use and attribution of sources. As part of this process, you may be required to submit electronic as well as hard copies of your written work, or be given other instructions to follow. By taking this course, you agree that all assignments may undergo this review process and that the assignment may be included as a source document in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents. Any assignment not submitted according to the procedures given by the instructor may be penalized or may not be accepted at all." (Office of Legal Counsel, October 17, 2005)

**ONLINE SETEs:**

You are urged to complete the SETEs evaluation of this course. Once your instructor has posted your grade, you can immediately see that grade, provided you completed a teacher evaluation for that class. How to access your evaluation forms: Log in using your UUID and email password; click on the gray “Student” tab; complete an evaluation for each course listed and hit the “Submit” button at the bottom of the form. It will only take a few minutes of your time. We take the evaluations very seriously and use them to improve courses and instructional quality. Your feedback is essential and will be appreciated.

**DEADLINES:**

Remember there’s a reason “DEAD” makes up half the word “deadline.” All deadlines are firm. This is journalism and strategic media. If you get into trouble, talk to your instructor. Exceptions will be made for reasonable circumstances if the student notifies the instructor prior to the due date.

**AP STYLE AND GRAMMAR:**

All written work in this class should follow the AP Stylebook and accepted rules of grammar and punctuation. If you don’t know the style for a particular phrase, look it up or ask your classmates or the instructor.

**DISABILITY:**

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 901-678-2880 in 110 Wilder Tower Hall to coordinate reasonable accommodations for students with documented disabilities.

**DIVERSITY:**

Students are required to respect the differences of others and treat all persons with respect. Discriminatory, derogatory and threatening language or behavior will not be tolerated. Further, students are expected to consider their work through a diverse mind. Mass communications reach a mass audience, and students should be aware of how those messages are received by a diverse audience.

**WEATHER POLICY:**

Always check with local media and the University of Memphis website regarding inclement weather. If the university is closed or classes are canceled, this course will not meet. However, students will still be responsible for that day’s work.