Department of Geography and Geoinformation Science

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GGS 590
GeoData Journalism
(Spring 2016)

1. General Information

Instructor:	Dr. Dieter Pfoser
Where:	Fairfax Campus, Geoint Lab (Research Hall - Rm 290)
When:	Tuesday 4:30pm to 7:00pm.
Course website:	Blackboard
Credits:	3.0
Prerequisites:	None (besides eagerness to learn)

Instructor's Office Hours: Tuesday, 3:30pm-4:30pm

2. Course Objectives

"Today, the world is awash in **unprecedented amounts of data** and an expanding network of sources for news. Media organizations today must be able to **put data to work quickly**. This need was amply demonstrated during Hurricane Sandy, when public, open government data feeds became critical infrastructure. The open question is not whether data, computers, and algorithms can be used by journalists in the public interest, but rather how, when, where, why, and by whom. Today, journalists can treat all of that data as a source, interrogating it for answers as they would a human.

That work is data journalism, or **gathering, cleaning, organizing, analyzing, visualizing, and publishing data** to support the creation of acts of journalism. A more succinct definition might be simply the application of data science to journalism, where data science is defined as the study of the extraction of knowledge from data.

In its most elemental forms, data journalism combines:
1)   the treatment of **data as a source** to be gathered and validated,
2)   the application of **statistics** to interrogate it,
3)   and **visualizations** to present it, as in a comparison of batting averages or stock prices."
(*The Art and Science of Data-Driven Journalism*, A.B. Howard, Tow Center for Digitial Journalism, 2014)

This is a graduate-level advanced course on the concepts and principles of **data-driven journalism**, specifically focusing on geospatial data and mapping. The course will take a case study approach in which students explore specific challenges/cases and work towards producing a data journalism piece, e.g., Natural disasters, travel, politics, refugee crisis, terrorism, etc. This course provides students with specific knowledge in computer and information science as related to data management, data analytics and Web-based visualization. As part of this process, students will also obtain general skills like how to find and datasets, present their findings in well-prepared PowerPoint presentations, write down their findings in an essay (article), and contribute to and lead focused discussions.

See the following lists for example projects and tools/methods that will be covered in the course:

Example projects and links
- Out in the Great Alone - http://espn.go.com/espn/feature/story/_/id/9175394/out-great-alone
- http://www.theguardian.com/news/datablog/2011/jul/28/data-journalism
  - http://www.theguardian.com/profile/davidmccandless
  - http://jonathanstray.com/a-full-text-visualization-of-the-iraq-war-logs
- http://bost.ocks.org/mike/

Tools
- CartoDB - https://cartodb.com
- Odyssey.js - https://cartodb.github.io/odyssey.js/
  - http://www.knightfoundation.org/blogs/knightblog/2014/7/8/new-open-source-tool-journalists-and-designers-weave-interactive-stories/
- OpenRefine - http://openrefine.org
- Mapbox - https://www.mapbox.com

3. **Course schedule**

The course will be taught as a combination of lectures, topic/problem oriented discussion, and student presentation of selected research topics.

4. **Textbooks**
- **The Data Journalism Handbook**. Jonathan Gray, Lucy Chambers, Liliana Bounegru. O'Reilly, 2012 (online at http://datajournalismhandbook.org/1.0/en/).
- **Instructor handouts**

5. **Course outline (tentative)**

In this course we will cover the following topics (please note that the topics and their order are subjected to change at the discretion of the instructor, any changes will be announced in class):

Week of	Lec. #	Topic
01/19	1	Introduction and course overview – emerging trends and challenges
01/26	2	Data Journalism best practices
02/2	3	Student presentations of select data journalism piece, project selection
02/9	4	Open data, data cleaning – **Openrefine**
02/16	5	**Data management** – best practices
02/23	6	**Cartodb** – Web mapping made simple
03/1	7	**Odyssey** – Storytelling with maps
03/8		SPRING BREAK
03/15	8	**Mapbox** – web mapping with style
03/22	9	Student feedback
03/29	10	Student feedback
04/5	11	Guest lecture – Data Journalism
04/12	12	Advanced Web mapping and storytelling
04/19	13	Guest lecture – Data Journalism
04/26	14	Project presentations

6. **Attendance**

You are required to attend all class meetings. Your active participation in class is essential to the success of this course.

7. **Grades**

Each task will be given a numerical grade on a 0-100 scale. At the end of the term all the marks will be totaled as a weighted average according to the following weights:

Class participation	25%
Presentation	25%
Project	50%

Final grades at the end of the course will be assigned using a combination of absolute achievements and relative standing in the class.

8. **Class participation**

Given that this course is a research seminar, your active participation in the class is important and will significantly impact your final grade.

9. **Presentation:**

Each student is required to give an overview of an assigned data journalism piece in a slide presentation to the class and to lead the ensuing discussion in class. Data Journalism articles are identified by the instructor in consultation with the students. The student has to

Students will be evaluated based on the quality of the submitted list of publications, the organization of their slide presentation, the clarity and comprehensibility of their talk as well as on the knowledge and depth of the presented material (as demonstrated during the presentation as well as during the discussion in class).

The slide presentation will contribute 25% to your grade. In detail, the following list of criteria will be used to evaluate your slide presentation:

- Organization of the slides (35%)
    o Was the presentation well structured?
    o Did the presentation have a clearly defined goal/focus/message?
    o Did the presentation give the essential facts and results?
    o Were there any important aspects of the topic that were missing or only partially covered?
- Clarity and comprehensibility of the talk (30%)
    o Was the presentation easy to follow?
    o Did the presenter express his/her thoughts with a clear, loud, and expressive voice?
    o Did the presentation include a demo (this is optional)?
- Knowledge and depth of the presented material (35%)
    o Was the material covered at a depth that is adequate for the class taking also into account the preparation time and background of the presenter?
    o Was the presenter able to answer questions from the audience?
    o Was the presenter successful in involving the audience in a discussion (e.g., by preparing questions)?

10. **Project**

The main goal of this course is for each student to author a data journalism article! This means to compile, analyze and visualize datasets that relate to a specific topic, e.g., refugee crisis. Finally the visualizations are combined in an (online) article. The article is the main student deliverable of this course and will contribute 50% to your grade.

The deadline for the research report, which has to be submitted to the instructor, will be announced by him. No late submissions will be accepted.

11. **Course website:**

The course has a Blackboard website. This website will provide you a single portal through which you may obtain lecture notes, retrieve assignment data and, review links to additional materials, and receive special announcements. You are required to visit the course website **regularly**. Please notify ITU (and, if necessary, the instructor) if you encounter any problems accessing this website.

12. **Electronic communication:**

All course related email correspondence, including submission of assignments, should be made through the course Blackboard website. Please DO NOT send emails to the instructors' @gmu.edu address.

13. **Students with special needs:**
    If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS - http://ods.gmu.edu. Please do not hesitate to contact me regarding your special needs if you encounter any problems.

14. **Academic integrity:**
    George Mason University is committed to the **highest standards** of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the GMU honor code (online at http://academicintegrity.gmu.edu).

15. **General guidelines for ASSIGNMENT preparation and submission**
    a. Grades of assignments will be based on:
       - **Academic merit** of your answers.
       - **Conciseness** and **completeness** of your answers. Please write to the point and explicitly address the question or task. Avoid using unnecessary graphics (figures, tables, graphs etc.) unless they serve a specific purpose. Make sure to use captions and to refer to the graphics you include in your written answer. Graphics without any reference or accompanying explanation will be disregarded.
       - **Organization** and **presentation**. Remember that your assignment report is a reflection of your thinking and learning process. Please organize your report in a logical fashion so that your answers could be easily identified. A general format for your presentation should, as a minimum, include the following components: (1) Question number, (2) Your written answer and/or description and discussion of your results, and (3) Visualization of your results, e.g. images, graphs, tables, as necessary.
    b. Please remember that your assignment is a **professional document**, and should therefore be formatted and constructed accordingly. All assignments are to be typed. Hand-written assignments will not be accepted.
    c. Submission of a hardcopy will be made in class; submission of a softcopy will be made through Blackboard.
    d. The electronic submission of your assignment report has to be in **PDF format**.
    e. If more than one file is submitted, you may submit a single **ZIP** file containing all the assignment files.
    f. Each assignment submission should include a cover page with the following information: assignment title, assignment number, student name, and submission date.
    g. Please make sure you have a backup of all the materials you submit.

16. **Other useful campus resources:**
    a. The writing center: A114 Robinson Hall; (703) 993-1200; http://writingcenter.gmu.edu
    b. The University libraries "ask a librarian"; http://library.gmu.edu/mudge/IM/IMRef.html
    c. Counseling and Psychological Services (CAPS): (703) 993-2380; http://caps.gmu.edu

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Disclaimer: Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported by the instructor.

Note: Recording is permitted only with the prior written consent of the professor or if recording is part of an approved accommodation plan.