

## HUMANITIES VISUALIZATION

Fall 2016

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Class time: Monday, Wednesday, Friday: 12:00-12:52 PM  
Location: Olin 275

Instructor: Song Chen  
Office: 14 Marts Hall  
Email: [song.chen@bucknell.edu](mailto:song.chen@bucknell.edu)  
Phone: (570) 577-3262  
Office hours: Monday 3-4 pm and by appointment

Course website: <http://humnviz2016.blogs.bucknell.edu/>

### Course Overview

The increasing availability of digital corpora and the development of massive databases are bringing a revolution to the humanities field: they challenge historians and literary scholars to ask new questions, answer them with new approaches, and present their findings to a wider audience in new ways. This course both explores a variety of visualization projects in the humanities disciplines and teaches students to create their own visualization projects with existing tools. The primary objective of this course is to help students develop a basic literacy of available digital tools in the humanities and a critical understanding of the capabilities and limitations of visualization for humanities scholarship. It aims to help students develop a set of skills, which may be transferred to their academic work in upcoming years and their future career. The course is designed primarily for students interested in the conversation between computer science and the humanities, regardless of specific disciplinary affiliation and regional, temporal, or thematic specialization. All readings, lab materials, and other assignments are in English. This course does not involve programming, nor does it require any prior knowledge of it.

### Course Objectives (mapped to University Educational Goals, described [here](#)):

With study in this course, at the end of the semester you are expected to:

- Understand how the digital revolution transforms humanities scholarship citizens (maps to University Educational Goals 1, 2, 4, 6, 7, 8, 9);
- Have introductory familiarity with a wide range of digital tools used for humanities visualization (maps to University Educational Goals 1, 2, 4, 8, 9);
- Demonstrate the ability to choose the appropriate tools based on project needs and use them to create informative visualizations (maps to University Educational Goals 1, 2, 4, 5, 8, 9); and
- Be able to critically evaluate the design and implementation of different humanities visualization projects (maps to University Educational Goals 1, 2, 4, 5, 6, 7, 8, 9).

### Readings

No textbooks are required. All readings and multimedia resources will be provided on the course website. All reading and exploration assignments listed must be completed before class for the date assigned. Recommended readings and projects are optional.

### Assignments and Evaluation

1. Reflection Essays (10% each = 30%) and revisions (5% each = 15%) -- You will write three short essays. Each essay, expected to be 3 pages in length (double-spaced with normal margins), will ask you to take a critical position on a given topic. Your reflection should be informed by the readings and web resources assigned in the course; and you should relate them to your own experiences. All essays must include citations in [Chicago/Turabian](#) format.

As a W1 course, all essays are process-based. This means that for each essay, you will need to present two drafts before submitting your final draft. You will receive feedbacks from me on your first draft and

from your peers on the second draft. The final draft should include your revisions based on these feedbacks. Feedbacks on the first draft will focus on the argument and organization of the essay. The expectation is that the second draft will demonstrate a substantial improvement based on these feedbacks, develop a solid argument and be well organized, so that peer review comments on the second draft will focus mostly more on language and mechanics. Each essay receives two letter grades: one for the final draft and the other for the quality of the revisions from the first to final draft.

2. Module Projects and Presentations (10% each = 40%) -- This course consists of four learning modules. At the conclusion of each module, you will demonstrate your introductory familiarity with the digital humanities tools in question by finishing a group project and giving a short project presentation.
3. Final Project and Presentation (5%) -- This assignment forms a demonstration of your accomplishment of either or both of the two learning goals of this course: a) to develop the ability to use the appropriate visualization tools for humanistic inquiry, and b) to develop the ability to critically evaluate how different visualizations shape our understanding of humanities subjects differently. It may be a refinement of your favorite Module Project or with the instructor's approval, a brand-new project using one or more of the digital tools introduced in this course. The project will be a fully-developed piece of DH scholarship which engages the broader academic discourses on the subject of your inquiry and/or the methodological discussions of humanities visualization. Before final submission of your project for grading, you will have an opportunity to present it the class and other members of the campus community and make revisions based on the feedbacks you receive during the presentation.
4. Class Participation (10%) -- Participation includes making meaningful and regular contributions to the class discussion, preparing thoughtful presentations on web resources, carefully preparing early drafts for your own essays, employing writing as a process by being responsive to feedbacks and successfully developing and revising your writing assignments at both global and local levels, and providing thoughtful feedbacks on the presentations and essays of your classmates.

## Class Schedule

The following is the schedule and organization of the course, which may be updated during the semester if necessary. All readings and multimedia resources are on the course website. All readings and exploration assignments must be completed before class on the day under which they are listed.

### Module I. “Distant Reading”

#### Week 1 (Aug 22, 24, 26):

##### Monday: Visualization, and What Does It Do for the Humanists?

- Watch: Micki Kaufman, “[Collaborating Digitally: Engaging Students in Public Scholarship](#)” (11/6/2015)
- Explore:
  - [Vintage Visualizations](#)
  - [Visual Correspondence](#)
- Recommended:
  - [Why Humanists Should Fall in Love with “Big Data,” and How?](#)

##### Wednesday: Voyant 2.0, Lab and Practice

##### Friday: Debating over Computational Methods of Text Analysis

- Read:
  - Underwood, “[Where to start with text mining](#)”
  - Jacob Harris, “[Word Clouds Considered Harmful](#),” in Nieman Journalism Lab, Oct. 11, 2011.
- Explore:
  - [“Inaugural Words: 1789 to the Present”](#)
  - [“The State of the Union Address” of George W. Bush](#) (optional)
- Recommended:
  - N. Katherine Hayles, “[How We Read: Close, Hyper, Machine](#),” *ADE Bulletin* 150 (2010)
  - Stéfan Sinclair, et al, “[Information Visualization for Humanities Scholars](#)”
  - David Hoover, “[Textual Analysis](#)”

#### Week 2 (Aug 29, 31, Sep 2):

##### Monday: Voyant Project Development

- Decide on two or more texts for Module Project 1 before class.

##### Wednesday: Oral Presentation Workshop: How to Give a Brilliant Presentation

- Give Your Module Project 1 (Voyant Project) Presentation Today!

##### Friday: “Knowing a Word by the Company It Keeps”: Topic Modeling

- Read:
  - Matthew L. Jockers, *Macroanalysis: Digital Methods and Literary History*, Ch.8 (“Theme”)
  - Ted Underwood, “[Topic modeling made just simple enough](#)” (optional)
- Explore:
  - [Topical Guide](#)
  - Brad Borevitz’s [State of the Union](#) site OR [SpeechWars](#)
- Recommended:
  - [Mining the Dispatch](#) (The “Introduction” explains briefly what topic modeling is and the “Topics” page gives examples of how it works)

### Module II. The Networked World, and Structural Patterns

### Week 3 (Sep 5, 7, 9):

#### Monday: Networks... and Why They Matter?

- Read:
  - *Linked*, pp. 9-92
- Recommended:
  - [Anatomy of Facebook](#), 2011

**Writing Assignment 1: First draft due before class.**

#### Wednesday: Network and Power

- Read:
  - Kieran Healy, "[Using Metadata to Find Paul Revere](#)"
- Explore: Visualizing Influence
  - [Inventing Abstraction](#)
- Recommended:
  - Yves Gingras, "Mapping the Structure of the Intellectual Field Using Citation and Co-Citation Analysis of Correspondences"
  - [EdgeMaps](#)
  - [Connected China](#)

#### Friday: Writings Workshop: How to Revise an Essay

- Explore:
  - [Visual Correspondence](#) (try data visualizations on one or more collections, choosing "Network" or "Force-directed Network" as the graph type)
  - [Six Degrees of Francis Bacon \(SDFB\)](#)
  - [Belfast Group Poetry](#)
- Recommended:
  - [Itinera](#)
  - [Kindred Britain](#)

### Week 4 (Sep 12, 14, 16):

#### Monday: Network Approach to Literature: Character Networks

- Read:
  - Franco Moretti, "[Network Theory, Plot Analysis](#)"
- Explore:
  - [Movie Galaxies](#)
  - [Visualizing Shakespeare's Tragedies](#)

#### Wednesday: Peer Review Workshop

**Writing Assignment 1: Second draft due before class. Bring a hard copy to class for peer review.**

#### Friday: Palladio: Lab and Practice

- What would you like to work on for your network visualization project (Module Project 2)?

### Week 5 (Sep 19, 21, 23):

#### Monday: Network Visualization Project Development

**Writing Assignment 1: Final draft due before class.**

#### Wednesday: Network Approach to Literature: Networks and Topic Modeling

- Read:
  - Matthew L. Jockers, *Macroanalysis: Digital Methods and Literary History*, Ch.9 ("Influence")
- Explore:
  - [Visual Complexity](#)
- Recommended:
  - Ted Underwood, "[Visualizing topic models](#)"
  - Michael Simeone, "[Visualizing Topic Models with Force-Directed Graphs](#)"

- Elijah Meeks, "[Comprehending the Digital Humanities](#)"
- [The Chymistry of Isaac Newton Project](#)

**Friday: Network Visualization Project Presentations**

## Module III. Understanding Spatial Patterns

**Week 6 (Sep 26, 28, 30):**

**Monday: Career Development Workshop**

***Writing Assignment 2: First draft due before class.***

**Wednesday: Finding Patterns in Space**

- Read:
  - Edward L. Ayers, "Mapping Time," *GeoHumanities*, pp.215-25.
- Explore:
  - [ChinaMap @ Harvard](#)
  - [Digital Atlas of Roman and Medieval Civilization](#)
  - [Digital Atlas of American Religion](#)
  - [ORBIS — the Stanford Geospatial Network Model of the Roman World](#)
- Recommended:
  - Franco Moretti, "Maps," in *Graphs, Maps, Trees*, pp.35-66.

**Friday: Create a Map in ArcGIS Online: Lab and Practice**

- Lab: Introduction to ArcGIS Online

**Week 7 (Oct 3, 5, 7):**

**Monday: In Class Peer Review**

***Writing Assignment 2: Second draft due before class.***

**Wednesday: Lying with Maps**

- Read:
  - John Theibault, "[Visualizations and Historical Arguments](#)," in *Writing History in the Digital Age* (final 2013 version)
  - Mark Monmonier, "[Lying with Maps](#)," *Statistical Science* 20.3(2005): 215-22.
- Explore:
  - [NBC visualization of racial change in USA](#)
  - [Maps of the 2012 US Presidential Election Results](#)
  - [Spurious Correlations](#)

**Friday: ArcGIS Online: Lab and Practice**

- What would you like to work on for your GIS project (Module Project 3)?

***Writing Assignment 2: Final draft due by 5pm, Sunday (Oct 9).***

**Week 8 (Oct 10, 12, 14):**

**Monday: Fall Recess -- No Class**

**Wednesday: Humanists' Critiques of GIS**

- Read:
  - David J. Bodenhamer, "The Potential of Spatial Humanities," in *The Spatial Humanities*, pp.14-29
  - Margaret Wickens Pearce, "Framing the Days: Place and Narrative in Cartography"
- Explore:
  - [ESRI Story Map Gallery](#)

- [Fabula Maps](#)
- Recommended Readings:
  - Sébastien Caquard, "Cartography I: Mapping Narrative Cartography," *Progress in Human Geography*, 37.1 (2011): 135-144.
  - Mei-po Kwan, "From Oral Histories to Visual Narratives: Re-presenting the Post-September 11 Experiences of the Muslim Women in the USA," *Social & Cultural Geography*, 9.6 (2008): 653-69
- Recommended Projects:
  - [GapVis: Google Ancient Places](#)
  - [Spatial History Project @ Stanford](#)
  - [Hypercities](#)
  - [Visualizing Emancipation](#)
  - [Learning about the Holocaust](#)

**Friday: Story Map Journal Planning**

- What argument would you like in your GIS project (Module Project 3)?

**Week 9 (Oct 17, 19, 21):**

**Monday: Creating a Map Journal in ArcGIS Online: Lab and Practice**

**Wednesday: GIS Project Development**

**Friday: GIS Project Presentations**

## Module IV. "Distant" vs. "Deep" Reading of Images

**Week 10 (Oct 24, 26, 28):**

**Monday: "Reading" Images from a Distance**

- Read:
  - Lev Manovich. "[How to Compare One Million Images?](#)" In David Berry, ed., *Understanding Digital Humanities* (Palgrave, 2012). (For more, see [One Million Manga Pages](#))
  - Lev Manovich, "[The Meaning of Statistics and Digital Humanities](#)"
- Explore:
  - [Projects from Software Studies Initiative](#)

**Wednesday: Quantitative Analysis of Images with [ImagePlot](#): Lab and Practice**

**[Writing Assignment 3: First draft due before class.](#)**

**Friday: Visualizing Musical History**

- Explore:
  - [The "Musical Geography of 1924 Paris" Project](#)
  - [Tempo of Music](#)
  - [Mood of the Artist](#)
  - [Energy levels and influences between bands](#)

**Week 11 (Oct 31, Nov 2, 4):**

**Monday: "Deep" Graphs**

- Explore:
  - Annotating Images: [Neatline Exhibits](#); [Storymap JS Gigapixel](#) Gallery; [Bouquet of Flowers](#)
  - Annotating Maps: [Histories of the National Mall](#); [The Map of Early Modern London](#) @ University of Victoria

**Wednesday: Neatline: Lab and Practice**

**[Writing Assignment 3: Second draft due before class. Peer review outside class.](#)**

**Friday: Neatline Project (Module Project 4) Planning**

**Week 12 (Nov 7, 9, 11):**

**Monday: Neatline Project Development**

***Writing Assignment 3: Final draft due before class.***

**Wednesday: Neatline Project Presentations**

**Friday: Reflections on Neatline**

## Developing a Final Project

**Week 13 (Nov 14, 16, 18):**

**Monday: Digital Humanities and Public-Facing Humanities**

- Read:
  - Tim Hitchcock, "[Academic History Writing and the Headache of Big Data](#)"
- Explore: The Politics of Technology, or the Concerns of Digital Humanists
  - Public Participation: [History Engine](#); [PhilaPlace](#); [History Pin](#); [The Johnny Cash Project](#)
  - Historical Preservation: [Streets of Paris](#) photographed by Charles Marville in 19C and Martin Krieger today; Google's [Street Art Project](#); [China Local](#)
  - Historical Reconstruction: [Digital Roman Forum](#) and [Rome Reborn](#) ; [Virtual Morgantown](#) ; [Virtual Harlem](#) ; [the 1893 Chicago World's Fair](#) ; [King's Visualization Laboratory @ King's College London](#)
- Recommended:
  - *Computer, Visualization, and History*, Ch.4 ("Virtual History")
  - Joe Dempsey, et al., "[Pudding Lane: Recreating Seventeenth-Century London](#)," *Journal of Digital Humanities*, 3.1 (2014) (optional)

**Wednesday: Final Project Planning**

**Friday: Final Project Development**

**Week 14 (Nov 21, 23, 25): Thanksgiving Break – No Class**

**Week 15 (Nov 28, 30, Dec 2):**

**Monday: Final Project Development**

**Wednesday: Final Project Presentations I**

**Friday: Final Project Presentations II**

**Week 16 (Dec 5):**

**Monday: Concluding Discussions**

## ***Foundation Seminar and W1 Objectives***

This is a Foundation Seminar and meets the W1 requirement. Like all foundation seminars, this course helps you achieve the following learning outcomes. These learning outcomes are clearly articulated in Bucknell's College Core Curriculum (CCC) requirements and you will also find rewarding outside this particular course:

- develop writing, reading, speaking, listening, and information literacy skills necessary for collegiate-level academic work; and
- develop capacities for independent academic work and become self-regulated learners.

As a W1, this course approaches writing as a way to learn, not just a demonstration of knowledge. To help you develop your writing skills, this course includes process-based writing assignments which involve a series of reviews and revisions. Presentations and discussion in class are intended to deepen your understanding of the subject matter as well as improve your listening and speaking capabilities. This course develops information literacy skills by introducing you to a wide range of digital tools and projects and encouraging you to give them critical evaluations. You will learn to work in groups through a variety of group projects.

### ***Contractual Fine Print***

#### Attendance and Participation

A deeper understanding of assigned readings and the development of your academic skills depend heavily on class participation. Class attendance is mandatory. If you have **three** unexcused absences in this class, you will receive an "F" for participation. This means that the best you can hope to do in this course – given full marks on all other assignments – would be an 85 (B). Excused absences require a written note from the Dean's Office. Presenting to the Student Health Service alone does not guarantee an excuse from class or from finishing assignments on time. If the doctor at Student Health Services determines that you need to be out of class for two days or more, s/he will notify the Dean's Office. If you are on an athletic team, please show me in writing the classes you will have to miss for athletic events.

It is crucial that you demonstrate your commitment to active participation by trying to do most, if not all, of these activities on a regular basis. A student who receives an A in this category will participate in most or all of these capacities consistently, enthusiastically, and thoughtfully. A student who does well to fair in this category (a B or C) will participate in some of these capacities but either inconsistently (B) or reluctantly (C). A student who performs poorly in this category (D or F) will rarely participate in any capacity (D) or will miss an inappropriate amount of class (F).

#### Late Work Policy

To ensure fairness for your peers, in general, late work will not be accepted. This said, I encourage you to speak with me in advance of the due date if you feel there is a circumstance which will make it impossible for you to submit your work on time. In cases when late work is accepted, a grade deduction of 1/3 of a letter (B+ to B, for example) will be applied for each 24 hours the assignment is overdue.

#### Academic Integrity and Misconduct

Plagiarism is a grave academic violation and carries severe consequences. It is your responsibility to ask questions and seek answers if you are uncertain about plagiarism or any other type of academic misconduct. Plagiarism is frequently the result of last-minute desperation. To avoid plagiarism, you are advised to start early on any assignment and work according to a schedule. See <http://www.bucknell.edu/x1326.xml> for more details.

Bucknell University is an academic community that assumes personal and professional integrity on the part of all its members. The university's policies and procedures regarding academic responsibility were designed in accordance with our commitment to the five fundamental values that define academic integrity according to Duke University's Center for Academic Integrity: honesty, trust, fairness, respect, and responsibility. These values are inscribed in the Bucknell University Honor Code, which was adopted in spring of 2005. Supporting these values in word and deed is the responsibility of each member of the community and alleged acts of academic misconduct should be taken seriously and dealt with according to the university's

policy.

**Bucknell University Honor Code**

As a student and citizen of the Bucknell University community:

1. I will not lie, cheat, or steal in my academic endeavors.
2. I will forthrightly oppose each and every instance of academic dishonesty.
3. I will let my conscience guide my decision to communicate directly with any person or persons I believe to have been dishonest in academic work.
4. I will let my conscience guide my decision on reporting breaches of academic integrity to the appropriate faculty or deans.

Other considerations

If you have a learning disability or personal circumstance that should be brought to my attention, please do so at the beginning of the semester. I am happy to provide reasonable accommodations when appropriate.

Resources

Any student who may need an accommodation based on the impact of a disability should contact Heather Fowler, Director of the Office of Accessibility Resources at 570-577-1188 or [hf007@bucknell.edu](mailto:hf007@bucknell.edu) who will help coordinate reasonable accommodations for those students with documented disabilities.

Bertrand Library and the Writing Center are tremendously helpful resources, which you should consider using. Visit their web pages at <http://www.bucknell.edu/x1263.xml> and <http://www.bucknell.edu/x3825.xml> for more details.