Course Syllabus

Mapping for Architecture, Urbanism, and the Humanities

Columbia University | GSAPP and A&S | ARCH4122 | Fall 2018
Fridays 9:00–11:00am | 408 Avery Hall (first class), Studio @ Butler 208b (thereafter)
Office hours: Tuesdays 2:00–4:00pm (with appointment)
Professor: Dr. Brian House (bjh18)
Teaching Assistant: Buck Wanner (brw2103)

Description

What role does cartography play in our relationship to space? How does technology make *sense* of places to which we have never been? Through what material practices are data produced, and how are they located? As a result, what cultural attitudes inhabit our maps, how do they (re)produce our environment, and how can they be contested?

This hybrid theory/practice course provides an introduction to critical mapping discourse and geographic information systems tools. Of particular interest to humanities students, it examines both historical and contemporary questions with reference to the technology of mapping. Additionally, through the use of open-source GIS software (QGIS), browser-based technologies (Mapbox, Mongo DB), and open data (OpenStreetMap), students will learn how to critically use mapping tools and geographic data for spatial analysis and representation. Each class has two parts: in the first half of each meeting we will discuss weekly readings, while the second half serves as a flipped-classroom to address technical and conceptual issues arising from take-home GIS tutorials. The final weeks of the semester will be devoted to developing students' own critical cartographic research.

Objectives

By the end of this course, students will be able to:

* critically read a map
* investigate the cultural attitudes and technologies behind cartographic practices
* use QGIS to analyze and present geographic information
* build location aware dynamic maps for mobile devices
* make intentional design decisions when creating maps

Requirements and Grading

10% attentive in-class participation and discussion of assigned reading and tutorials

15% weekly written responses to assigned reading (200-400 words). These must be posted to canvas by **noon** the day before class. Responses will structure our in-class discussion and allow you to articulate your questions for one another beforehand. You may engage not only the readings, but also each other. You may want to:

- quote and comment on a particularly challenging passage
- offer a critique of one or more of the texts
- evaluate a cultural object from the perspective of the text
- identify larger themes or contrasting viewpoints

15% weekly mapping tutorials. These are graded by submission only. You may work alone, in pairs or groups of three. Please submit whatever you have completed via email by **noon** the day before class. You do **not** need to complete it to receive full credit, but you do need to have attempted it. If you do not have anything to send, please write a paragraph explaining how far you got and what problems you encountered. These will form the basis for the tutorial.

10% a 10-minute presentation on your analysis/critique of a map or other cartographic practice. Address its context in terms of technology, intended audience, political orientation, and impact, and discuss the effectiveness of its representational and aesthetic choices. Provide some questions or provocations to kick off a short discussion with the class.

50% a research project. By week 8 you should be developing a question or thesis that you want to explore, analyze, or explain using some type of map, broadly defined. Projects can be produced for the web or other digital or physical media, and a white paper will discuss the decisions you made, the methods you used, and what you have learned from the outcome.

Please note that late and/or partial credit are not given. Your grade is primarily the result of mindfully engaging in class and your work at the expected time.

Community

This is a discussion-based course. All students and the instructor must be respectful of others in the classroom. If you ever feel that the classroom environment is discouraging your participation or is problematic in any way, please contact me.

Accessibility

GSAPP is committed to full inclusion of all students. Please inform me if you have a disability or other condition that might require accommodations or modification of any of these course procedures. You may speak with me after class or during office hours.

Schedule

1: 9/7 Introduction: para-empiricism

Reading

- Kurgan, Laura. "Representation and the Necessity of Interpretation," in *Close Up At a Distance: Mapping, Technology, and Politics.* Zone Books, 2011.
- Bores, Jorge. "On Exactitude in Science."

QGIS Tutorial 1

- Getting started with QGIS

2: 9/14 Walking and the marking of place

Reading

- de Certeau, Michel. "Walking in the City" in *The Practice of Everyday Life.* University of California Press, 1984.
- Harney, Bill Yidumduma and Ray Norris. "Songlines and Navigation in Wardaman and Other Australian Aboriginal Cultures." *Journal of Astronomical History and Heritage* 17:2, 2014.
- Careri, Francesco. "From the Path to the Menhir" in *Walkscapes: Walking as an Aesthetic Practice.* Gili, 2002.
- Debord, Guy. "Theory of the Dérive." *Situationist International 2*, 1956.

QGIS Tutorial 2

- Population Map

3: 9/21 The spatial turn

Reading

- Corner, James. "The Agency of Mapping" in *Mappings*, ed. Denis Cosgrove. Reaktion Books, 1999.
- Galison, Peter. *Einstein's Clocks, Poincare's Maps: Empires of Time.* Norton, 2003. (selections)

Additional Reading

- Schivelbusch, Wolfgang. "Railroad Space, Railroad Time" in *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century.* Univ of California Press, 2014.

- Siegert, Bernhard. "The Permanently Projected World" in *Cultural Techniques: Grids, Filters, Doors, and Other Articulations of the Real*. Fordham University Press, 2015.

QGIS Tutorial 3

- Data types & Quantitative 311 Maps

4: 9/28 Spatial visualizations

Reading

- Meirelles, Isabel. "Spatial Structures: Maps" in *Design for Information: An Introduction to the Histories, Theories, and Best Practices Behind Effective Information Visualizations*. Rockport Publishers, 2013.
- Gregory, Ian. "A map is just a bad graph: Why spatial statistics are important in historical GIS" in *Placing History*. ESRI Press, 2008.

QGIS Tutorial 4

- Using the census

5: 10/5 Counter-mapping

Reading

- Wood, Dennis. "Counter-Mapping and the Death of Cartography" and "The Outside Critique: Indigenous Mapping," in *Rethinking the Power of Maps*. Guilford Press, 2010.
- D'Ignazio, Catherine. "What would feminist data visualization look like?" Unpublished, 2015.
- Peluso, Nancy Lee. "Whose Woods Are These? Counter-Mapping Forest Territories in Kalimantan, Indonesia." *Antipode* 27:4, 1995.

Additional Reading

- Latour, Bruno. "The Domestication of the Savage Mind" in *Science in Action: How to Follow Scientists and Engineers Through Society*. Harvard University Press, 1987.
- Berger, Miriam. "When Waze Won't Help, Palestinians Make Their Own Maps." *Wired*. December 10, 2017.

QGIS Tutorial 5

- Vector analysis tools

6: 10/12 Cooking data

Reading

- Onouha, Mimi. "What is Missing is Still There." *Nichons-Nous Dans L'Internet,* 2018.
- Harris, Jacob. "Consider the Boolean." 2015.
- Pavlovska, Marianna. "Non-quantitative GIS" in *Qualitative GIS: A Mixed Methods Approach to Integrating Qualitative Research and Geographic Information Systems*, eds. Sarah Elwood and Meghan Cope. Sage Publications, 2009.

Additional Reading

- Gitelman, Lisa. *"Raw Data" Is an Oxymoron*. The MIT Press, 2013. (introduction)

QGIS Tutorial 7

- Georeferencing

7: 10/19 The view from above

Reading

- Parks, Lisa. "Plotting the Personal: Global Positioning Satellites and Interactive Media." *Cultural Geographies* 8, 2001.
- Farman, Jason. "Mapping the digital empire: Google Earth and the process of postmodern cartography." *New Media and Society* 12:6, 2010.
- Burrington, Ingrid. "Effortless Slippage." *e-flux*. May 25, 2018.

Additional Reading

- Madrigal, Alexis."How Google Builds Its Maps – and What It Means for the Future of Everything." *The Atlantic*, September 5, 2012.
- Fournier, Abelardo. "Seeding and Seeing: The inner colonisation of land and vision." *APRJA*, 2017.
- John Pickles, "The Cartographic Gaze, Global Visions and Modalities of Visual Culture" in *A History of Spaces: Cartographic Reason, Mapping and the Geo-Coded World*. Routledge, 2004.

Web mapping Tutorial 1

- Getting started with Mapbox GL

Final project brainstorm

8: 10/26 Computational territory

Readings

- Gabrys, Jennifer. *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet*. University of Pennsylvannia Press, 2016.
- Bratton, Benjamin. "The Black Stack." *e-flux*, March 6, 2014.
- Edwards, Paul. "Control Earth." *Places Journal*, November 2016.

Web mapping Tutorial 2

- Live data

9: 11/2 Locating locative media

Reading

- Tuters, Mark and Kazys Varnelis. "Beyond Locative Media: Giving Shape to the Internet of Things." *Leonardo* 39:4, 2006.
- Morris, Dee and Stephen Voyce. "Embodied Mapping, Locative Mapping, and New Media Poetics." *Jacket* 2, March 20, 2015.

Additional Reading

- Fusco, Coco. "Questioning the Frame: Thoughts About Maps and Spatial Logic in the Global Present." *In These Times*, December 16, 2004.

- Shepard, Mark. *Sentient City*. MIT Press, 2011.

Web mapping review

Research project proposals due

10: 11/9 Geospatial AI

Reading

- Mattern, Shannon. "Mapping's Intelligent Agents." *Places Journal*, September 2017.
- Paglen, Trevor. "Invisible Images (Your Pictures Are Looking at You)". *New Inquiry*, December 8, 2016.
- Onuoha, Mimi. "On Algorithmic Violence." 2018.

Web mapping Tutorial 3

- Participatory sensing

11: 11/16

Research project: preliminary presentations

Thanksgiving Break

12: 11/30

Research project: final presentations

13: 12/7

Research project: final presentations

14: 12/14

Research project white paper due

Online Resources

[LivingMaps Review (Links to an external site.)Links to an external site.](#) / [Atlantic CityLab (Links to an external site.)Links to an external site.](#) / [PublicLab (Links to an external site.)Links to an external site.](#) / [The Library of Congress Maps Blog (Links to an external site.)Links to an external site.](#) / [Mapzen's Blog (Links to an external site.)Links to an external site.](#) / [Nasa Earth Observatory (Links to an external site.)Links to an external site.](#) / [Stamen Design (Links to an external site.)Links to an external site.](#) / [Strange Maps (Links to an external site.)Links to an external site.](#) / [Fuck Yeah Cartography! (Links to an external site.)Links to an external site.](#) / [Making Maps: DIY](#)

[Cartography (Links to an external site.)Links to an external site.](#) / [Maps Mania (Links to an external site.)Links to an external site.](#) / [Jacket2 (Links to an external site.)Links to an external site.](#) / [David Rumsey Map Collection (Links to an external site.)Links to an external site.](#) / [Territory Journal (Links to an external site.)Links to an external site.](#) / [Wired Map Lab (Links to an external site.)Links to an external site.](#) / [Andy Woodruff's Blog (Links to an external site.)Links to an external site.](#) / [Shannon Mattern (Links to an external site.)Links to an external site.](#) / [Visualizing Data (Links to an external site.)Links to an external site.](#) / [Flowingdata (Links to an external site.)Links to an external site.](#) / [Periscopic (Links to an external site.)Links to an external site.](#) / [Visualizing.org (Links to an external site.)Links to an external site.](#) / [Accurat (Links to an external site.)Links to an external site.](#) / [Eyeo Festival (Links to an external site.)Links to an external site.](#) / [Infosthetics (Links to an external site.)Links to an external site.](#) / [Visualcomplexity (Links to an external site.)Links to an external site.](#) / [The Economist - Graphic Detail (Links to an external site.)Links to an external site.](#) / [New York Times - The Upshot (Links to an external site.)Links to an external site.](#) / [Visualoop (Links to an external site.)Links to an external site.](#) / [FiveThirtyEight (Links to an external site.)Links to an external site.](#) / [Huffington Post (Links to an external site.)Links to an external site.](#) / [LA Times (Links to an external site.)Links to an external site.](#) / [Wall Street Journal (Links to an external site.)Links to an external site.](#) / [Washington Post (Links to an external site.)Links to an external site.](#) / [Quartz (Links to an external site.)Links to an external site.](#) / [New York Times - Interactive Storytelling (Links to an external site.)Links to an external site.](#) / [Fathom (Links to an external site.)Links to an external site.](#) / [Moritz Stefaner (Links to an external site.)Links to an external site.](#) / [Nicholas Felton (Links to an external site.)Links to an external site.](#) / [Data Canvas (Links to an external site.)Links to an external site.](#) / [Waze Global Driver Satisfaction Index (Links to an external site.)Links to an external site.](#) / [Lapham's Quaterly Maps (Links to an external site.)Links to an external site.](#) / [Lapham's Quaterly Charts and Graphs (Links to an external site.)Links to an external site.](#) / [Territory (Links to an external site.)Links to an external site.](#) / [Quartz Atlas Charts (Links to an external site.)Links to an external site.](#) / [Sensory Maps (Links to an external site.)Links to an external site.](#) / [Library of Congress - Maps (Links to an external site.)Links to an external site.](#)/ [The National Geologic Map Database (Links to an external site.)Links to an external site.](#) / [Old Maps Online (Links to an external site.)Links to an external site.](#) / [Data and Maps (Links to an external site.)Links to an external site.](#) / [Sidewalk Toronto blog (Links to an external site.)Links to an external site.](#) / [MapPorn (Links to an external site.)Links to an external site.](#) (Many items on this list borrowed from Shannon Mattern and Juan Saldarriaga)