

# Advanced Cartography & Geovisualization

FALL 2018

## Course Objectives

- Develop skills using GIS and visualization applications to create beautiful maps and visualizations
- Learn how to gain new knowledge and skills in Cartography and Geoviz on your own
- Develop the ability to apply principles already learned to new projects or situations



This course is all about taking data and making it into something insightful and beautiful. I want to help you create persuasive pieces so eventually you may use these skills in your chosen field to make the world a better place. The world is rapidly creating more and more data, and it's increasingly difficult to make sense of this diverse and heterogeneous data. Demand for data visualization and GIS are growing rapidly as people, organizations and industries want to see their data in a meaningful way; they want to understand the past, and gain insight into the future. To do this, we must have good data, knowledge and skill to wrangle and explore it, and the ability to effectively communicate our findings. During this course I hope to help you cultivate those skills by:

- Grounding you in the principles of design and cartography
- Giving you the freedom and space to learn tools and techniques you want to learn
- Creating space to fail, experimentation and failure lead to knowledge and resilience
- Cultivating creativity and instilling a passion for lifelong learning

We will explore the world of cartography and geovisualization from many perspectives and through various methods. This course requires a significant investment of time and creativity, as well as a drive to learn. I will not be handing you prescribed labs detailing how to visualize data with every method, tool and form. I want to help you learn the design process and how to learn new technologies on your own, as needed. These are the skills you will take away from this course. The assignments are structured so you can tailor them to your interests, but they all have a purpose and goal. Sometimes you will be learning a tool or technology that I am not an expert in, and we will be learning together. It's ok if that scares you -- it is scary for me too -- but in the end, learning this way means you will have skills you can use your whole life, instead of me teaching you a single data viz platform that may not be used, or even around in a few years.

Data visualization and design are ever evolving; it requires creativity and passion to constantly learn and to collaborate with other designers. I am so excited to share my passion and knowledge with you in this fascinating and ever-changing field - welcome to Geoviz!

*Ashley Nepp*  
Instructor

## GRADED REQUIREMENTS & EXPECTATIONS

- **PARTICIPATION & ENGAGEMENT (50PTS):** This is an interactive class; most days will be in-class activities, discussions or peer-critiques. It is of utmost importance (to me and your classmates) that you fully engage and participate in class activities and discussions to gain anything from this course. To engage and participate you will need to be prepared for - and attend - every class period. This means doing the readings, online posts, sketches and/or reflection/discussion questions prior to class.
- **LABS (80PTS):** There are 8 lab assignments to enhance your skills and help you complete portions of your visualization projects. Lab assignment details will be updated and available on Moodle throughout the course.
- **STUDENT-LED LECTURE (20PTS):** You will team up with 2-3 classmates to organize a class period on a topic of interest related to cartography or geovisualization. Topics are somewhat flexible and range from the history of cartography to color theory to user-centered design. You will consult with me, and be provided with some resources, but most of the content is up to you.
- **STATIC VISUALIZATION PROJECT (50PTS):** You will create a beautiful and effective print visualization piece featuring a well-designed map using the principles and techniques you have learned throughout the course and in lab.
- **DYNAMIC VISUALIZATION PROJECT (50PTS):** You will create a dynamic visualization using an online platform or tool of your choice. Details for both visualization projects will be provided on Moodle and in hard-copy.

## Course Readings

There is only one required book and it is available at the **Macalester Textbook Store:**

*Data Points: Visualization That Means Something* by Nathan Yau.  
Wiley (2013). ISBN: 978-1118462195

*All other readings will be available on library reserve or on the course Moodle page.*

## Office Hours, Contact Information & Late Policy

Monday 1:00-2:00pm | Tuesday 3:00-4:30pm | or by appt

Email is my preferred contact method: [anep@macalester.edu](mailto:anep@macalester.edu) | 651.696.6906

I also usually respond to Google Hangout messages

*Extensions are granted (and late assignments accepted) in exceptional cases, such as illness or family emergency. Extensions will only be considered if Ashley is contacted well before the due date. Otherwise late assignments may not be accepted, or a penalty of one letter grade (from your earned score) per day late may be imposed.*

## ACCOMMODATIONS

I am committed to supporting the learning of all students in my class. If you are encountering barriers to your learning that I can mitigate, please bring them to my attention. If you need disability related accommodations please contact the Disability Services office by emailing [disabilityservices@macalester.edu](mailto:disabilityservices@macalester.edu), or by calling 651-696-6874 to schedule an appointment to discuss your individual needs.

## ACADEMIC HONESTY

Students are expected to maintain the highest standards of honesty in their college work; violations of academic integrity are serious offenses. Students found guilty of any form of academic dishonesty -- including, for instance, forgery, cheating, and plagiarism -- are subject to disciplinary action. Examples of behavior that violates this policy, as well as the process and sanctions involved, can be found on the Academic Programs website, <http://www.macalester.edu/academicprograms/academicpolicies/academicintegrity/>.

# PRELIMINARY COURSE SCHEDULE

SEPT 3	LABOR DAY - NO CLASS	LAB 1	OCT 29	DVP Introduction & Platforms	LAB 8
SEPT 5	Course Overview & Introductions	Map Poetry - crafted map	OCT 31	Static Viz Presentations	Programming Exercise
SEPT 7	Data, Representation & Truth		NOV 2	Static Viz Presentations	
SEPT 10	Maps, Art & Poetry	LAB 2	NOV 5	Static Viz Presentations	LAB 9
SEPT 12	The Medium	Intro to Inkscape	NOV 7	User-Centered Design	Platform Bootcamp
SEPT 14	SVP & the Design Process		NOV 9	Web-based Geoviz Platforms	
SEPT 17	Traditional Cartography	LAB 3	NOV 12	Platform Bootcamp Presentations	U-SPATIAL FORUM
SEPT 19	History of Cartography	Traditional Cartographic Techniques	NOV 14	U-SPATIAL FORUM - NO CLASS	NO LAB
SEPT 21	The Classics of Data Viz		NOV 16	DVP WKSHP: Data formatting & views	
SEPT 24	Critical Cart/Maps of Power	LAB 4	NOV 19	DVP Worktime	THANKSGIVING NO LAB
SEPT 26	Charts & Graphs & Maps, Oh My!	Creating Charts & Graphs	NOV 21	THANKSGIVING BREAK - NO CLASS	
SEPT 28	Unique Map Forms		NOV 23	THANKSGIVING BREAK - NO CLASS	
OCT 1	Data Exploration & Design Process	LAB 5	NOV 26	Career & Portfolio Discussion	DVP WKSHP
OCT 3	SVP WKSHP: Ideation & Exploration	Data Exploration	NOV 28	DVP WKSHP 2: Working Draft	Test, critique and revise
OCT 5	The Narrative Atlas		NOV 30	Worktime & Meetings with Ashley	
OCT 8	Visual Perception & Cognition	LAB 6	DEC 3	Worktime & Meetings with Ashley	DYNAMIC VIZ PROJECT
OCT 10	Clarity & Principles of Design	Unique Map Forms	DEC 5	DVP WKSHP 3: Final Design & UX	
OCT 12	Color Theory		DEC 7	Dynamic Viz Presentations	
OCT 15	Typography	LAB 7	DEC 10	Dynamic Viz Presentations	
OCT 17	Ashley @ NACIS / work time	Iconic Styles	DEC 12	Dynamic Viz Presentations & evaluations	
OCT 19	Ashley @ NACIS / SVP WKSHP 2		MON	GeoViz Showcase	
OCT 22	Tufte vs. Holmes	SVP WKSHP 3	DEC 17	10:30am-12:30pm	
OCT 24	Iconic Styles presentations	Legibility & Design			
OCT 26	FALL BREAK - NO CLASS				

