

Lehman College, City University of New York
Department of Earth, Environmental, and Geospatial Sciences

GEP 299/680 Cartographic Design & Presentation
Course Syllabus

Last edited on 09/23/2018

Note: The syllabus is subject to change throughout the semester. A current syllabus can be found on the Info page of the course website.

Course Description—In this class students will approach the topic of cartographic design and presentation from perspectives both pragmatic and philosophical. Students will work towards an advanced literacy in visual communication by studying the fundamental elements of color theory, typography, and layout. Furthermore, students will learn how to post-process their maps using vector editors and how to integrate this approach into their ArcGis workflow.

Course website—<https://cartodesign.commonsc.gc.cuny.edu/>

Credits /

- GEP 299 - 6 credits, 4 hours
- GEP 680 - 3 credits, 4 hours

Course meets—Weekly on Tuesdays from 6-9:30pm in Gillet Hall, Rm. 322 (GISc Lab)

Instructor—Adam Jessup

Email—adam.jessup@lc.cuny.edu

Office—Gillet Hall, Rm. 325 (front office)

Office hours—Weekly on Tuesday from 4:30-5:30pm (subject to change)

Textbook /

- Principal Text, required, **Designing Better Maps: A guide for GIS users** by Cynthia Brewer (2nd Edition, Esri Press 2015)
- Ancillary texts will be in the form of PDFs posted to the course website and will act as either a complement or supplement to the week's topic.

Recommended texts /

- The Visual Display of Quantitative Information by Edward Tufte (2nd Edition, Graphics Press 2015)

- Making Maps: A visual guide to map design for GIS by John Krygier & Dennis Wood (2nd Edition, Guilford Press 2011)
- How Maps Work: Representation, visualization, and design (1st Edition, Guilford Press 2004)

Software /

- ESRI ArcGis, v10.3 (student license provided)
- QGIS v2.14 LTR (long-term release)
- Inkscape v0.92
- Microsoft Office Suite

Learning goals—Learning objectives for this course are listed below, Δ indicates application to **graduate students** only

1. Upon successful completion of this course students should have a strong introductory sense of the following **Core Concepts** as they relate to GIS, mapping, and the presentation of quantitative information:
 - a. Principles of design
 - b. Techniques in post-processing
 - c. Revision and critique processes
 - d. Portfolio selection & curation
2. Additional concepts include:
 - a. Information design
 - b. Visual narratives & hierarchies
 - c. Website creation Δ

Assessment—Your understanding of the course material will be evaluated through assignments, in-class tutorials, participation in discussions and critiques, and a final exam. Graduate students are required to complete and present individual final projects.

Elements—This course is comprised of lectures, assignments, tutorials, map critiques, class discussions, readings, final project, and a final examination.

1. Lectures will be rooted primarily in theory, providing students with the necessary historical and philosophical knowledge of the core concepts listed above.
2. Readings from the main text will reinforce topics covered in lectures and provide technical instruction on their application in a modern GIS environment. Additional readings may not pertain to GISc in the strictest sense, but will present ideas from prominent thinkers in the fields of cartography, design, and visual communication on topics relevant to the course.

3. Assignments will challenge students to apply equal parts theory and technical skill to complete various exercises requisite for gaining an advanced literacy in the core concepts. Topics covered in the assignments will echo and build upon those in the lectures and reading. All assignments must be submitted to the **Assignment Submission** folder in Google Drive by the due date in order to receive credit. Generally, assignments should be saved as PDFs. However specific instruction for saving files will be given per assignment. When naming, please use the convention **Lastname_Firstname_AssignmentNumber** (e.g. Flanders_Nelson_A1)
4. Tutorials are brief, step-by-step instructions for learning specific skills, and are meant to be completed within the class+lab period. These are relatively low-stakes assignments, and serve the purpose of either providing practical instruction for skills that will be necessary for successful completion of the assignments, or introducing students to a new and useful skill for map design.
5. Critiques of work by students and non-students alike will be conducted weekly in class with the goal being to sharpen and hone the student's critical eye such that they can apply it meaningfully to their own work. Engagement in critiques is integral to developing design sensitivities.
6. Final projects for this class will revolve around the successful creation of a personal portfolio website. This is **mandatory** for graduate students and **optional** for undergraduates.
7. A Final Exam will be administered at the end of the term. Material for this examination will be drawn from the lecture slides and the text, both primary and ancillary, and will measure students' understanding of the core concepts as outlined in the learning objectives section above.

Grading policy—Grades will not be curved or dropped. Extra credit will be offered at the discretion of the instructor.

(continue to Grade Structure)

Grade structure /

Grade Scale

A	A-	B+	B	B-	C	C+	C-	D+	D	F
≥ 95	90-94	85-89	80-84	75-79	70-74	65-69	60-64	55-59	50-54	< 50

Graduate students

Assignments 40%

Tutorials 10%

Final Project 30%

Final Exam 10%

Participation 10%

Total 100%

Undergraduate students

Assignments 50%

Tutorials 15%

Final Exam 20%

Participation 15%

Total 100%

Note: Undergraduates can elect to complete a final project for extra credit. If they do so, their final grade breakdown will be the same as the graduate students'.

Participation—Class participation includes engagement in discussions, answering questions during lecture, taking part in weekly map critiques, active participation in the class Help forum, and prompt email correspondence as needed. Lateness and absence will count against this grade.

Course policies /

Getting help (what to do when this occurs)

1. Reread the assignment instructions, starting over from the beginning if necessary.
2. Look online. Learning how to troubleshoot your own problems is essential to success in learning and life alike. It is always worth it to see if someone else has documented their own experiences dealing with similar problems (chances are they have). Open Google, ask away.
3. Post your issue to the class Help forum on Piazza. In doing this, please identify the assignment to which the issue pertains, as well as the step # if applicable (e.g. A4, step

15). Note: being active in this forum is a great way to earn a portion of the participation grade for the class.

4. Consult a classmate. Learning is a collaborative process/experience. The honor code is evoked in this domain. It is up to students to ensure they turn in their own work.
5. Contact the instructor. Only when students have gone through steps 1-4 without satisfactory results should they contact the instructor. Students should not wait until the last minute to begin this troubleshooting process and be expectant of any positive results. Additionally, students should not expect expedient responses from the instructor during non-business hours.

Physical tardiness, absences

- Lateness or absence will count against your class participation grade unless there is a bona fide medical/family emergency or it is cleared with the professor in a timely fashion before class. If you miss a session, it is your responsibility to check with your classmates for notes and other course materials. Leaving class early without the permission of the instructor will be recorded as an absence.

Late submission of assignments, tests

- Late assignments/exams will generally not be accepted unless it is cleared with the professor well before the due date. Under special circumstances, unexcused late assignments may be accepted (at the professor's discretion) but one full letter grade will be subtracted. If there is a medical reason for lateness, please supply documentation.

Incompletes

- A grade of incomplete will only be considered if you are clearly making a good faith effort to complete the course (i.e., attending regularly, participating in discussions) and have a good reason for not completing the work (e.g. medical or family emergency). Incompletes must be arranged with the instructor in advance of the end of the term.

Cell phone use

- Be considerate: no talking or texting in class. Turn your phones off or to vibrate.

Computer use

- During class you will be expected to follow along with lectures, participate in discussion, and work on class exercises. You may not use the lab computers or your personal devices to work on other projects or to engage in leisure activities.

Lab rules

- Drinking or eating in the lab classroom is not allowed. Please adhere to this and other policies as posted in the lab.

Collaboration

- I encourage all members of the class to talk to one another, ask each other questions, and help one another. However, all of the assignments must be completed by you individually and submitted work must be your own.

Academic dishonesty

- Will not be tolerated in any form. Academic dishonesty includes, but is not limited to: cheating, plagiarizing (including cutting and pasting or paraphrasing information from the internet without proper citation), fabricating information or citations, facilitating acts of academic dishonesty by others, submitting work of another person or papers written for other courses, or tampering with the academic work of other students. For further clarification, please read CUNY's policy on academic integrity at http://www.lehman.edu/lehman/about/policies_pdf/CUNYAcademicIntegrityPolicy.pdf. Violators will be reported to the head of the Department and to the Dean of Student Affairs.

Students with disabilities

- Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities who may need classroom accommodations are encouraged to register with the Office of Student Disability Services. For more information, please contact the Office of Student Disability Services, Shuster Hall, Room 238, tel #: 718-960-8441.

(continue to Course Schedule)

Schedule /

Class	Dates	Lecture topic	Assignments due	Reading due
01	8/28	Intro to the course & syllabus review L1—Towards a visual literacy in GIS, the case for design thinking	--	--
02	9/04	L2—An attenuated history of cartography, what the map does, and intro to critique T1—Inkscape basics	A1*—Getting started with ArcGIS	Crampton, <i>What is Critique?</i> Buisseret, <i>Text and contexts</i> Robinson, <i>Cartography as visual technique</i>
—	9/11	No Classes Scheduled	—	—
—	9/18	No Classes Scheduled	—	—
03	9/25	L3—Layout essentials, grid systems, visual hierarchies T2—Inkscape shapes	A2—Map planning & critique diagnostic	Brewer, ch. 1 & 3 Mierelles, <i>Hierarchical structures: trees</i> Poulin, <i>Balance</i>
04	10/02	L4—Intro to typography, working relations, how to choose Critique of A3 T3—Inkscape advanced	A3—Symbolizing features & creating visual hierarchies	Brewer, ch. 5 & 6 Mierelles, <i>Spatial structures: maps</i>
05	10/09	L5—Intro to color theory, working relations, how to choose Critique of A4 T4*—Creating color palettes	A4—Labelling and text	Brewer, ch. 7 & 8 Lupton, <i>Color</i> Robinson, <i>Color in cartography</i>
06	10/16	L6—Design for maps I: cartographic elements, principles of design + layout Critique of A5	A5—Basic mapping with Inkscape	Tufte, <i>Visual & statistical thinking</i> Harley, <i>Deconstructing</i>

		T5—Custom north arrows		<i>the map</i>
07	10/23	L7—Post-processing I: maps in Inkscape, basic topologies, vector formats, using grids, workflow development ^o T6—TBD	A6—Personal geographies p1	Crampton, <i>The Poetics of Space</i> Turchi, <i>Metaphor: Or, the Map</i>
08	10/30	L8.1—Design for maps II: what maps need, classifying/representing data, color optimization L8.2—Intro to the Final T7—TBD	--	Patterson, <i>Outside the Bubble</i> Monmonier, <i>Data Maps</i>
09	11/06* —Election Day (midterms), go vote!	L9—Post-processing II: styling maps, perfect alignment, prep for destination ^o Critique of A7 T8—TBD	A7—Personal geographies p2	Bernhard, <i>Color design for the color vision impaired</i> Aisch, <i>Choropleths</i>
10	11/13	L10—Portfolio design I: elements, basic setup, platforms, planning & cognition Critique of A8 T9—TBD	A8—Mapping homeless encampments	Tufte, <i>the Cognitive style of the PowerPoint</i> Beirut, <i>Mr. Vignelli's Map</i>
11	11/20	L11—Live mapping tutorial, advanced representation ^o T10—TBD Open lab time for project prep	--	--
12	11/27	L12—Portfolio design II: providing context, content considerations, the art of the thumbnail Critique of A9 Open lab time for project prep	A9—Mapping the news	--
13	12/04	Presentations I	Final Projects due	--

14	12/11	Presentations II	Final Exam released	--
--	12/18	Finals week	Final Exam Due	--
<p>*Assignment or tutorial is optional, offered for extra credit °Instructor-led tutorial</p>				