GIS 615
Communicating Geographic Information
Syllabus for Spring 2018

Instructor:	*Charlie Frye, email: charles_frye@redlands.edu*
Office:	*Esri, Building M, East Wing 2nd floor Office 060 (M2e060)*
E-office Hours:	*24 x 7, with selected responses/answers to **emails with "615" in subject***
Office Hours:	*By appointment*
Office Phone:	*909.289.7340 (smart phone - text or voice is fine)*
E-mail address:	*cfrye@esri.com*

Course Overview: This course will focus on the essential range of techniques for communicating geographic information with maps you create using industry-standard GIS software. We will cover map design, presentation of geographic information on maps, traditionally known as cartography. We will do so with a modern perspective that includes product design, online interactive maps, their design, and the design of how they are promoted, found, and consumed. In lectures and readings, we will examine established cartographic design principles, including page layout, scale and projection, symbol design, classification of statistical data; and graphic design principles. You will design and produce a set of maps to help you learn to apply the information presented in the lectures, using the ArcGIS Pro and ArcGIS Online software.

Required Texts

Designing Better Maps: A Guide for GIS Users, second edition. Cynthia A. Brewer. ESRI Press. 2016

Designed Maps: A Sourcebook for GIS Users. Cynthia A. Brewer. ESRI Press. 2008.

One more to be chosen from this list between 1st and 2nd class as an initial assignment:

- *Thematic Cartography and Geographic Visualization*. 3rd Edition. Terry Slocum, Robert McMaster, Fritz Kessler, and Hugh Howard. Prentice Hall, 2005.
- *Cartography: Thematic Map Design, 6th Edition.* Borden Dent, Jeff Torguson, and Thomas Hodler. 2009.
- *Cartography: Visualization of Spatial Data* (2016), 3rd Edition, by Menno-Jan Kraak and Ferjan Ormeling
- *Elements of Cartography, 6th Edition* (1995), by Robinson, Morrison, Muehrcke, Kimerling, and Guptill.
- *Making Maps: A Visual Guide to Map Design for GIS*. Third Edition. John Krygier and Denis Wood. The Guilford Press. 2011.
- *Principals of Map Design* (2010) by Judith Tyner

Other Highly Recommended Readings

- *Cartography: an Introduction*. The British Cartographic Society. 2008.
- *How to Lie with Maps* (1991), by Mark Monmonier. A popular witty brief on map distortions, inaccuracies, and errors.
- *Map Use* 8th edition (2012) by A. Jon Kimerling, Aileen R. Buckley, Phillip C. Muehrcke, and Juliana O. Muehrcke.
- *The Visual Display of Quantitative Information (1983), by Edward Tufte*. A widely-respected compendium of guidelines the successful design of charts, graphs, and maps.

Meeting times. The class will usually meet Tuesday evenings in Lewis 103 starting at 6:30 p.m. Classes will run Jan 16 through Apr 10, 2017. The classes will last 2.0 hours. There will be no class the week of March 5. Most class meetings will be "multi-modal", in the sense that I will intersperse traditional lectures with presentations, discussions, and time to discuss or answer questions about assignments.

Preparation and participation. Attendance, preparation, and participation are all expected, and will be used to decide borderline cases. In particular, you should read the assigned material in the text ***before*** the next class meeting. Note that in accordance with university requirements for graduate work, a minimum of three hours of outside work is expected for every hour of contact time. Also note that, while lecturing, I do not tolerate any work on laptops or mobile devices that is not directly related to what I am covering.

Quizzes. Three or more quizzes to encourage reading assigned material before class.

Assignments: You will produce a collection of six maps with ArcGIS software. Submissions not following these rules will not be graded:

- **The first three map assignments must be printed**, with your last name in the lower right corner of the page. Use the printer in your Lewis Hall classroom—make sure support staff keep the printer running properly.
- **Do not use screenshots** in any form in your maps; i.e., do not take a screen shot of your ArcGIS Pro layout and print it from PowerPoint, or take a screenshot from PowerPoint and paste it into your ArcMap layout.
- **The final three maps are online maps**, produced with ArcGIS Online, submitted to an ArcGIS Online group. You must work using your ArcGIS Online account in the Center for Spatial Studies ArcGIS Online organization.
- To facilitate providing data for map assignments, ArcGIS Online groups will be used. The group will be private, only accessed by this class and MSGIS faculty. **No content to be shared to the public.**

Late Assignments/Projects: Every late assignment may be docked a late penalty, not to exceed 20% per day, up to a maximum of 60%. That is, it will never be too late to submit an assignment or final project. [Of course, if extenuating circumstances arise, I am happy to work with you to ensure you have a fair opportunity to complete the work.]

Grading:

Assignments	75%
Quizzes	15%
Participation	10%

The University of Redlands grading scale will be used.

Code of Conduct: The University policies will be strictly enforced (available on myRedlands website). All quizzes must be completed independently. You are strongly encouraged to collaborate when designing, researching, and creating your map projects, however no elements of maps may be copied and shared unless directed by me.

Anonymity. On a small college campus, it is difficult to remain truly anonymous. However, in some instances a student may wish to have his/her personal situation not discussed openly in the classroom. Classroom discussions will be limited to course content.

Calendar

Date	Main Topics	Date	Main Topics
16 Jan 6:30pm – 8:30pm **1**	Introduction, Map Design, and Graphic Design	**13 Mar** 6:30pm – 8:30pm **7**	Pop-ups and Intro to Statistical Mapping
23 Jan 6:30pm – 8:30pm **2**	Mapmaking Fundamentals	**20 Mar** 6:30pm – 8:30pm **8**	Map 4 Due Mapping Quantitative Information
30 Jan 6:30pm – 9:00pm **3**	**Map 1 Due** Map Elements and Color	**27 Mar** 6:30pm – 8:30pm **9**	Visualization and ESDA
6 Feb 6:30pm – 9:00pm **4**	Design Critique & Review, and Page Layout	**3 Apr** 6:30pm – 8:30pm **10**	Map 5 Due Story Maps
13 Feb 6:30pm – 9:00pm **5**	**Map 2 Due** Text Placement and Reference maps	**6 Apr** 6:30pm – 8:30pm **11**	**Friday** Review of Map 6
20 Feb 6:30pm – 9:00pm **6**	**Map 3 Due** Reference Maps and Multi-scale Maps and Intro to ArcGIS Online	**17 Apr** 6:30pm – 8:30pm **12**	Final Presentation of Map 6