SCHOOL OF SOCIAL WORK
UNIVERSITY OF MICHIGAN

Course title:	Using Data as a Tool for Social Justice: Interpretation, visualization and data mapping skills for working with communities
Course #/term:	513, 001, Fall, 2018
Time and place:	Thursday, 2-5, 3629 SSWB
Credit hours:	3
Instructor:	Andy Grogan-Kaylor
Pronouns:	he, his, him
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Office:	3846 SSWB
Office hours:	TBD

Why can't numbers be beautiful too?

We all talk of beautiful words, art, buildings
and they're not part of the natural world, either.
An x in Algebra is no more abstract than
an idea in philosophy, just more useful.

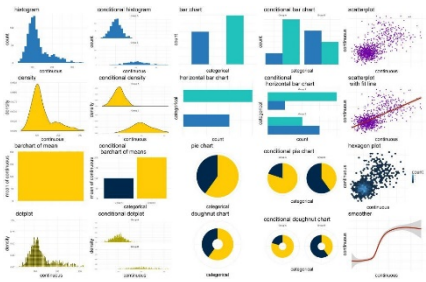
But it can't be use that makes the difference.
Keats found beauty in a Grecian urn,
surely practical at some time
and no one is blind to the beauty of symmetry.

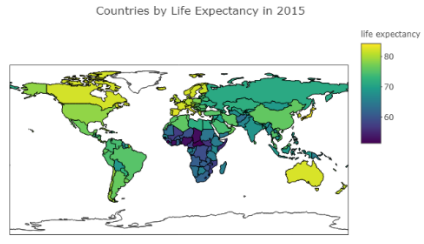
We all get Blake's awe of the tiger's stripes.
Why not awe at Gaussian curves? Of course,
I know there is no great beauty in a single number,
in a four or a seven or an eight, but it is the same

with the alphabet. Where is the wonder in a b
or a k or a t? It is only the combinations,
the meanings, the relationships between
the letters that make the words and sounds we love.

– And so, why can't my numbers be beautiful to me?
Why the scorn, the doubt in your face? Do you think I
am brittle and dusty as old paper?
Look again. See the numbers shine in my eyes.

— Eveline Pye





1. Course Statement

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a. Course description

In an era of evidence based practice, community workers, advocates, and evaluators will likely find that they need to interpret and visualize data from a wide variety of sources. Understanding, interpreting and visualizing data (including some basic coding) can make the difference in successfully or unsuccessfully advocating for communities, clients or programs, and for understanding the impact of programs on clients. Increasingly, data relevant to community, participant and client well-being are available from a broad range of sources, whether those be databases of volunteers and donors, the Census, the World Bank, in addition to many others. This section of SW 513 will be focused on the acquisition of concrete applicable skills and strategies for interpreting and visualizing community data, including learning in R, Tableau and QGIS.

This course is open to undergraduate students and graduate students.

b. Course content

Students will learn some of the major analytic and quantitative tools used by practitioners in assessing or evaluating human service programs or systems, which include a range of specific programs. The theme of this course is how to increase the rationality of the planning, analysis, and evaluation process, particularly of programs intended to serve the underprivileged or oppressed populations. Students will learn that human service organizations include a wide variety of programs of diverse size and complexity, with respect to their activities and goals. This course will impart skills which can be applied at various levels of analysis in different contexts.

c. Course objectives and competencies

Upon completion of the course, students will be able to:

1) Demonstrate beginning level competence in the use of some major analytical tools that are most commonly used to assess and evaluate complex systems of services.
2) Demonstrate in-depth knowledge of two analytical tools and their application in the human services field.
3) Identify the limitations of rational analysis and be able to determine when rational choice processes are desirable and feasible to use.
4) Discuss typical ethical concerns related to the use of analytic methods in social policy practice. Describe ways in which diversity dimensions such as "ability, age, class, color, culture, ethnicity, family structure, gender (including gender identity and gender expression), marital status, national origin, race, religion or spirituality, sex, and sexual orientation, as well community of residence" have an effect on the analytical tools that are most commonly used to assess and evaluate complex systems of services.

d. Course design

The instructor will use lecture and discussion with students working in teams on contemporary issues. In addition, the instructor will include participatory discussion, written assignments and experiential exercises related to course materials.

e. Curricular themes

- Multiculturalism and Diversity: Students will develop the capacity to identify ways in which diversity dimensions such as "ability, age, class, color, culture, ethnicity, family structure, gender (including gender identity and gender expression), marital status, national origin, race, religion or spirituality, sex, and sexual orientation, as well community of residence" and other forms of social stratification and disenfranchisement influence and are impacted by the social policy practice process.
- Social Justice and Social Change: This course will provide students with the capacity to participate in the social policy process and the ability to approach policy analytically by virtue of social work practice and ethics. Students will learn that social work practice and ethics play an important role in shaping the outcome of ongoing policy debates to reflect issues in social justice and change.
- Promotion, Prevention, Treatment, and Rehabilitation: Students will learn that policies in human services are too often implemented in reaction to an issue, not proactively, due to changing social, economic, and political circumstances and influences. Promotion, prevention, treatment, and rehabilitation activities are difficult to evaluate and therefore raise special challenges in social policy implementation. Students will be exposed to innovative evaluation techniques (e.g., forecasting and simulation models) that can be used to analyze and evaluate promotion, prevention, treatment, and rehabilitation activities prior to the development, implementation, and analysis of any relevant policy issue or initiative.
- Behavioral and Social Science Research: Policies in human services are in a constant state of flux owing to changing social, economic, and political circumstances. Thus, any review of existing policy may be quickly outdated and has limited use as part of the training social work students carry into their careers. Therefore, students will be provided with social science models and theories that can be used as tools to analyze and evaluate any policy issue encountered in the course of their professional activities. Examples of the use of social science in policy development will be presented (e.g. Coleman report on education).

f. Relationship to social work ethics and values

Ethical standards of social work practice (e.g. possibly NASW Code of Ethics) and evaluation practice (Program Evaluation Standards) will be used to review issues commonly confronted in evaluation practice. The ethical themes of autonomy, beneficence, nonmaleficence, fidelity, and justice will be particularly emphasized and discussed.

2. Class Requirements

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a. Text and class materials

Since the focus of this course is on the practical doing of policy and evaluation work with software tools such as R, Tableau, and QGIS, there may be fewer readings than you are accustomed to. There is no textbook for the course. All readings are available online through http://canvas.umich.edu.

Software (you do not need to purchase any software for this course)

R (available for free download from http://www.r-project.org/ and already installed in most campus computer labs) (in class exercises will focus on the use of R although the statistical concepts covered transcend any one statistical software package)

QGIS (available from https://qgis.org and in campus computer labs) (in class GIS exercises will focus on the use of QGIS).

Tableau (https://www.tableau.com/) (instructor will procure student licenses)

b. Class schedule

Course schedule is appended to the end of the syllabus.

c. Assignments

Assignments are described in brief below. More details (i.e. a template) for each assignment will be forthcoming as the semester progresses. **However, please pay close attention to the cross-cutting criteria listed below.**

Name of Assignment	**Percentage of Grade**
Base R graph + ggplot2 graph	20%
Tableau viz	15%
Maps	15%
Final portfolio assignment	20%
Class participation. (Styles of class participation vary greatly, but some credit will be given for your overall engagement in the classroom)	30%

d. Grading

I will employ the standard grading scheme employed by http://canvas.umich.edu.

Name:	Range:	
A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

Cross-cutting criteria for grading: Some amount of your grade will be based upon your attention to matters of design and clarity. For example, the names of indicators or variables should be spelled out, as should the titles and labels for graphs and maps. You should devote some time to thinking about other design elements, like the use of a one or two relevant stock photos as well as choices about color palette, line weight, point shape, etc.

Plagiarism—when discovered—will be dealt with severely. Please note that for purposes of this course, plagiarism consists of six or more consecutive words, taken from another source without proper attribution. Failure upon my part to detect plagiarism does not imply approval of plagiarism.

A note on work handed in late: Most students work very hard to turn in work in accordance with class deadlines. In order to be fair to the majority of students, I have developed the following policy: late work will be graded down by half a grade a day unless prior arrangements for an extension have been made with me. I very much understand that extenuating circumstances may arise which make it difficult to turn in work on time. All I am asking you to do is to communicate with me if you need some kind of extension so that we can work out an arrangement that is mutually agreeable.

Additional School and University policies, information and resources are available here: https://ssw.umich.edu/standard-policies-information-resources. They include:

- *Safety and emergency preparedness*
- *Mental health and well-being*
- *Teaching evaluations*
- *Proper use of names and pronouns*
- *Accommodations for students with disabilities*

If you have a disability or condition that may interfere with your participation in this course, please schedule a private appointment with me as soon as possible to discuss accommodations for your specific needs. This information will be kept strictly confidential. For more information and resources, please contact the Services for Students with Disabilities Office at G664 Haven Hall, (734) 763-3000.

- *Religious/spiritual observances*
- *Military deployment*
- *Writing skills and expectations*
- *Academic integrity and plagiarism*

Week	SW 513 Date	Software	SW 513 Topic	SW 513 Readings	SW 513 Assignments
1	9/6/2018		Introduction to Course		
2	9/13/2018	**R**	Getting up and Running in R (installing the program; starting the program; importing data; making a graph in Base R)	https://ssw.umich.edu/r/intro_to_R Screencast on Installing R Please note, in some of my online materials—including the installation video—I discuss the use of Rcommander, a menu based system for R, whose use I now generally **discourage**. Relying on Rcommander will likely lead to unsuccessful completion of this course.	Tell me about the basic question you intend to follow over the course of the semester. Where will you find data? (online form via Canvas)
3	9/20/2018		Instructor out of town (research)	For an overall sense of why seeing patterns in data is important, please listen to "When Helping Hurts" podcast. For inspiration, please listen to David McCandless TED Talk on data journalism. Both posted on Canvas.	
4	9/27/2018	`ggplot2`	The grammar of graphics and ggplot2	https://ssw.umich.edu/r/visualguide https://ssw.umich.edu/r/ggplot2	
5	10/4/2018		**Lab Day**		Base R graph + ggplot2 graph at end of day Friday
6	10/11/2018	`rmarkdown`	Literate programming: Rmarkdown for reproducible results and dissemination	TBD	

Week	SW 513 Date	Software	SW 513 Topic	SW 513 Readings	SW 513 Assignments
7	10/18/2018	review of `rmarkdown`, animated graphics with `plotly`, or dashboards with `flexdashboard`	TBD	TBD	
8	10/25/2018		**Lab Day**		Rmarkdown document, preferably on the web that includes 3 consistently ggplot2 graph(s) due at end of day Friday. Include some rationale as to what you graphed, why, and the design choices that you made.
9	11/1/2018	**tableau**	**tableau**	TBD	
10	11/8/2018		**Lab Day**		Tableau graph due at end of day Friday
11	11/15/2018	**QGIS**	QGIS 1	TBD	
12	11/22/2018		**THANKSGIVING!!!**		
13	11/29/2018	**QGIS**	QGIS 2	TBD	Map due at end of day Friday
14	12/6/2018		**Lab Day**		Portfolio = Base R graph + ggplot2 graph + dashboard + map due last day of class