

New Course Proposal

1. **Course prefix and course number:** SOAN 329
2. **Course title:** Data Visualization
3. **Abbreviated title for class schedule:** Data Visualization
4. **Credit hours:** 4
5. **Catalog description:** A systematic introduction to data visualization for the social sciences. Examines best practices for designing simple and effective charts, graphs, maps and diagrams. Provides hands-on experience visualizing data using Microsoft Excel. Emphasis on choosing appropriate charts for different types of data and analytic goals.
6. **Prerequisites (*to add each additional prerequisite, start a new line*):** None
7. **Major/Class restrictions: Please indicate any class or major restrictions:** Sophomore standing
8. **Is course repeatable?** No
9. **Labs requirements:** This is a lab-based course that will meet regularly (4hrs/wk) in a lab.
10. **Fees: List any course fees:** None
11. **Grade Mode:** Optional
12. **CIP Code: Six-digit CIP code (check with your Division Director):** 45.1301
13. **Special qualifications:** None
15. **Cross-listing:** None
16. **Strategic justification for proposed course:**
 - A. **Rationale:** Data-driven decision making is the new norm in modern organizations, but most current employees lack the data visualization skills to contribute effectively to those decision-making processes. SOU does not currently offer a data visualization course focused on best practices in chart design using MS Excel. EMDA 331 (The Art of Data) introduces basic program and design principles. BUS 497 (Business Analytics) uses Tableau to visualize data sets in interactive dashboards that can inform decision making process. SOAN 329 will train students in chart design using MS Excel (ubiquitous in work-place settings) and be complementary to these other SOU courses.

This new course is also central to two new Micro-Credential Proposals. 1) Data Analysis in Social Research develops data gathering, analysis and visualization techniques and will be discipline based (SOAN 302, 327, 329). 2) Data Visualization will be multi-disciplinary (SOAN 329, BUS 497 and ES 451 OR EMDA 331) and prepares students to display meaningful patterns in data graphically, to represent data spatially, and to assemble complementary chart sets for decision making processes.

B. Alignment:

1. How does this course align with the unit's mission plan? SOAN is committed to develop practical job skills to prepare our graduate to work effectively in a variety of employment sectors.
2. How does the course fit into the rest of the unit's curriculum? This data visualization course complements a strong curriculum in social research methodology, a core feature of the SOAN program.
3. This course aligns with SOU's strategical goal to prepare students with job-ready skills.

C. Enrollment: What is the new course's estimated enrollment each time it is offered over a three-year period? Year 1-12; Year 2-16; Year 3-20

D. Resource evaluation: What resources – faculty, equipment, lab space, etc. -- will be needed to offer this course and how will those resources be obtained?

1. *Faculty:*

- a. Who will teach the course? Dr. Mark Shibley, SOAN
- b. Evaluate unit's faculty availability and/or needs and the impact on other teaching obligations. Dr. Shibley will be available to teach one section of this course annually.
- c. If additional faculty members are needed, how will that need be met? Dr. Shibley could teach 2 sections per year. Since the course uses MS Excel rather than specialized data analysis software, other SOAN faculty or adjuncts could teach the course.

2. *Facilities:* Cite any additional need for classrooms, equipment or lab space; explain how that need(s) will be met.

This course will require 4hrs/wk of computer lab access with MS Excel software. TA 203 will be scheduled once a year.

3. *Other:*

- a. Are Hannon Library resources sufficient to meet the needs of this course? Yes
- b. Are any other resources needed to support this course? No

E. External impact:

1. What is the expected effect of this course on existing programs elsewhere in the university? This course will be unique in the SOU curriculum and may be attractive to students in other programs who want to enhance their quantitative literacy and build their data interpretation and communication skills.

2. Will any of your prerequisites affect other academic programs? No

17. Syllabus (condensed) Attached

Approvals:

Signature of Division Director

Date

4/29/16

SOAN 329
Data Visualization
Spring 2022
Taylor Hall 203; TR 10:30-12:20
4 Credit Hours

Instructor: Dr. Mark A. Shibley
Phone: (541) 552-6761
E-mail: shibleym@sou.edu
Office: Taylor Hall 218
Office Hours:

Catalog Description

A systematic introduction to data visualization for the social sciences. Examines best practices for designing simple and effective charts, graphs, maps and diagrams. Provides hands-on experience visualizing data using Microsoft Excel. Emphasis on choosing appropriate charts for different types of data and analytic goals. *Prerequisite: Sophomore standing or above.*

Learning Outcomes

This course is designed to **build data literacy** and **hone communication skills**. After successful completion of this course, you will be able to:

1. **Select appropriate chart types** to match your data and analytic goals.
2. **Display data** to effectively visualize meaningful patterns.
3. **Describe and interpret patterns** in data using clear and concise prose.
4. **Critique the social and political context** of specific data visualization efforts.
5. **Apply these skills** to data in your discipline and in contexts outside academia.

Course Materials

Evergreen, S.D.H. (2020). *Effective Data Visualization* (2th Edition). Los Angeles, CA: Sage. ISBN: 9781544350882

Additional required materials are available on the course Moodle site. All course materials comply with copyright/fair use policies.

Course Assignments and Grading

General Assignment Information

- All assignments are given and due on the days indicated on the course schedule.
- Late assignments will be penalized 10% and not accepted if submitted more than 2 days late.
- All assignment rubrics will be provided in Moodle.

Weekly Assignments

We will cover one chapter of the text per week on average. During our first meeting of a given week I will lecture and demonstrate the chart building techniques you'll need to complete assignments. Our second meeting of a given week will be a lab to work on the weekly assignment with peer and instructor support. Assignments will be due at the end of the day on Friday of the week they are assigned. There are 10 assignments, one each week.

Final Project

Instead of a final exam you will develop a set of data visualizations to highlight patterns in data you select. Assemble your charts into a well-organized Word document or PowerPoint presentations that tells a coherent story about some feature of the social world that you think is important. Your work will be evaluated on how well your chart choices 1) fit the structure of your data and analytic goals, 2) demonstrate Evergreen's design principles for simplicity and clarity, and 3) tell a meaningful story about the world. Further details will be provided in a separate document.

Evaluation and Grading Scale

All assignments will be graded using a standard rubric for chart design. All grades and feedback will be posted on Moodle. A final letter grade will be assigned based on the following point system.

Your grade will be based on these points.	<i>Points</i>	<i>Total</i>
Attendance (20 classes)	10 point each	200
Assignments (10)	50 points each	500
Final Project	300 points	300
		1000