SIADS 601 Fall21: Qualitative Inquiry for Data Scientists

Instructor and Course Assistants

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Course Overview and Prerequisites
Overview

This course provides an introduction to *qualitative* research methodology in a way tailored to data scientists. Through qualitative research, data scientists can gain hunches about, generate hypotheses, and develop narratives – all of which are useful in the analysis and reporting of quantitative data. Methodologically, this course focuses on semi-structured interviews, qualitative data analysis through affinity walls, and the construction of report narratives. Students will develop relevant skills through a project they identify in the first few days of the course.

Prerequisites: There are no prerequisites beyond college-level communication skills.

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Collect, represent, and analyze qualitative data about a quantitative data set, by…
2. Conducting semi-structured interviews;
3. Processing interview notes into discrete pieces of qualitative data; and
4. Analyzing qualitative data using affinity walls.
5. Develop a narrative about qualitative findings that support later quantitative analysis.
6. Communicate qualitative findings in written form.

How to Get Help

If you have questions concerning the degree program, encounter a technical issue with Coursera, or issues using Slack, please submit a report to the ticketing system at umsimadshelp@umich.edu.

If you have an issue specific to the Coursera environment, you can also begin a live chat session with Coursera Technical Support (24/7) or view Coursera troubleshooting guides. (you may be asked to log in to your Coursera account).

For questions regarding course content, refer to the **Communications Expectations** section below.

Communication Expectations

- Please use email for all communication with the instructor. Response time may vary based on content, but he will respond to most email within 1 business day.
- Course announcements and discussion will occur on Canvas. However, individual communication to students may occur through umich.edu email.

- Instructors will aim to have assignments graded and returned to you within 4 days from the date they are due. (Assignments submitted late may take longer to grade.)

Weekly Office Hours via Zoom (Ann Arbor, MI time):

Your instructor will hold weekly, synchronous office hours using the video-conferencing tool, Zoom. The schedule of office hours can be found by clicking on the **Live Events** link in the left-hand navigation menu. Additionally, all office hours will be recorded and archived so that you can retrieve. Pass code to join any office hours meeting is **601**

Course Schedule

- **This course begins onMonday, September 27, 2021 and ends on Sunday, October 24, 2021.**
- Assignment due dates vary by week. Please see the schedule below and pay attention to due dates. All items are due at **11:59 pm, Eastern Time**, on the date indicated (please see "Time Zones" note below).
- Week-by-week schedule
    - **Week 1**: You will define your course project, schedule interviews, and start drafting the interview protocol.
    - **Week 2**: You will complete the interview protocol and start interviews.
    - **Week 3**: You will complete interviews, complete data extraction, and start your affinity wall.
    - **Week 4**: You will complete your affinity wall and write a final report.

Grading and Assignments Overview

Item type	Item name	Deadline
Staff Graded Assignment	Project Definition	October 1 (revised submission due October 4)
Staff Graded Assignment	Project Definition Peer Review	October 2
Quiz	Week 1 Quiz 1	October 4
Quiz	Week 1 Quiz 2	October 4
Graded Discussion Prompt	Week 1 Discussion	October 4
Quiz	Week 2 Quiz 1	October 11
Staff Graded Assignment	Interview Protocol	October 10 (revised submission due October 12)
Staff Graded Assignment	Interview Protocol Peer Review	October 11
Graded Discussion Prompt	Week 2 Discussion	October 11
Quiz	Week 3 Quiz 1	October 18
Staff Graded Assignment	Data Extraction	October 17
Staff Graded Assignment	Data Extraction Peer Review	October 18
Graded Discussion Prompt	Week 3 Discussion	October 18
Staff Graded Assignment	Affinity Wall	October 22
Staff Graded Assignment	Affinity Wall Peer Review	October 23

Quiz	Week 4 Quiz 1	October 24
Staff Graded Assignment	Final Report	October 24

All assignments are required to earn credit for this course:

- Quizzes: There are five quizzes throughout the course; it is recommended that you take them after watching the corresponding videos and readings.
- Discussion Participation: At three points during the course, you will be prompted to engage in light online discussion about the course content or assignments.
- Peer Review: You will be asked to provide feedback to your peers on four assignments. Through these reviews, you will receive quick feedback on your own work, and also have a chance to see how others have completed their assignments.
- Project Definition: Identify a data set, a broad question about it, and three data-set stakeholders who are willing to be interviewed by you. Those will compose a project definition that you use to practice all the skills taught throughout this course.
- Interview Protocol: Write a protocol for the three interviews that you will conduct. The protocol includes an introduction section, a series of main questions and follow-up questions, and a conclusion section.
- Data Extraction: Extract discrete items of qualitative data from the interviews that you have conducted.
- Affinity Wall: Conduct qualitative data analysis through a process of hierarchical clustering and summarization.
- Final Report: Write up the findings of your analysis in the framework of a coherent narrative.

Note: The course requires conducting three semi-structured interviews. These are not graded, but are an essential part of the course. You will not be able to complete the last three assignments (worth a total of 45% of the course grade) without doing the interviews.

Instructional Material

This course is taught through video segments, handouts, and external readings. Video segments and handouts will be made available through the Coursera platform. All readings for this course are available online, either as a direct link or through the U-M library.

Course Handouts:
https://drive.google.com/drive/folders/1UQIfYZtu6eQaLR2T9XDU3zgQrsKQU9Te?usp=sharing
External readings:

- Rap, Robyn. (2018). Qualitative + Quantitative: How qualitative methods support better data science. Indeed Engineering Medium blog.
  https://medium.com/indeed-engineering/qualitative-before-quantitative-how-qualitative-methods-support-better-data-science-d2b01d0c4e64
- Parker, Ian. (2010). The Poverty Lab: Transforming development economics, one experiment at a time. New Yorker, May 10, 2010. https://www.newyorker.com/magazine/2010/05/17/the-poverty-lab
- Harrell, Margaret C. and Melissa A. Bradley. (2009). Data Collection Methods: Semi-Structured Interviews and Focus Groups. RAND Corporation. https://www.rand.org/pubs/technical_reports/TR718.html
  - *Skim* the section on semi-structured interviews on pp. 30-77. You do NOT have to read in detail. You do NOT have to do the embedded exercises. This document is useful as a reference for any time you conduct semi-structured interviews.
- Scupin, Raymond. (1997). The KJ method: A technique for analyzing data derived from Japanese ethnology. *Human Organization*, 65(2):233-237. (U-M students should have access here: https://www.jstor.org/stable/44126786)
  - *Skim* – you do NOT have to read in detail.

Letter Grades, Course Grades, and Late Submission Policy

Refer to the MADS Assignment Submission and Grading Policies section of the UMSI Student Handbook (access to Student Orientation course required).

Academic Integrity/Code of Conduct

Refer to the Academic and Professional Integrity section of the UMSI Student Handbook. (access to Student Orientation course required).

Accommodations

Refer to the Accommodations for Students with Disabilities section of the UMSI Student Handbook (access to the Student Orientation course required).

Use the Student Intake Form to begin the process of working with the University's Office of Services for Students with Disabilities.

Accessibility

All materials provided through Coursera should adhere to common accessibility standards, but if you have *any* challenges accessing material or completing assignments, do not hesitate to contact the instructors.

Help Desk(s): How to get Help

- Degree program questions or general help - umsimadshelp@umich.edu
- Coursera's Technical Support (24/7) - https://learner.coursera.help/

Library Access

Refer to the U-M Library's information sheet on accessing library resources from off-campus. For more information regarding library support services, please refer to the U-M Library Resources section of the UMSI Student Handbook (access to the Student Orientation course required).

Student Mental Health

Refer to the University's Resources for Stress and Mental Health website for a listing of resources for students.

Student Services

Refer to the Introduction to UMSI Student Life section of the UMSI Student Handbook (access to the Student Orientation course required).

Time Zones

All announced date/times will be in U.S. Eastern Time. Be aware that the United States transitions from Eastern *Standard* Time (EST) to Eastern *Daylight* Time (EDT) on March 14, 2021 (Sunday) at 2am, EST. At that point, Eastern Time moves forward by one hour (i.e., what used to be 2am becomes 3am). All assignments are due at 11:59pm ET on the date indicated. If you're not used to working across time zones, you may find it useful to use an online time-zone converter, e.g., https://www.timeanddate.com/worldclock/converter.html?iso=20200629T060000&p1=784**.**