DATA 552: Communication and Argumentation

Outline

Feb-Mar 2024

Calendar description

Interpretation of data. Argumentation: hypothesis, claim, evidence and inference. Model limitations: bias, validity, reliability, sensitive analysis. Communication of recommendations to decision-makers.

Learning Outcomes

After completing this course, students will be able to:
1. Critically **consume** communication in data science contexts.
2. **Write** effectively about data science topics for a variety of audiences.
3. Make **calibrated claims** about data science results.
4. Reason about and apply principles of **narrative** when reporting on data science results.
5. Design and deliver clear and informative **oral presentations**.

Schedule

Lecture: Tuesdays/Thursdays, EME 1153, 9:30-11:00
Lab: Monday, EME 1153, 1:30-3:30
Office Hours Wednesdays, Thursdays, 3:30-4:30, FIP 339

Consider this schedule a bit tentative!

Date	Topic
2024-02-13	Critical consumption
2024-02-15	Rhetorical situation
2024-02-27	Writing
2024-03-29	Project beginnings
2024-03-05	Project middle
2024-03-07	Project completion
2024-03-12	Speaking and presenting
2024-03-14	TBD/Carry Over
2024-03-19	Presentations
2024-03-21	Presentations

Labs

Lab Date	Lab #	Lab Topic
2024-02-12		No lab
2024-02-26	1	Critical consumption + rhetoric
2024-03-04	2	Project Initiation
2024-03-11	3	Seeing a Project Through
2024-03-18	4	Presentations?

Deliverables

Date	Title	Grade Weight
2024-02-26	Lab 1: Critical consumption and rhetoric	20%
2024-02-29	Quiz 1 (Canvas)	5%
2024-03-04	Lab 2: Initiation of a Data Science Project	20%
2024-03-11	Lab 3: Report on a Data Science Project	20%
2024-03-14	Quiz 2 (Canvas)	5%
Final week	Project Presentations	20%
End of Module	Portfolio	10%

Details

Students are expected to keep a copy of all of their in-class exercises in a portfolio document. The portfolio will be submitted on Friday, March 22nd and marked for completion as well as critical, thoughtful, and professional engagement.

Late submissions of assignments carry a penalty of 10% per day - but no submissions are accepted beyond 3 days past the deadline. Deadlines are known well in advance, most deliverables are completed in-lab/class. Rubrics will be provided for Labs/Assignments/Presentations.

Presentations will be 3-5 minutes in length, focused on your project embarked on within Labs 2 and 3.

Instructional team

Instructor Dr. Vikas Menghwani, vikas.menghwani@ubc.ca
Best way to reach is via email (would respond within hours, but allow up to 24 hours)

Teaching Assistant Sofia Bahmutsky, sbahmuts@mail.ubc.ca

Grievances and Complaints Procedures

A student who has a complaint related to this course should follow the procedures summarized below. - The student should attempt to resolve the matter with the instructor first. Students may talk first to someone other than the instructor if they do not feel, for whatever reason, that they can directly approach the instructor. - If the complaint is not resolved to the student's satisfaction, the student should go to the departmental chair John Braun at 807-8032.

Your Responsibilities

Your responsibilities to this class and to your education as a whole include attendance and participation. You have a responsibility to help create a classroom environment where all may learn. At the most basic level, this means you will respect the other members of the class and the instructor and treat them with the courtesy you hope to receive in return. Inappropriate classroom behavior may include: disruption of the classroom atmosphere, engaging in non-class activities, talking on a cell-phone, inappropriate use of profanity in classroom discussion, use of abusive or disrespectful language toward the instructor, a student in the class, or about other individuals or groups.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course. Careful records are kept to monitor and prevent recidivism. A more detailed description of academic integrity, including the policies and procedures, may be found at http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,959. If you have any questions about how academic integrity applies to this course, consult with the instructor.

Disability Assistance

If you require disability-related accommodations to meet the course objectives, please contact the Diversity Advisor of Disability Resources located in the University Centre, Room 227. For more information about Disability Resources or academic accommodations, please visit the website at: http://students.ok.ubc.ca/drc/welcome.html

Equity, Human Rights, Discrimination and Harassment

UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from human rights based discrimination and harassment. If you require assistance related to an issue of equity, discrimination or harassment, please contact the Equity Office, your administrative head of unit, and/or your unit's equity representative. UBC Okanagan Equity Advisor: ph. 250-807-9291; email equity.ubco@ubc.ca Web: http://equity.ok.ubc.ca

Reference Material

None of the reference material is mandatory for the course, nor will much of it necessarily be referenced directly in course materials. Consider this a list of suggested items curated over the years from courses at both campuses:

Books

- Writing: *The Sense of Style*, Steven Pinker (If you buy anything, buy this!)
- Writing: Truss, Lynne. (2004). Eats, shoots & leaves : the zero tolerance approach to punctuation. New York :Gotham Books. https://webcat.library.ubc.ca/vwebv/holdingsInfo?bibId=3774086
- Writing & Speaking: *Houston, We Have a Narrative: Why Science Needs Story*, Randy Olson
- Heuristics & Biases: *Thinking, Fast and Slow*, Daniel Kahneman
- Persuasion: *Influence: The Psychology of Persuasion*, Robert Cialdini

Websites & short articles

- Technical explanations: *Better Explained*, Kalid Azad
- Technical explanations: My favourite pedagogical principle: examples first!, Gowers's Weblog
- Writing: Nonfiction Writing Advice, Scott Alexander
- Speaking: The Cognitive Style of PowerPoint, Edward Tufte

Videos & podcasts

- Speaking: How to Speak: Lecture Tips from Patrick Winston, Patrick Winston
- Writing: Writing (aka rewriting), The Effort Report (Elizabeth Matsui & Roger Peng)
- Biases & Heuristics: Cognitive Biases in Data Science, Drew Conway on This Week in Machine Learning and AI
- Writing & Speaking: *Houston, We Have a Narrative: Why Science Needs Story*, Randy Olson on New Books Network