

MMC 2450

Data Literacy for Communicators

Summer B 2024

1 credit

Online 100%



Bridget Grogan with Professor Norman P. Lewis, Ph.D.

Contact: Email bgrogan@ufl.edu or message through Canvas

Office hours: Online via Zoom (make appointment in Canvas calendar): Vary each week, or *email with a time that works for you if meeting hours do not work.

To make a Zoom appointment, click the Calendar icon in Canvas, then “Agenda” and “Find Appointment.” Make sure you have our course selected from your list of calendars on the right side of the calendar pane. *If none of the appointments suffice, contact me and we will find a time.*

ABOUT THE COURSE

Course Description

This numeracy course enables you to enter the workplace confident in your ability to think logically about numbers and correctly communicate them. This is not a math course; it is an *application* course employing simple math. The only pre-requisite is sophomore standing.

Course Structure

This course is fully online, on Canvas. All instruction is in the videos created by Dr. Lewis, with no outside readings or textbook. All assessments are multiple-choice questions for quizzes and two exams. All are proctored with Honorlock. I watch all videos to monitor compliance.

This course is asynchronous. It has deadlines only so you can pace yourself and keep up with the material. Better yet, you can (and should) work ahead or complete the course as quickly and early as possible. Because of that work-ahead feature, deadlines are firm. **No extensions are allowed unless unusual and extenuating circumstances arise and are in accordance with UF policies.**

Objectives

- By the end of the course, you should be able to:
- Communicate numerical information correctly to a general audience.
- Appraise the validity of statements employing numbers.
- Determine when numbers require normalization.
- Critique and summarize public opinion surveys.
- Distinguish between random events and meaningful patterns.
- Evaluate assertions about causation, evidence, theory and risk.
- Interpret tables and scrutinize common data visualizations.
- Simplify and contextualize large or complicated numbers.
- Identify cognitive biases that shape interpretation of numbers.
- Use a spreadsheet to calculate, filter and sort numbers.

Required Textbook: No textbook

ASSIGNMENTS AND GRADING

	Deadline	Theme	Key Topics	Assessment
1	11:59 pm Tues, 7/02	Introduction	How data literacy differs from math; three course principles	(none)
2	11:59 pm Fri, 7/05	Data Logic	Distinguish among terms such as error and theory; identify factors affecting comparisons	Q1 Data Logic
3	11:59 pm Mon, 7/08	Average	Calculate and apply mean, median, and mode while avoiding common errors	Q2 Average
4	11:59 pm Thurs, 7/11	Percent	Calculate and apply percentages and percentiles while avoiding common errors	Q3 Percent
5	11:59 pm Sat, 7/13	Simplify	Simplify and contextualize large numbers in terms of individuals, time, area, and volume	Q4 Simplify
6	11:59 pm Tues, 7/16	Surveys	How to interpret surveys and polls, identify ways results can differ, and detect errors	Q5 Surveys
7	11:59 pm Fri, 7/19	Sheets	Use Google Sheets to calculate average, percentage, total, and rate, and sort and filter	Q6 Sheets
8	11:59 pm Mon, 7/22	Midterm Review & Midterm Exam	Review course so far Take midterm: 50 random questions	Midterm
9	11:59 pm Thurs, 7/25	Probability	Calculate three types of probability to avoid common misinterpretations; two types of risk	Q7 Probability
10	11:59 pm Sat, 7/27	Number Biases	How anchoring bias, availability heuristic, price bias, and relativity trap skew numbers	Q8 Number Biases
11	11:59 pm Mon, 7/29	Correlation	Discern between causation and correlation; four types of variables; experiment types	Q9 Correlation
12	11:59 pm Thurs, 8/1	Visuals	Read tables, charts, and maps to avoid abuse and misinterpretations; hurricane maps	Q10 Visuals
13	11:59 pm Sat, 8/3	Number Abuse	Skepticism vs. cynicism; dubious data vs. empiricism; cherry-picking; interpreting rates	Q11 Number Abuse
14	11:59 pm Mon, 8/5	Writing	Best ways to write about numbers, including simplification and rounding	Q12 Writing
15	11:59 pm Thurs, 8/08	Final Review	Review second half of course (revisit Midterm review on your own); take a cumulative quiz	Q13 Review
16	11:59 pm Fri, 8/09	Final Exam	Final: 50 random questions; cumulative. (Note the deadline is not a Saturday.)	Final Exam Fri, Aug 9

[You can work ahead and easily complete the course early, so all deadlines are firm.]

The Final Exam deadline is 11:59 pm **Friday, August 9.**

Grading Categories

Category	Points	Grade Pct
Weekly quizzes (best 10 out of 13 count)	100	50%
Midterm exam	50	25%
Final exam	50	25%
Total	200	100%

Grading Scale

	Percent		Percent		Percent		Percent
		B+	89.4-86.5%	C+	79.4-76.5%	D+	69.4-66.5%
A	100-92.5%	B	86.4-82.5%	C	76.4-72.5%	D	66.4-62.5%
A-	92.4-89.5%	B-	82.4-79.5%	C-	72.4-69.5%	D-	62.4-59.5%

About Quizzes and Exams

- Cumulative:** All quizzes and both exams are cumulative.
 - After the first quiz, the first 7 questions are from that module and last 3 are cumulative.
 - The midterm covers the first half. The final exam covers the entire course.
- Points:** Each correct answer, whether in a quiz or exam, is worth 1 point.
 - Each quiz has 10 questions.
 - Each exam has 50 questions.
- Quiz Allowances:** In lieu of extra credit, two options allow you to boost your grade.
 - Of the 13 quizzes, the low 3 scores drop and the best 10 count.
 - For the last (13th) quiz, you get 2 attempts; the better score counts.
- Random:** Quizzes and exams are drawn at random from question banks.
 - Quiz questions accumulate, so they may repeat in future quizzes.
 - Each exam is drawn from a fresh question bank, not from quizzes.
- Time:** You have an average of 2.5 minutes per question for quizzes and exams.
 - 25 minutes for each quiz (10 questions X 2.5 = 25 minutes).
 - For the last (13th) quiz, with 2 attempts, 50 minutes are allowed.
 - 125 minutes for each exam (50 questions X 2.5 = 125 minutes).
- Multiple-choice:** Each question has four answer options.
 - For each question, select the *best* (not just a “right”) answer.
 - No answer option is “all of the above” or “none of the above.”

Quiz and Exam Honesty Requirements

- Allowed:** A computer to take the exam, with only the quiz or exam visible or audible, in a quiet room in which you are alone. A non-programmable calculator (not a phone of any kind). A single sheet of blank-on-both-sides scratch paper. A pen or pencil.
- Not allowed:** Anything else, such as humans, notes, notebooks, course videos, other web pages or websites, phone, tablet, programmable calculator, headphones, earbuds, hats, etc.

About Honorlock

All quizzes and exams use Honorlock, a proctoring service. It works only with the [Chrome](#) browser. The quiz in the Introduction module uses Honorlock so you can become familiar with it. If you have not used Honorlock before, it will prompt you to install a Chrome extension. For more about Honorlock, the UF business school has a [helpful guide](#).

No Extensions

Because everything in the course can be done early, allowances for missing deadlines are unneeded. All schedule conflicts such as religious observances or sporting events can be resolved by taking the quiz or exam early. The only exception is for events that are both unforeseen and chronic, as covered by UF policy.

My Advice to Help Boost Your Grade

1. For each module, (a) watch the videos one at a time, without interruption, (b) do the practice quiz, and then (c) watch each video a second time.
2. Work ahead. Complete the first two modules in the first week; they were made to be combined. Continue to work ahead to improve memory recall and performance.
3. Contact me right away with any questions. We can review quizzes by Zoom as often as you like so that you won't miss a similar question twice.

My Best Success Advice

Given that the course is cumulative, and memories are fleeting, complete the course early. Doing so lets you take each quiz and the two exams while concepts are fresh. As a secondary benefit, finishing this course early lets you devote time and attention to other courses when crunch time hits.

Advice from Previous Students

Top students from prior semesters have offered these two pearls of wisdom:

1. Work ahead.
2. Review course material and quiz/exam answers with the professor.

Technical Assistance

If you encounter technology difficulties, contact the [UF Computing Help Desk website](#), or phone 24/7 at 352-392-4357, or email helpdesk@ufl.edu.

FAQs

Q. Can I really do the entire course all at once?

A. Yes. Doing so could improve your grade. If you complete the course in a tight time frame, you're more likely to remember earlier material than if you look at it only once a week.

Q. This is a 1 credit course, which means passing is guaranteed, right?

A. No. Although the material is review for some, and although I wish everyone to pass the first time, some take the class more than once. You can lessen the chance of that happening by reviewing quizzes and exams with via Zoom.

Q. Canvas won't show me the answers. How do I know what questions I missed?

A. Answers are not shown to preserve the integrity of the assessments. However, I am happy to review any quiz or exam with you via Zoom.

Q. How do I schedule office hours?

A. Click on the Calendar button in Canvas and then choose the Find Appointment box. Zoom slots are for 15 minutes. Please schedule a day in advance so I can review your test and prepare to discuss with you.

Q. What if I have a conflict during your scheduled office hours?

A. Contact me via email bgrogan@ufl.edu or Canvas and we will set up a time that is mutually agreeable.

Q. How long does it take to do each module?

A. About 40 minutes of instruction followed by a 25-minute quiz or a two-hour exam. Many find it useful to watch the videos twice before taking the quiz or exam.

Q. Isn't there anything else such as Canvas discussion posts or a written report?

A. No. Only 13 quizzes and 2 exams.

Q. What if I have a (insert reason here) on Saturday? Can I get an extension?

A. No. Because the course can be completed ahead of schedule, deadlines are firm. To put it another way, the *due* date does not have to be the *do* date.

Q. What if I have a technical glitch, like Wi-Fi going out?

A. If Wi-Fi goes out, your phone can serve as a hotspot. If you encounter a technical issue involving Canvas, you can file a ticket with the UF Computing Help Desk. 352-392-4357

Q. If I bomb the midterm, can I do something for extra credit?

A. No extra credit is possible in this course because no options fit the teaching purpose of this 1-credit class. Instead, the low 3 quiz scores drop, and you get 2 attempts on the last quiz.

Q. That sounds scary. How do I prepare for the exams?

A. The quizzes prepare you for the exams. Each exam is exactly like the quizzes, only with a fresh batch of questions. You also have a review quiz and video answers before each exam. In addition, you are welcome to review anything with me during office hours.

Q. Can I use a calculator during quizzes and exams?

A. Yes: A non-programmable solar calculator (not a phone) such as a TI-30 is sufficient. Only a very basic calculator is needed to perform the simple calculations required.

Q. If my calculator is missing, can I use my phone?

A. No. Never. Use of a phone or electronic device during a quiz or exam is academic misconduct.

Q. Can I use note paper?

A. Yes, if blank on both sides. Show both sides to the camera at the start of the video.

Q. Can I use a cheat sheet or peek at the videos while taking a quiz or exam?

A. No.

Q. Can I consult a friend or family member?

A. No. Honorlock expects you to be alone in a quiet room. No other voices are allowed.

Q. When will I know how I did on the quiz or exam?

A. Canvas will record your score immediately.

Q. I watched the videos but still got questions wrong.

A. First, avoid distractions; having other apps going while watching videos impedes learning. Second, hand-write notes; research shows the physical act of writing improves retention. Third, let's review the answers together to clear up potential misunderstandings.

Q. I'm not good at math. Why do I have to take this course?

A. This course is not about math, but about *applying* math to everyday communication. In today's data-driven world, no one can avoid numbers. Further, studies show that audiences are unforgiving of numerical mistakes, and become prone to distrust the source.

Q. I prefer face-to-face classes. Why is this one online?

A. This course used to be all or partly in person. But students rightfully complained they saw the in-class material only once and could not review it at home before exams. In 2020, the course was rebuilt to be fully online so students could have all materials available on demand. It also became asynchronous so that students could fit the course into their personal schedules and could work ahead to retain material and improve their grades.

Further, I am here to help you with anything in the course that isn't clear and to review any quiz and exam answers so you can learn from mistakes.

TL;DR

1. You can work ahead (big hint!), so deadlines are firm.
2. No extra credit is possible. Instead, three low quiz scores drop, which covers most illnesses and life events. Also, you have two attempts at Quiz 13, the final review.
3. No quiz or exam answers are shown to preserve academic integrity. However, I am happy to review quizzes and exams via Zoom, as often as you like.

OTHER IMPORTANT DETAILS

Academic Integrity

UF students are bound by the Honor Pledge that states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment. The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Also, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with me. Violations can result in a failing grade for the course and referral to the dean of students.

Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting the [get-started page](#). It is important to share any accommodation letter with me and discuss access needs as early as possible in the semester.

Course Evaluations

Please provide feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is [available](#). You will be notified when the evaluation period opens. Students can complete evaluations through the email they receive from GatorEvals, in the Canvas course menu under GatorEvals, or via the [Gatorevals website](#). Summaries of course evaluation results are [publicly available](#).

In-Class Recording

Because this is an asynchronous, online course, there are no class lectures to record.

All the “lectures” in this course are videos that you can watch often as you like. They are copyrighted by UF, which means they cannot be copied or shared. Likewise, all quiz and exam questions are protected to preserve academic integrity. They cannot be copied, even for personal use. But as noted earlier, I am happy to review your answers with you in person or online, as often as you like.

Otherwise, here is the official UF statement regarding in-class recording:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without the permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Health and Wellness

- **U Matter, We Care:** If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care [website](#) to refer or report a concern and a team member will reach out to the student in distress.
- **Counseling and Wellness Center:** Visit the Counseling and Wellness Center [website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- **Student Health Care Center:** Call 352-392-1161 for 24/7 information to help you find the care you need or visit the Student Health Care Center [website](#).
- **University Police Department:** Visit UF Police Department [website](#) or call 352-392-1111 (or 911 for emergencies).
- **UF Health Shands Emergency Room/Trauma Center:** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville. Visit the UF Health Emergency Room and Trauma Center [website](#).

Academic Resources

- **E-learning technical support:** Contact the UF Computing Help Desk [website](#), or phone 24/7 at 352-392-4357, or email helpdesk@ufl.edu.
- **Career Connections Center:** Career assistance and counseling services. Visit the [website](#). Reitz Union Suite 1300, 352-392-1601.
- **Library Support:** Various ways to receive assistance with respect to using the libraries or finding resources. Visit the [website](#).
- **Teaching Center:** General study skills and tutoring. Visit the [website](#). Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420.
- **Online Student Complaints:** View the Distance Learning Student Complaint Process [website](#).