EMORY UNIVERSITY
DATASCI 511 – Spring 2026
Reasoning II

Course Information
> Wednesdays, 2:30-5:30pm
> PAIS 561
> Website: Course page on Canvas

Instructor Information

Dr. Allison Cuttner	**Office:** PAIS 572
Allison.cuttner@emory.edu	**Office hours:** Mon. 2-3:30, Wed. 11:30-12:45
	Or by appointment

> What to call me: Dr. Cuttner, Dr. C,
> Professor Cuttner, Professor C.

Course Description

This course provides a framework for using quantitative skills to model the world. We emphasize the tight interplay between empirical observation about correlations and causal mechanism and the role of theory in interpreting these facts. The course is structured through iterated mini-projects in which you will apply your skills from DATASCI 510, 520, 530, and 540 to provided questions and datasets. You will practice the full lifecycle of a data science project multiple times throughout the semester, from planning and management, exploration and analysis, to communication to multiple audiences. Special topics on data privacy, ethics, and professionalization will be included, time permitting.

Learning Objectives

At the end of this course, students will be able to…
- Identify which aspects of their process are appropriate for various audiences and modes of communication
- Accurately estimate and articulate project management components including timelines, dependencies, version control, communication practices, and documentation
- Tailor communication in different modes to different audiences and project phases
- Justify decision-making across project phases and types
- Incorporate AI into workflows effectively

- Give and receive constructive feedback, revise deliverables, and improve processes through reflective practice

Prerequisites

To be successful in this course, students should have completed DSci coursework in research design (e.g. 510), applied statistical methods and programming (e.g. 520 and 530), and communication (e.g. 540).

Course Tools

Canvas: Readings, assignments, announcements, and course information are available through our course Canvas site. When I need to communicate with everyone in the course, for example, to change a deadline or adjust my office hours schedule, I will make an announcement on Canvas. Your notifications/settings can be adjusted however you prefer to receive these announcements. To contact me outside of class meetings, please use email or come to office hours. Please do not message me via Canvas inbox—I am unlikely to see it or respond. Similarly, if you reply to a comment on a Canvas assignment, I am unlikely to see it or respond. If feedback you receive via Canvas is unclear or you would like to discuss comments, please come to office hours or make an appointment (see below on appointments).

Programming & Processing: Data wrangling, analysis, and visualization are vital components of the course. Which software, language, or tools you use are entirely at your discretion. Using multiple languages/tools for a single project is not recommended, but you are welcome to use multiple options across the course. Written work can utilize LaTeX, quarto, Word, or any other word processor. Slide decks can utilize quarto, LaTeX/beamer, PowerPoint, Google slides, or any other similar program. All slide decks should have numbered slides; all written documents/files should have numbered pages. All deliverables should be professional and polished, regardless of the tools used.

GenAI: Generative AI and AI coding assistants may be used for all course assessments. Any exceptions (situations in which AI should not be used) will be communicated clearly in class and in-writing to everyone. I highly recommend saving all chat records for any AI-use for the course. Improving prompting and leveraging AI most effectively for different project types and phases is a learning objective of the course. No data, course materials, readings, or any other copyrighted/intellectual properties should be uploaded to any GenAI tool.

Helpful Information

Communication. I generally prefer office hours discussions over emails—that helps me get to know you better and have a more productive conversation regarding course material, feedback, or anything else you want to talk about. The office hours listed for this course are times I have set aside entirely for you; you don't need to make an appointment and can come and go as you please. Of course, sometimes we will need to correspond outside of office hours and class time. Please communicate with me via Emory email (not Canvas inbox). I will do my best to respond to emails within 48 hours. I am unlikely to respond until the next business day over the weekend or immediately before a deadline, so please plan ahead as much as possible. *If you are communicating about a group project, please cc all your group members on any emails.*

Appointments. If you have other courses scheduled during office hours and cannot attend, you can still ask questions/meet with me! It will just be slightly more logistically challenging as, just like you, professors have other classes, meetings, and obligations that take up a lot of their schedule. To make an appointment, email me a screenshot of your class schedule with the planned topic(s) of your appointment so I can see when you are available, then I will reply with options for times to meet where our schedules align. Plan ahead and request appointments sufficiently in advance—it is highly unlikely I will have a lot of availability immediately before a deadline.

Discussions and Participating in Class. There is rarely one "right" answer or approach to a problem or question. You will disagree with me and with one another and that is wonderful! We will always treat one another's perspectives with respect while challenging each other to articulate and support our decisions with evidence and logic. The fastest way to clarify your thinking and improve your argument is to discuss it with others. You might receive feedback that from classmates or from me that you disagree with. Not all pieces of feedback need to be incorporated, but they should be considered; be prepared to discuss your reasoning for feedback that you give, take, or choose not to incorporate.

Assessments

Participation. Attendance and regular participation in class discussions are an important aspect of this course. Please communicate with me in advance regarding excused absences for illness or other extenuating circumstances. To be considerate of yourself and our community, please do not come to class if you are sick!

Oral Presentations and Slide Decks. You will present each mini-project in person to the class with slide decks. The intended audience of your presentation (technical or general) will vary across the semester. Specific rubrics for each presentation type will be posted on Canvas and reviewed at the beginning of the semester. Slide decks should be submitted on Canvas prior to each presentation. Each oral presentation will incorporate some Q&A time, for students to practice answering questions on the fly.

Written Reports. You will submit one or more written report(s) of each mini-project. The intended audience of your written report (technical or general) will vary across the semester. Specific rubrics for each report type will be posted on Canvas and reviewed at the beginning of the semester. Reports should be submitted on Canvas according to the posted deadline. You may be asked to submit a chat history of your GenAI use with each report, so be sure to save your chats!

Project Management and Documentation. Each mini-project will start with a project management plan that will be submitted on Canvas. The key features of the project management plan will be reviewed in class and rubrics will be available on Canvas. Some projects may require record-keeping or written work that is not ultimately included in a slide deck or final report; for example, coding decisions, dictionaries, code file organization/contents, etc. These items are considered documentation and may be required, depending on the project.

Reflections and Reviews. Reflections will be submitted for every mini-project phase across the semester. Each reflection prompt will include guiding questions that you should focus on. Reflections are evaluated based on the thoughtfulness of responses and effort. All reflections are confidential; reflections on feedback, and the incorporation (or not) of peer and instructor feedback will not be shared with the reviewer. Written peer reviews of project management plans, written reports, and slide decks will be assigned periodically during the semester. Peer reviews are evaluated based on how thorough and constructive they are.

Evaluation

Assessment	Points
Attendance & Participation	10%
Oral Presentations & Slide Decks	25%
Written Reports & Exec. Summaries	25%
Project Management & Documentation	20%
Reflections & Reviews	20%

Late Submissions
In general, late submissions are eligible for partial credit on a rolling basis (i.e. larger portion of credit closer to original deadline) with two exceptions. First, in class oral presentations should be conducted as scheduled. If you are ill or have some other extenuating circumstance, please communicate with me in advance so that we can reach a solution. Second, items that are being peer-reviewed must be submitted by the deadline. A late submission to your peer reviewer means they will not have enough time to review your work effectively. Please communicate with me well in advance of approaching deadlines (i.e. at least a few days in advance) regarding possible extensions or late submissions.

Course Grades
Course grades will be determined using the above weightings and the following (estimated) grade ranges:
> A: 93% − 100%
> A-: 90% − 92%
> B+: 87% − 89%
> B: 83% − 86%
> B-: 80% − 82%
> C+ and below: < 80%

Final grade percentages will be rounded to the nearest integer. There is no curve for final course grades - if everyone in the class scores high enough to get an A, then everyone will get an A. Hence, there is no "competition" for grades. **Assignments are not weighted on Canvas!** You can always compute your final average by applying the appropriate weighting to your scores on your own.

Grade Appeals
If you believe that your grade on any assignment is incorrect, you should submit your concerns, in writing, to me with specific information about the assignment, what the specific portion of disagreement is, and your justification/reasoning for the appeal. Unless the appeal regards a simple addition/math error, please wait 48 hours before submitting a written appeal. Appeals should be submitted within two weeks of the original grade publication/posting.

Accessible Learning and Accommodations
There are a variety of resources on campus to improve your learning in this course and in any course at Emory, including the Emory Writing Center, Department of Accessibility Services, Emory Libraries, and Laney Graduate School administration. If you need official academic accommodations, you have a right to have these met. If you are

seeking classroom accommodations or academic adjustments, you should register with Office of Accessibility Services (http://accessibility.emory.edu). To utilize any academic accommodations for this class, please ensure you submit your official DAS letter as soon as possible **and** meet with me at the beginning of the semester so we can discuss your needs for this course. As exam proctoring and other accommodations take time to set up, you need to give at least two weeks' notice prior to the use of accommodations.

The Emory Writing Center (EWC) is open year-round to support writers in Emory College. They offer one-on-one remote and in-person tutoring for writers working on a range of composition projects (essays, applications, reports, theses, etc.), at any stage of the writing process (from brainstorming to final revisions). Writing Center tutors work on idea development, structure, use of sources, style, grammar, and more. They are not a proofreading or editing service, but rather offer strategies and resources writers can use as they compose, revise, and edit their own work. Tutors also support the literacy needs of English Language Learners (ELL); several tutors are trained ELL Specialists. The Writing Center is located in Callaway N111 and a maximum of two appointments are allowed each week. You can learn more about the Emory Writing Center and make an appointment on their website: http://www.writingcenter.emory.edu. Please review their policies before your first appointment, including our new policy on inclusivity and respect.

Honor Code
All students enrolled at Emory are expected to abide by the Emory Academic Honor Code. Any type of academic misconduct is not allowed which includes 1) receiving or giving information about the content or conduct of an examination knowing that the release of such information is not allowed and 2) plagiarizing, whether intentionally or unintentionally, on any assignment. Students should strive to excel in their academic pursuits in a just way with honesty and fairness in mind and avoid all instances of cheating, lying, plagiarizing, or engaging in other acts that violate the Honor Code. Such violations undermine both the individual pursuit of knowledge and the collective trust of the Emory community. Students who violate the Honor Code may be subject to failure of the course, a reportable record, suspension, permanent expulsion, or a combination of these and other sanctions. The Honor Code may be reviewed at: https://gs.emory.edu/academics/policies-progress/conduct.html. If you have questions regarding the use of generative AI (such as ChatGPT) and what would be considered an Honor Code violation in this course, please contact the instructor prior to submitting the assignment in question.