Course Syllabus

Site: Rose-Hulman Institute of Technology
Course: HUMH399/MA480 Social Justice & Statistical Concepts
Book: Course Syllabus

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HUM399H/MA480 Social Justice and Statistical Concepts

Course Description:

"Where there is an injustice, there is a need for social justice." We live in a world that is broken, and that brokenness results in people being marginalized, overlooked, and/or oppressed. Data can be a weapon wielded to reinforce these patterns of injustice; or, it can be a tool for breaking them down and building a future that benefits everyone. A blend of both a statistical and humanities perspective, the course will discuss disparities within our society using a lens that incorporates data as well as the stories of the people that data represents.

Course Information:

- HUM-H399 / MA480 Social Justice and Statistical Concepts (cross-listed course)
- Credit Hours: 4
- Winter 2022-2023

Learning Objectives:

In order to evaluate the credibility of arguments, we must be well-grounded in statistical literacy (communicating statistical analyses and results) and statistical reasoning (describing the impact of variability). In addition, we must critically examine the societal structures in place that contribute to our use of data. We will discuss some statistical methodology that is often encountered when reading literature surrounding social justice. We will also be reading and viewing a range of non-fiction texts (academic articles, book chapters, newspaper articles, and documentaries, for example) and rhetorically analyzing these texts as they relate to the intersection of social justice and data analysis. At the end of this course, it is our goal that you be able to complete the following tasks:

- (A) **Describe** the importance of multivariable thinking in social justice contexts.
- (B) **Identify** how data has been used to create and reinforce inequity and injustice.
- (C) **Apply** appropriate data collection and statistical modeling methods to support arguments focused on equity and **critique** approaches found in the literature.
- (D) **Communicate** clearly social justice concerns, statistical concepts, and their relationship to one another.
- (E) **Articulate** the value and limitations of statistical thinking in discussions involving social justice.

Course Prerequisites

MA223 or MA382; we expect you to have proficiency with statistical concepts covered in an introductory course, including inference of the parameters in a simple linear regression model and modeling a sampling distribution (including bootstrapping).

Contact Information

This course is co-developed and co-taught by Drs. Jessica Livingston and Eric Reyes.

Jessica Livingston, Ph.D.
Professor of English | Department of Humanities and Social Sciences

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Contacting Dr. Livingston:
You are welcome to email or message me on Teams with questions and/or to schedule an appointment.

Dr. Livingston's Biography:
I have taught at Rose-Hulman since 2007. Prior to joining Rose-Hulman, I travelled around the SEC for her degrees - B.A. at the University of Georgia, M.A. at the University of Kentucky, and Ph.D. at the University of Florida. I'm happy to have returned to the Midwest (originally from Cleveland, OH) and to have made my home in Terre Haute.

I teach courses in film and cultural studies as well as technical and professional communication.

Eric Reyes, Ph.D.
Statistician
Associate Professor | Department of Mathematics

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Contacting Professor Reyes:
I do not have regular office hours dedicated to this class. If you have questions, feel free to email or message me on Teams. I keep my Outlook calendar and Teams status up to date. Alternatively, you may always email me to schedule an appointment.

While I try to be prompt with responses, I will respond to email within 1 business day. Note that this means that emails received after 5 PM (EST, Terre Haute time) will, in general, not be addressed until the following business day. I am, in general, not available of an evening (after 5 PM) or on weekends, as these times are reserved for my family.

If there will be any disruption to my availability (due to travel, for example), I will let you know.

Professor Reyes's Biography:
After graduating from Rose-Hulman Institute of Technology in 2006 with a degree in Mathematics and Economics, I attended graduate school at North Carolina State University where I earned my Ph.D. in Statistics under the direction of Dr. Dennis Boos and Dr. Len Stefanski. My primary interest is biostatistics - the application of statistical methodology to medical research. As a former participant in the NHLBI Integrated Biostatistical Trainee Program for CVD Research, I spent five years as an intern at the Duke Clinical Research Institute serving as a statistical consultant under the direction of Karen Pieper.

My research interests include methods for variable selection (the process of discerning which variables are useful for predicting a response) and statistics education (how to teach my discipline in a way that gives the best student learning experience).

I was hired into the math department to teach primarily statistics. I believe it is important for every student on campus to be statistically literate. In addition to teaching statistics, I am the faculty adviser for the InterVarsity Christian Fellowship chapter on campus.

Course Texts

Readings will be assigned from various sources throughout the term. These will be posted on the course Moodle site in advance or placed on reserve in the Logan Library.

Statistical content will be delivered primarily through in-class lectures and asynchronous videos posted on the course Moodle site. Readings will be posted on the course Moodle site in advance.

Software

RStudio: R is a freely available statistical computing language. RStudio provides a nice interface to the computing language. No familiarity with R/RStudio is assumed.

Instructions for Installing the Course Software have been made available in the Getting Started section of the course Moodle page.

Grading Procedures

We want all aspects of this course to promote an equitable learning experience. As a result, this course will make use of a strategy known as *un-grading*. You will take the primary role in determining your grade in this course. Instead of acting as gatekeepers that pass judgment on your work, we will provide guidelines for self-assessing your work and provide feedback to help you achieve your own goals in the course. And, we are going to put a lot of effort into inspiring your curiosity in the topic and a desire to engage with the course content.

That said, the institute requires that a course grade be submitted for each of you at the end of the term. And, we have a responsibility to our disciplines, and to the academic integrity of the institute, to hold you to minimum standards. While, as instructors, we set the expectations, it is you who will determine how far you exceed them.

Grade	Requirements
A	Represents significant learning. Students at this level demonstrate competency with course objectives such that work in this area could be completed with minimal guidance or oversight; these students recognize significant growth in their own knowledge and are prepared to further that knowledge independently; they demonstrate the ability to synthesize and clearly communicate ideas from the course. You can only receive an A in the course if you have also met the requirements for a C.
B	Represents moderate learning. Students at this level demonstrate competency with a majority of the course objectives such that work can be completed with some guidance or oversight; they recognize moderate growth in their knowledge and could advance this knowledge with minimal guidance; they demonstrate the ability to clearly communicate on specific topics. You can only receive a B in the course if you have also met the requirements for a C.
C	Represents some learning. Students at this level demonstrate competency similar to that of a classroom setting requiring additional guidance when performing tasks; they recognize some growth in their own knowledge and could advance this knowledge with significant guidance; they can relay ideas covered during the course.

	Earning a C in the course requires you: • meet the requirements for a D; *and* • successfully complete the Synthesis Report; *and* • successfully complete the Course Project; *and* • successfully complete the Portfolio
D	Represents minimal learning. Students at this level demonstrate a fundamental awareness of course concepts and require guidance when performing tasks. Earning a D in the course requires you: • successfully complete 8 of 9 Summary and Responses *and* • successfully complete 8 of 9 Analysis Tasks

Each assignment will include expectations for quality work. Feedback will be given on all assignments.

This policy reflects our belief that everyone is capable of earning a C in the course if they engage with the course content and course assignments. Students who believe their learning is at the A or B level are able to propose that grade, along with their justification, when completing the Portfolio.

Instead of being "assigned," course grades are determined in consultation with students based on their Portfolio and the above requirements. While we, as instructors, retain final authority regarding grades, the expectation is that your course grade will be the result of your self-assessment.

Late-Assignment Policy

We have taken care to ensure the class schedule promotes growth in the subject while not being overly burdensome. As class discussions depend on you being familiar with assigned readings, it is important that you keep up with all assignments and come to class prepared. If you believe you will be unable to meet a specific deadline due to extenuating circumstances, you should communicate with the instructors as soon as possible so that we can discuss this with you. Note that a pattern of delayed or missing engagement with the course content will negatively impact your ability to successfully complete course assignments and will ultimately result in your inability to demonstrate competency with the course content.

Academic Misconduct Penalty

Expectations for upholding academic integrity, and the importance of academic integrity within the institution, as well as the departmental policy on academic integrity, can be located in the last chapter of the course syllabus (Institute Policies). In this section, we simply outline the penalty for academic misconduct. If you commit academic misconduct on an assignment, we will take the following action:

- A letter will be sent to you, the Head of the Department of Mathematics, the Head of the Department of Humanities, the Social Sciences and the Arts, and the Dean of Students outlining the incident and the penalty applied.
- The **Mathematics Department Policy** mandates that you receive a 0 on the assignment on which the misconduct occurred. This in turn prevents us from observing your proficiency with the course content and providing meaningful feedback. You will need to propose an alternative assignment (which must be approved by all instructors) for demonstrating proficiency with the course material.

This policy is consistent with the **Mathematics Department's Academic Integrity Policy**. To ensure you are not found in violation of the standards of academic integrity, you are encouraged to read the **Student Handbook**. Further, you should familiarize yourself with the Guide to Appropriate Collaboration below.

Guide to Appropriate Collaboration

You should always provide recognition to others when appropriate. If you collaborate with someone on an assignment, you must cite the name of your collaborator within the assignment and discuss their specific contribution to the work. Similarly, you should always cite references/sources. These are basic guidelines. Here are some additional tips which can help you draw the distinction between collaboration and academic misconduct:

- *With regard to statistical methodology*, if you fin an existing post helpful on stackExchange (or a similar forum) explaining a topic, it need not be cited. If you create a post on such a forum and receive a direct reply, it should be cited and the contribution discussed in your work. If the existing post provides a solution to the specific task you are performing, then it should be cited. Essentially, you need not cite what is considered "general knowledge" about statistical methodology.
- It is okay to *discuss* work with one another (unless strictly prohibited in the assignment), but you should not be looking at someone else's work when you write up your own solution. Again, this discussion warrants acknowledgement.
- It is helpful to avoid writing down solutions in the presence of other people - instead, outline the steps and stop there.
- While it is common to write things on a whiteboard (or taking a photo with your phone), consider instead chatting and each person taking their own notes on the conversation; that way, you are always working from your own notes and write-up.
- *Never* look at someone else's solution; instead, if you are asking them a question, talk about it together.
- Instead of asking "how did you do this problem?" ask questions about specific steps: "what was the big idea?" "what functions did you rely on in order to filter the dataset?"
- If you are in doubt, work alone. No assignment is worth jeopardizing your career at Rose-Hulman or your reputation.

Attendance Policy

Class discussions are a critical component of the learning experience for this course. It is important to shift from thinking of "being in class" as the goal to "engaging with course content." It is an expectation that students will engage in the course material regularly outside of class in preparation for the class discussions as well as engage in the discussions themselves. If at some point you find yourself unable to engage in the course content (e.g., for medical reasons), you should speak with the instructors as soon as possible.

In order to create an environment where we are each able to share our perspectives without fear our comments are taken out of context, we will not record course discussions.

Expectations for Professional Communication

Regardless of your career path, you will inevitably find yourself in discussions involving diverse perspectives. Further, we believe that learning requires that we be exposed to such perspectives. As a result, the primary component of this course is class discussion. Students are expected to act professionally during these discussions. At a minimum, this includes:

- All communication (whether electronic or in-person), including messages, emails, and forum posts, needs to be respectful. You should consider not only what you *intend* to say but also the *impact* that may be felt (how will various audiences "hear" you?).
- If you are a recipient of, or a witness to, any type of harassment or aggression, either online or in-person, please contact your instructors immediately.

You should familiarize yourself with the **Community Agreement for Respectful Discussion**.

If at any point you act in a way that is harmful to the class environment, we will initiate a conversation. If the behavior continues, we will take the following action:

- A letter will be sent to you, the Head of the Department of Mathematics, the Head of the Department of Humanities, Social Sciences, and the Aarts, and the Dean of Students outlining the incident.

Course Engagement

Regular engagement with the course material will result in rich class discussions and a productive learning experience. Here are the biggest lies you can tell yourself about this course:

1. *I can get everything done just before class*. The temptation will be to pull out the reading 30 minutes before class. The truth is that you might get the reading done, but you will not have processed it in a way that will allow you to add to the class discussions. We will be wrestling with difficult concepts. Those take time to process. Schedule time weekly to complete the course readings.
2. *I can read while doing other things*. You will get the most out of the readings if you take an active posture toward them. Take notes and mark up the text. Investigate articles with a counterpoint. Engaging with an article should be like having a debate with its author.
3. *I only need to focus on the methodology; or, I only need to focus on the humanities*. There is a lot to be gained from the statistical methodology we will discuss in the course; similarly, there is a lot to be gained from the non-statistical components of the course. But, this course is specifically designed to blend the social justice concepts with the methodology. If you only focus on a component of the course, you will betray the intent of the course and miss out on a richer learning experience.
4. *I can rely on examples for the methodology*. This is not a math class; even the statistical elements are more similar to an HSSA course than a MA course. You will spend more time explaining your logic and discovering the subtleties in others' logic than making computations. Relying on pattern recognition will not allow you to demonstrate competency with the course content. That is, you cannot learn the methodology components by seeing several examples and mimicking that approach. Success requires you to spend time outside of the homework thinking about the concepts - drawing connections, being able to explain them in different ways, and recognizing them in the description of a study (as well as how they relate to social justice concepts being discussed). Think of it like preparing for a report on a book you read: you want to know the plot, how the characters connect, what the story is trying to illustrate, and even how it relates to your personal narrative.

At a minimum, you will be expected, *each week*, to spend 2 hours in class discussions, 2-3 hours in lectures and activities, 1 hour on analysis homework, 2 hours reading and reflecting; in addition, there will be periods of time where the workload will be increased as you complete larger assessments. Each student has different commitments during the term. You may have a full course load, have a part-time job, compete in athletics, or need to care for your family. Therefore, the schedule that works best will vary from one student to another, but our advice is to schedule regular time outside of class to engage with this material. Refer to the **Course Calendar** to help keep track of assignments.

Students with Accessibility Needs

Rose-Hulman is committed to working with students who have special needs or disabilities. Such students may be eligible to receive accommodations that provide equal access to learning, the living and learning environment, and college activities. Visit the **Accessibility Services website** for more information. Requests for academic accommodations must be documented with and approved by the Accessibility Services office before they can be implemented in this course.

Emergency Information

To receive email or text messages regarding emergency situations that may impact campus and, possibly, the delivery of classes, register for RAVE alerts and/or follow @Rose-HulmanAlert on Twitter. Any announcements about the Institute's ability to offer classes will be shared on Rose-Hulman's website.

Student Handbook

This course adheres to all policies described in the **Student Handbook**. A few key sections are briefly outlined below. In brief, Rose-Hulman expects its students to be responsible adults and to behave at all times with honor and integrity. All students are expected to abide by this code and to aid in its enforcement by reporting violations of it.<\p>

Dropping the Course

You are responsible for understanding the university's policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current deadlines according to the **Rose-Hulman Academic Calendar.** More information for Drops and Adds can be found on the **Registrar's site here**.

Academic Integrity

Academic integrity is an integral part of the Rose-Hulman community. It is important that all members of our community learn to properly acknowledge the important contributions of others in our respective fields, both within Rose-Hulman and external to Rose-Hulman. Understanding how to work in collaboration with others and how to incorporate their work into your own, and then appropriately acknowledging them, demonstrates your intellectual maturity and a high degree of professionalism. Academic integrity refers to maintaining a high standard of honesty in academic conduct. All students and faculty are encouraged and required to show academic integrity at all times. On the other hand, academic misconduct is a failure of academic integrity. Specifically, academic misconduct is cheating, plagiarism, or interfering with the academic progress of other students.

The **Academic Rules and Procedures document** provides extensive rules and procedures for academic and other misconduct. The Mathematics Department **follows these rules seriously**. The minimum penalty for such misconduct is for the instructor to award zero credit for whatever test, exam, project or quiz on which the misconduct occurs, even if it results in a lowered or failing grade. A report of the misconduct will be sent to the Dean of Students and the Mathematics Department Head. Faculty members may exact a higher penalty, up to and including failure in the course if they feel the misconduct warrants such action. Students may appeal the sanctions to the rules and discipline committee, per the cited web page.

Plagiarism is a serious offense, and students are expected to adhere to the Rose-Hulman policy on plagiarism and cheating. Some individuals might say that they did not understand what plagiarism was when they took credit for someone else's ideas, but ignorance is not an excuse for lack of academic integrity. It is each student's responsibility to know the Rose-Hulman policy on academic honesty, including plagiarism, cheating, dishonest conduct, and collusion. This not only includes misrepresenting others' work as your own, but also summarizing, paraphrasing, use of any other material in your work, and incorrect or incomplete citations and references. Using the same work for multiple courses is also dishonest. If you have any questions concerning rules, procedures, or about academic honesty, plagiarism, cheating, dishonest conduct or collusion, please speak with your instructor.

Course Information Copyrights

Diversity Statement

Rose-Hulman is commited to being an **inclusive community** in which the multiplicty of values, beliefs, intellectual viewpoints, and cultural perspectives enrich learning and inform scholarship.

Online Access Requirements

Rose-Hulman welcomes students from around the world and encourages faculty, staff, and students to travel around the world. However, geopolitical conditions and compliance with export law and regulations prevent us from delivering certain kinds of educational experiences and/or using certain kinds of Institute technologies in some locations. For example, students in locations with limited access to the internet in general, or with restricted access to portions of the internet, or which are embargoed by the U.S. Directorate of Defense Trade, may not be able to successfully complete Rose-Hulman courses.

Disclaimer

The instructor reserves the right to modify the course content, schedule, topics, policies, etc. outlined in this syllabus.