

# HW 1

## Syllabus and Introduction to Statistical Modeling

September 12, 2025

### Assignment Goals

1. Engage with the course syllabus and Moodle page
2. Identify explanatory and response variables as well as the goal of a statistical model
3. Learn how to submit an assignment on Gradescope

#### ! Important

Please be sure to read and reference the “[Homework Instructions and Grading Rubric](#)” document on Moodle before beginning this assignment. **This assignment only** may be submitted as either a typed or a scanned, handwritten document.

**Q1:** How many exams are there in SDS 291? On which dates are these exams scheduled?<sup>1</sup>

**Q2:** Name at least three resources from the syllabus that you can use to get help in SDS 291.

**Q3:** Log in to [the class Slack](#). Introduce yourself (name, class year, and major or academic interests), and identify which section you are in.

Your “answer” to this question should be a screenshot of your Slack post.

**Q4:** How many hours should you expect to spend each week (outside of the regular class meeting times) on work related to SDS 291?

**Q5:** Summarize the course policy on the use of generative AI *in your own words*. You may **not** use generative AI to answer this question!

**Q6:** What is the process for requesting an extension?

**Q7:** What can you do to effectively prepare for class each day? Your response should draw from the syllabus, but please feel free to also reflect/comment on what specific practices work well for you as a learner!

**Q8:** Download and read the letter to the editor of *Journal of Medical Virology* (Marín-Hernández, Schwartz, and Nixon 2020) and use it to answer the following questions:

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<sup>1</sup>Now that you’ve written down the dates of the exams, do you have any conflicts with these dates? If so, private message your instructor on Slack now!

- (a) What was the primary goal of the regression analysis that the authors conducted? Data summary? Prediction? Quantifying an association? Something else entirely? Explain your reasoning.
- (b) Where did the authors' data for the analysis come from? In particular, please answer: *who* is represented in the data set? *where* was the data collected? *when* was the data collected?
- (c) What was the *observational unit* in this analysis?
- (d) What was the outcome (response variable)?
- (e) What was the explanatory variable?
- (f) Does the authors' analysis suggest that increasing the rate of flu vaccination will *cause* reductions in the rate of COVID-19 deaths? If so, why are we able to make this claim? If not, what is one other variable that might explain the authors' findings?
- (g) Do you think that the authors' findings apply to COVID-19 mortality rates in the United States? Why or why not?

## References

- Marín-Hernández, Daniela, Robert E Schwartz, and Douglas F Nixon. 2020. "Epidemiological Evidence for Association Between Higher Influenza Vaccine Uptake in the Elderly and Lower COVID-19 Deaths in Italy." *Journal of Medical Virology* 93 (1): 64. <https://doi.org/10.1002/jmv.26120>.