Default Question Block

You are being asked to be a volunteer in a research study. The purpose of this survey is to better understand your perceptions about data skills, so that your instructional team can determine how this class affects this measure. This post-survey should take about 20 minutes to complete.

As with any research, you are not compelled to participate. It is assumed that if you consented to participate in this study on the pre-survey, the submission of this completed survey is your consent for continued participation. If you change your mind about completing the survey, just leave the site.

If you complete both the beginning and end of semester surveys, you will receive a small amount of extra credit points towards your final grade. This compensation is available whether or not you consent to participate in the study. As an alternative, you may submit a written reflection as directed by your instructor for the same amount of credit. Your instructional team will not be analyzing survey data and they will only determine who has completed the surveys when calculating final grades (see next paragraph.) Prior to data being analyzed, all identifying information will be permanently deleted. Analysis of the anonymized data will be performed by other members of the BME department.

The risks involved are no greater than those involved in typical daily activities or your general participation in the class. We will comply with any applicable laws and regulations regarding confidentiality. To make sure that this research is being carried out in the proper way, the Georgia Institute of Technology IRB may

review study records. The Office of Human Research Protections may also look at study records. If you have any questions about the study, you may contact Dr. Laura Christian, the PI at telephone 404-894-2660 or laura.christian@gatech.edu. If you have any questions about your rights as a research subject, you may contact irb@gatech.edu.

Thank you for participating in this study.
Dr. Christian

What is your name as it appears on Canvas?

Please rate your confidence in your ability to apply the following data skills, with guidance, to biomedical engineering courses or work.

	No confidenc
Justify engineering design decisions by using results from statistical and machine learning analyses	○
Use a spreadsheet (e.g., Excel, Google Sheets) to perform data management and analysis	○
Identify an appropriate analysis to answer a specific question from a given data set	○
Explain the limitations of the results of an analysis you performed	○
Present conclusions and limitations from data analysis to others	○
Recognize and describe biases or assumptions within the data or analyses used in published research	○
Articulate the limits of what a data set can tell you	○
Write, troubleshoot, and run code in a software language that you are familiar with to perform data analysis tasks	○
Apply statistical analysis and machine learning tools to a data set	○

	No confidenc
Describe the basic concepts and usefulness of common data analysis algorithms (e.g., basic statistics, clustering, neural networks)	○

	No confidenc
Find, run, and troubleshoot code that you did not write, in a software language that you are familiar with, to perform data analysis tasks	○
Explain the underlying mathematics and mathematical processes of common machine learning algorithms (e.g., clustering, neural networks)	○
Create visual representations of the results of data analysis to communicate findings to others	○
Draw conclusions from the results of data analyses	○
When evaluating procedures to collect data, identify populations that may be put at risk or excluded	○

For the same data skills, we are also curious about your perception of their **general applicability to biomedical engineering work** and your **personal interest in jobs** that make use of these skills.

	Applic	
	None	A litt
Find, run, and troubleshoot code that you did not write, in a software language that you are familiar with, to perform data analysis tasks	○	○
Describe the basic concepts and usefulness of common data analysis algorithms (e.g., basic statistics, clustering, neural networks)	○	○
Recognize and describe biases or assumptions within the data or analyses used in published research	○	○
Articulate the limits of what a data set can tell you	○	○
Use a spreadsheet (e.g., Excel, Google Sheets) to perform data management and analysis	○	○

	Applic	
	None	A litt
Identify an appropriate analysis to answer a specific question from a given data set	○	○
Explain the underlying mathematics and mathematical processes of common machine learning algorithms (e.g., clustering, neural networks)	○	○
Explain the limitations of the results of an analysis you performed	○	○
	None	A litt
Justify engineering design decisions by using results from statistical and machine learning analyses	○	○
Write, troubleshoot, and run code in a software language that you are familiar with to perform data analysis tasks	○	○
Present conclusions and limitations from data analysis to others	○	○
Apply statistical analysis and machine learning tools to a data set	○	○
When evaluating procedures to collect data, identify populations that may be put at risk or excluded	○	○
Differentiate between statistical and machine learning approaches to data analysis	○	○
Justify decisions made in the process of applying statistical and machine learning techniques to data	○	○