

Columbia University: Arts & Sciences

A&S Fall 2020 Standard Evaluation

Course: PSYCUN1930_001_2020_3-BehavioralDataScience: PSYCUN1930_001_2020_3 - Behavioral Data Science

Instructor: Matthew Sisco *

Response Rate: 5/7 (71.43 %)

1 - How did you experience the class this semester? Check off as many as apply: The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	
In-person	(1)	0	0.00%		
Live online	(2)	5	100.00%	<div></div>	
Recorded	(3)	2	40.00%	<div></div>	
Response Rate		5/7 (71.43%)			

2 - What did you learn - in terms of knowledge, skills, or perspectives - in this course? The answer to this question will generally be available in Vergil.

Response Rate	5/7 (71.43%)
<ul style="list-style-type: none">• Data scraping, PCA, predictive modelling, LIWC and other word counting tools, machine learning, and general data collecting/wrangling techniques. Overall, it was very informative for how psychology research can be undertaken on a broad scale through social media, search engine, and other publicly available data.• Learned about data science methods to be used in psychology -- both the theory and the practice. Learned a lot about research too.• I learned the basic fundamentals of behavioral data science, including but not limited to data acquisition (e.g. collecting data through APIs and web scraping), data processing (e.g. high performance computing and feature engineering), and data analysis (including machine learning, natural language processing, and advanced regression analyses). The course was incredibly relevant and practical. Both the lectures and the lab assignments were thoughtful, thorough, and incredibly well structured.• I learned new tools for data collection, data cleaning, and data analysis in R, and how to use R coding to design and analyze psychological research questions regarding online behavior.• -R programming skills -Web scraping -API data ingestion -Basic Machine Learning methods and terminology -Classical statistical learning methods such as multiple regression, logistic regression, etc. -Basic data wrangling codes in R -Parallel computing -Cloud computing -Batch processing -Time-series analysis, methods of detecting and addressing autocorrelation -Presentation skills -Multilevel regression with post-stratification (to address samples that are non-representative) -Paper writing skills -Basic concepts behind neural networks -Instrumental variable to get causal answers -Basic concepts behind natural language processing and methods to apply in R (LIWC)	

3 - What percentage of the work (including reading) assigned for this course did you complete on schedule?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
All or almost all	(1)	4	80.00%	<div></div>	
Most	(2)	0	0.00%		
Some	(3)	1	20.00%	<div></div>	
This question is not applicable	(4)	0	0.00%		
				0 25 50 100	
Response Rate		5/7 (71.43%)			

4 - What is your overall assessment of the course? What are its strengths? In what ways might it be improved? In answering this question, you might address the value of readings and assignments, the structure of the course (including the relationship of sections to lectures), the contribution of the course to your knowledge of the subject matter and to the development of your analytical and reasoning skills, etc. We encourage you to use specific examples where possible.

Response Rate	5/7 (71.43%)
<ul style="list-style-type: none">• It was a very hard, but very informative course. The lab assignments forced a lot of independent learning at the beginning and then were more concept based by the end, and certainly introduced me to coding concepts I would likely not have learned about in psychology courses otherwise. The readings were very interesting and gave me good insight into what studies can be/are being conducted in the field of Behavioral Data Science, and lectures/in-class presentations went over key concepts covered in the readings in order to break them down and make sense of them for the class.• Best course I have ever done at Columbia. Strengths: very applicable skills, very relevant, very grounded to research. Gave me practical skills (in R) and in research (data analysis, data collection). The readings and the assignments were always very relevant and detailed so I truly felt like I was learning. The course has CERTAINLY helped me be a better researcher and understand more about research in psychology, psychology and data science.• This course was incredibly practical and well structured. The professor was very accessible and willing to help students at any point throughout the entire semester. Not only did Professor Sisco open up office hours to individual students at any point during the week, he also left comments on almost every lab assignment and thought paper I submitted, which aided in my understanding of the course material. This course has been, by far, the best course I've taken at Columbia. This course was also very accessible in an online format.• This course is very niche, and taught a lot. Its strengths are its clear objectives and the flexibility of the instructor. Its weaknesses are the homework assignments (sometimes the workload was a bit too heavy), and some of the work was challenging w/o in-person teaching assistance. Our online class platform this semester was a relevant tool, because we focused on how to extract data from online platforms, but coding is a hard and tricky skill to learn, and it's trickier when it's being taught over Zoom. Nevertheless, I appreciated the instructors' willingness to meet for office hours and attend to his students' learning needs.• This is perhaps the best course I have ever taken since I came to Columbia. As a psych major who had had little exposure to modern statistic learning, this course has equipped me with new methods to answer research questions (both old and new ones) and knowledge needed to understand psych papers that are being published at the frontiers of behavioral data sciences. The readings are well-chosen, covering a wide range of topics in behavioral data science that are challenging but not impossible to understand. The lab assignments are challenging but rewarding when you finish them, as they help you hone your R programming skills and develop statistical techniques that are so powerful yet not used and/or taught much in departments of social sciences. In fact, this course is so great that I hope there is a sequel to it. In the end, we also need to develop a project that we must execute in R. I am still working on it, but I feel I have gained so much from analyzing my own data using the techniques and methods learned in class (data wrangling, subsetting, indexing, LIWC, efficient way to get help from the internet, etc). Ways it could be improved: I hope there are more lab assignments that can even cover a bit more techniques that we are told in class (Before taking this course, I didn't realize there are so many useful techniques that psychologists can use but never learn in traditional psych stats classes).	

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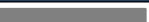

Instructor: Matthew Sisco *

Response Rate: 5/7 (71.43 %)

5 - What is your overall assessment of the course in the current modality?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	3	60.00%		4.40 
Very Good	(4)	1	20.00%		
Good	(3)	1	20.00%		
Fair	(2)	0	0.00%		
Poor	(1)	0	0.00%		
				0 25 50 100	Question
Response Rate				Mean	STD
5/7 (71.43%)				4.40	0.89
					Median
					5.00



6 - Would you recommend this course in its current modality to another student?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Definitely recommend	(1)	4	80.00%		
Probably recommend	(2)	1	20.00%		
I'm not sure I'd recommend	(3)	0	0.00%		
Probably not recommend	(4)	0	0.00%		
Definitely not recommend	(5)	0	0.00%		
				0 25 50 100	
Response Rate					
5/7 (71.43%)					

7 - Please qualify your recommendations if you wish:The answer to this question will generally be available in Vergil.

Response Rate	5/7 (71.43%)
<ul style="list-style-type: none"> • It would have been better in person, of course, and likely felt more interactive in that modality (which was really my only main problem with the course) • This was the best course I have taken at Columbia. 100% worth it. • I'd recommend this course to anyone who has working knowledge in R and statistics, who would like to expand on that knowledge by applying statistical and machine learning models to large sets of behavioral data. This course was incredibly practical and relevant because we used datasets that were generated in the real-world (e.g. scraping Google Trends, Twitter, stock market prices, large surveys etc.). • Students who wish to learn more about data science and machine learning in a psychological context will benefit from this course and its modality. • A must for any senior psych majors who want to pursue an academic career and/or want to deepen their data science skills. 	

8 - How does the workload in this course compare to Columbia courses with a similar structure (e.g. a lecture, seminar, laboratory, or language course)?The answer to this question will generally be available in Vergil.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Much heavier workload	(1)	0	0.00%		
Heavier workload	(2)	2	40.00%		
Similar workload	(3)	3	60.00%		
Lighter workload	(4)	0	0.00%		
Much lighter workload	(5)	0	0.00%		
No basis for comparison	(6)	0	0.00%		
				0 25 50 100	
Response Rate					
5/7 (71.43%)					

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9 - How many hours a week did you devote to this course? (Note: Please include all time spent on this class including managing the technology of online instruction, class time, discussion sections, readings, assignments, studying, etc.)The answer to this question will generally be available in Vergil.

Response Rate	5/7 (71.43%)
<ul style="list-style-type: none"> lab assignments: 2-8 hours readings: 2 hours discussion post: 30 minutes class time: 2 hours final project: TBD, but over 10 hours 8 hours? Not sure. 8-10 hours per week, with more work at the beginning of the course (trying to understand the code and lab assignments) and end of the course (final project and presentation). 10 hours 8-10 hours apart from seminar. A bit more for the research project 	

10 - Please evaluate Matthew Sisco. What are Matthew Sisco's strengths? In what ways might their teaching be improved? In answering this question, you might address the clarity of the lectures or presentations and their relationship to the other elements of the course, the ability of Matthew Sisco to generate enthusiasm and facilitate discussion, the quality of feedback, availability, the timeliness of the return assignment, etc. -

Response Rate	5/7 (71.43%)
<ul style="list-style-type: none"> He is very knowledgeable of the material and good at breaking down components to better explain them to people with zero coding experience. Sometimes the powerpoints would require a higher level of coding comprehension than some of the class had, but he was always happy to answer questions and go back over the basics when needed. Feedback was provided quickly and thoroughly on all lab assignments and thought papers, and he was very clear about course expectations, grading, and assignment due dates. The class was not necessarily interactive or exciting, but I do think that was mostly due to the online format and a necessary tradeoff between organization and engagement. I would have liked the class to be more seminar style, however with the varying levels of coding experience I do think that the lecture based format with room for questions and discussions was probably the correct choice. Very clear, very prepared, very available. Clearly he put a lot of effort in designing the course and in doing the lectures, which clearly showed through. I think the only thing I would like to be different is that I could have liked to have started my independent project earlier (perhaps students could be motivated to start doing it since day 1) as now I am, doing it and I will have to rush it much more than I would like to because of finals and the time of the semester etc. The class was so great that the only thing I wish was that I had more free time to do more of the optional work. Best class and best professor!!!! Professor Sisco's strengths were that he was incredibly thoughtful, thorough, and accessible to students. He cared deeply about the course material and about his students. His lectures were interesting and relevant, and he periodically opened the class up for questions at structured intervals. He provided a lot of supplementary/optional readings, lab assignments, and lectures as well, to allow students to further their knowledge if they had additional time and interest. He also brought in two very interesting speakers who spoke about their research to the class. I believe teaching could be improved by allowing students to work in small groups and get to know each other early on in the course. Getting to know other students is challenging in an online setting, and working together -- especially at the beginning of the course -- may have helped students get through the lab materials a bit more efficiently. I'd also love to see future classes that build on this current class material, because I don't see many classes in the Psychology Department that can take what we've learned to the next level. I could see this course fitting well into a professional certificate or even an academic minor (in behavioral data science). I'd love to see more interactions between the Psychology and Computer Science Departments in general, and I believe Professor Sisco has bridged the departments in a unique way through this course. Matthew Sisco is a great professor. During class, he makes sure he's delivering clear information for our digestion, and answers any and all questions we have. He is more than willing to meet one-on-one with his students and shows a deep interest for the material that translates well into his constructive pedagogy style. Strengths: -Super knowledgeable researcher whose research is at the frontier of behavioral data science (I don't think this course could be taught by an ordinary psych professor who doesn't even do research any longer; it must be taught by someone who is applying them on a daily basis and has published in top journals). -Very good lecturing skills. Very good at explaining concepts and taking into consideration of the fact that students may not have very advanced stats and programming backgrounds. -Recorded amazing and easy to understand bonus videos that complement the main seminars -Understanding and patient -very easy to understand standard American accent for international students Ways can be improved: can't think of any at the moment 	

11 - What is the overall teaching effectiveness of the Matthew Sisco in the current modality? -

Response Option	Weight	Frequency	Percent	Percent Responses	Means			
Excellent	(5)	3	60.00%					
Very Good	(4)	2	40.00%					
Good	(3)	0	0.00%					
Fair	(2)	0	0.00%					
Poor	(1)	0	0.00%					
				0 25 50 100	Question			
Response Rate				Mean	STD	Median		
5/7 (71.43%)				4.60	0.55	5.00		

12 - What are the strengths and weaknesses of (discussion section leader, lab section leader, grader) as an instructor, and how might 's teaching be improved?

Response Rate	0/7 (0%)
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13 - What is the overall teaching effectiveness of in the current modality?

Response Option	Weight	Frequency	Percent	Percent Responses	Means			
Excellent	(5)	0	0.00%		0.00			
Very Good	(4)	0	0.00%					
Good	(3)	0	0.00%					
Fair	(2)	0	0.00%					
Poor	(1)	0	0.00%					
				0 25 50 100	Question			
Response Rate				Mean		STD		Median
0/7 (0.00%)				0.00		0.00		0.00

14 - How would you rate the quality of the office hours provided by the instructor?

Response Option	Weight	Frequency	Percent	Percent Responses	Means			
Poor	(1)	0	0.00%					
Fair	(2)	0	0.00%					
Good	(3)	0	0.00%					
Very good	(4)	1	20.00%					
Excellent	(5)	4	80.00%					
				02550100	Question			
Response Rate				Mean		STD		Median
5/7 (71.43%)				4.80		0.45		5.00
<div><div>• Very available and very knowledgeable and clear. Clearly put a lot of effort to making sure we were learning.</div><div>• Professor Sisco was always accessible and available to meet for office hours. He spent a lot of time with me as an individual and went above-and-beyond with helping students on an individual basis.</div><div>• N/A</div></div>								

15 -

Response Option	Weight	Frequency	Percent	Percent Responses	Means			
Poor	(1)	0	0.00%		5.00			
Fair	(2)	0	0.00%					
Good	(3)	0	0.00%					
Very good	(4)	0	0.00%					
Excellent	(5)	5	100.00%					
				0 25 50 100	Question			
Response Rate				Mean		STD		Median
5/7 (71.43%)				5.00		0.00		5.00

16 - How would you rate the quality of the feedback you received from the instructor on your course assignments?

Response Option	Weight	Frequency	Percent	Percent Responses	Means			
Poor	(1)	0	0.00%		5.00			
Fair	(2)	0	0.00%					
Good	(3)	0	0.00%					
Very good	(4)	0	0.00%					
Excellent	(5)	5	100.00%					
				0 25 50 100	Question			
Response Rate				Mean		STD		Median
5/7 (71.43%)				5.00		0.00		5.00