

ECON 487 A  
Data Science For Strategic Pricing  
Course type: Face-to-Face

Evaluation Delivery: Online  
Evaluation Form: B  
Responses: 38/42 (90% very high)

Taught by: Jacob S Lariviere, Lukas Hager  
**Instructor Evaluated: Lukas Hager-Grad TA**

**Overall Summative Rating** represents the combined responses of students to the four global summative items and is presented to provide an overall index of the class's quality:

Combined Median	Adjusted Combined Median
4.9	4.9
(0=lowest; 5=highest)	

**Challenge and Engagement Index (CEI)** combines student responses to several *IASystem* items relating to how academically challenging students found the course to be and how engaged they were:

<b>CEI: 5.6</b>
(1=lowest; 7=highest)

### SUMMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Adjusted Median
The course as a whole was:	37	73%	22%	5%				4.8	4.9
The course content was:	37	81%	19%					4.9	4.9
The instructor's contribution to the course was:	37	92%	8%					5.0	5.0
The instructor's effectiveness in teaching the subject matter was:	37	84%	16%					4.9	5.0

### STUDENT ENGAGEMENT

Relative to other college courses you have taken:	N	Much Higher (7)	(6)	(5)	Average (4)	(3)	(2)	Much Lower (1)	Median
Do you expect your grade in this course to be:	37	16%	27%	8%	38%	8%		3%	4.7
The intellectual challenge presented was:	37	35%	38%	16%	11%				6.1
The amount of effort you put into this course was:	37	38%	32%	11%	16%			3%	6.1
The amount of effort to succeed in this course was:	37	41%	24%	14%	22%				6.1
Your involvement in course (doing assignments, attending classes, etc.) was:	36	36%	28%	11%	22%			3%	6.0

On average, how many hours per week have you spent on this course, including attending classes, doing readings, reviewing notes, writing papers and any other course related work?

**Class median: 11.3 Hours per credit: 2.3 (N=36)**

Under 2	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22 or more
3%		3%	6%	17%	25%	14%	19%	14%			

From the total average hours above, how many do you consider were valuable in advancing your education?

**Class median: 9.0 Hours per credit: 1.8 (N=36)**

Under 2	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22 or more
3%		14%	17%	22%	14%	6%	17%	8%			

What grade do you expect in this course?

**Class median: 3.5 (N=36)**

A (3.9-4.0)	A- (3.5-3.8)	B+ (3.2-3.4)	B (2.9-3.1)	B- (2.5-2.8)	C+ (2.2-2.4)	C (1.9-2.1)	C- (1.5-1.8)	D+ (1.2-1.4)	D (0.9-1.1)	D- (0.7-0.8)	F (0.0)	Pass	Credit	No Credit
19%	36%	31%	6%	3%	3%			3%						

In regard to your academic program, is this course best described as:

**(N=36)**

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
89%		6%	6%		

**STANDARD FORMATIVE ITEMS**

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Relative Rank
Course organization was:	37	76%	19%	5%				4.8	7
Sequential presentation of concepts was:	37	76%	22%		3%			4.8	2
Explanations by instructor were:	37	92%	5%	3%				5.0	3
Instructor's ability to present alternative explanations when needed was:	37	84%	16%					4.9	12
Instructor's use of examples and illustrations was:	37	92%	8%					5.0	5
Instructor's enhancement of student interest in the material was:	37	78%	19%	3%				4.9	4
Student confidence in instructor's knowledge was:	37	86%	14%					4.9	17
Instructor's enthusiasm was:	37	89%	11%					4.9	16
Clarity of course objectives was:	37	78%	19%	3%				4.9	6
Interest level of class sessions was:	37	84%	14%	3%				4.9	1
Availability of extra help when needed was:	37	89%	5%		3%		3%	4.9	11
Use of class time was:	37	81%	19%					4.9	9
Instructor's interest in whether students learned was:	37	84%	16%					4.9	15
Amount you learned in the course was:	37	78%	14%	8%				4.9	8
Relevance and usefulness of course content were:	37	86%	14%					4.9	10
Evaluative and grading techniques (tests, papers, projects, etc.) were:	37	81%	16%	3%				4.9	13
Reasonableness of assigned work was:	37	70%	22%	5%	3%			4.8	18
Clarity of student responsibilities and requirements was:	37	78%	14%	8%				4.9	14

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### STANDARD OPEN-ENDED QUESTIONS

#### Was this class intellectually stimulating? Did it stretch your thinking? Why or why not?

1. Yes, the contents in this class is difficult but really helpful!
2. Yes, this was the first time I studied econometrics and it was stimulating to combine the theory and coding in R.
3. Yes it was fair but challenging. If you applied yourself then it was not too difficult
4. Yes. I learn so much in this class that it is one of the most worthy courses I take at the UW.
5. Yes, We receive a lot of theory and also we applied those theory to analysis real data.
6. very useful course
7. Yes, in fact I think this class is very applicable to what I'll be doing for work
8. It was fun learning machine learning techniques.
9. Yes, I learned a lot of valuable skills and it was nice to see a more real world application of economics. It would be nice to see more courses like this one offered in the department.
10. Is exciting to learn new skills
11. The class was intellectually stimulating, and the problem sets designed were a good application of lecture material and challenging. Certain elements seemed out of scope for lecture material covered within a week, but they were extremely helpful in aiding students if they had questions.
12. Data skills and coding
13. Yes.
14. Yes, a lot of intellectually stimulating questions about real life.
15. Yes, the coding part is definitely stimulating.
16. Yes, it helped me a lot in studying ML and data science content
17. Yes being able to apply these concepts to real world data and problems was very interesting and challenging
18. Yes
19. The office hour helps student understand the intuitions and the topics behind the class content. The TA is very helpful in answering questions and giving examples, making the thinking more clear and doable.
20. I really enjoyed this class and really enjoyed the long homeworks, which made me think and research subjects on my own. Thank you for this class.
21. Yes. the applications and hands on homework's were very helpful. it helps to struggle through a problem before finding a solution or getting one in office hours.
22. yes
24. Sometimes joining quiz section halfway through was tough but overall Lukas did a great job with explanations and examples.
25. this class was good, no difference from my other eval

#### What aspects of this class contributed most to your learning?

1. Office hour
2. The lectures and the homework as well as the explanations of the code by Lukas.
3. The homeworks and TA sessions
4. THE BEST TA EVER! He has been so patient with us and he really cares about the students. Also he is really good at explaining concepts in an easy-to-understand way (even better than the prof lol)
5. I think it's the application
7. Problem sets, collaboration and going to office hours
8. I think practical examples and walking through R helps.
9. Lukas was very helpful and made a lot of time to host office hours and answer questions. His answers were thoughtful and helped me work through difficult concepts.
10. Data science and pricing
11. Labs/Problem sets contributed most to learning as they allowed for the application of lecture material and office hours helped if assistance was needed for these assignments or other questions.
12. How to do machine learning

13. Econ knowledge.
14. TA section
15. I really appreciate all the work Lukas has done. I love the way he goes over the assignment details during time, it's a very thoughtful and easy-understanding lecture.
16. I like the OH, Luckas helped us a lot with HW problems.
17. homework assignments and the solutions to the homework assignments
18. Lukas himself
19. 1. Office hours really take the time to answer questions and deep diving on the concept. 2. The HW sol are very useful to help clarifying any confusions I had during the class.
20. Homework
21. The class was building the foundation of content. the homework helped solidify them. office hours were a good way to correct and ensure i had proper understanding. being able to come up with stories about what data meant on the HW was very helpful. building on old HW to learn and expand new concepts was helpful.
22. office hour and homework
23. The problem sets contributed a lot to my learning, as I feel like I improved a lot in my ability to use R as well as think about, manipulate, and extract answers from data. I especially appreciated the frequent connections to how what we learned is used in the real world, which I don't get often from my economics classes and definitely helps me feel confident in my abilities and preparedness to get a data science job.
24. Homework review at the beginning of class was very helpful.
25. Going over the homeworks at the beginning of class

### What aspects of this class detracted from your learning?

1. Nothing
2. I think this class was well structured and I think time was well spent.
3. None
5. The class time
7. Long lectures
8. 3 hour classroom late in the day means I'm mentally exhausted from taking other classes.
9. Difficulties with R programs. It would be nice to have more hints or example code in the homework and slides.
10. Idk
11. Timing of office hours made it difficult to attend due to conflicting time schedules with work or class. I would have liked more options, either Online or Hybrid, at multiple times throughout the week would have helped.
12. No
13. Nothing
14. long lecture time
15. Sometimes the pace is too fast.
17. NA
18. No
19. N/A
20. Nothing
21. i think sometimes the hw solutions were overbearing because you did so much. it was super helpful when going over concepts, but when going over how i would code it myself, it was to advanced for me to fully understand. there was too much of a skill gap for me to understand what lots of your code actually meant. an additional resource or text in the solutions would help me understand what your code is actually doing when i look at it myself.
22. only have courses once a week; other courses have time conflict with office hour
24. Not being able to attend quiz section made doing homework much more difficult.
25. The lack of help outside of one office hour session. I felt like I was floundering in the last weeks because I had a neuroscience lab during the one office hours.

### What suggestions do you have for improving the class?

1. This class is already great, nothing that I can think of.
2. I think the class is good as is.
3. None, Lucas is a fantastic TA and he was so smart and clear. He put a lot of effort into the class.
4. Lukas is so amazing he's the best
6. could be easier, but its a good class
7. Having lectures split up over two days
8. Would prefer it to be split across multiple days.
9. More example code or homework hints.

10. More friendly to people who have no or little experience with r and coding language
11. More offerings and accessibility of office hours.
12. No
13. It's great.
14. more about coding during the class
16. Maybe consider adding more comments to the example code. I am not so good at using packages, I feel confused when using codes I am not sure how it works.
17. more structured office hours, maybe limited time 1-1 sessions, lots of people sitting in office hours not asking questions or engaging
18. More oh?
19. N/A
20. I cannot think of anything to improve as of now. I would like to thank you for investing the time to answer to all the emails with questions about homework and explaining the solutions.
21. you gave awesome HW keep the applications up. i really liked the building on old HW with new concepts. i think another data set would be helpful to get more real examples and applications under my belt. or just more examples of what these are actually used for. maybe what Netflix does with trees for their algorithms. it would be super cool to see how these are used right in front of our eyes. i think more of a focus on business focused thinking would be helpful too. like the amazon fresh coupons black Friday deal talk we had. also maybe a where to go next slide or something to finish off the class.
22. more explanations on r studio before we doing the homework
23. I really like the problem sets and think that I learned a ton from them. If there was an improvement I could suggest, it would be to make the problem set solutions a little bit easier to understand/tied to the specific questions asked. I appreciate all the work that went into them, but sometimes it was a little confusing for me to figure out what specific bits of code were doing or to find the solution to a specific question I was wondering about.
24. Not that Lukas has any control over whether there's a quiz section or not but I think a formal quiz section once or twice a week would be very help to learn how to code more efficiently.
25. Shorter office hours, more often.

IASystem Course Summary Reports summarize student ratings of a particular course or combination of courses. They provide a rich perspective on student views by reporting responses in three ways: as frequency distributions, average ratings, and either comparative or adjusted ratings. Remember in interpreting results that it is important to keep in mind the number of students who evaluated the course relative to the total course enrollment as shown on the upper right-hand corner of the report.

**Frequency distributions.** The percentage of students who selected each response choice is displayed for each item. Percentages are based on the number of students who answered the respective item rather than the number of students who evaluated the course because individual item response is optional.

**Median ratings.** IASystem reports average ratings in the form of item medians. Although means are a more familiar type of average than medians, they are less accurate in summarizing student ratings. This is because ratings distributions tend to be strongly skewed. That is, most of the ratings are at the high end of the scale and trail off to the low end.

The median indicates the point on the rating scale at which half of the students selected higher ratings, and half selected lower. Medians are computed to one decimal place by interpolation.<sup>1</sup> In general, higher medians reflect more favorable ratings. To interpret median ratings, compare the value of each median to the respective response scale: *Very Poor, Poor, Fair, Good, Very Good, Excellent (0-5); Never/None/Much Lower, About Half/Average, Always/Great/Much Higher (1-7); Slight, Moderate, Considerable, Extensive (1-4)*.

**Comparative ratings.** IASystem provides a normative comparison for each item by reporting the decile rank of the item median. Decile ranks compare the median rating of a particular item to ratings of the same item over the previous two academic years in all classes at the institution and within the college, school, or division. Decile ranks are shown only for items with sufficient normative data.

Decile ranks range from 0 (lowest) to 9 (highest). For all items, higher medians yield higher decile ranks. The 0 decile rank indicates an item median in the lowest 10% of all scores. A decile rank of 1 indicates a median above the bottom 10% and below the top 80%. A decile rank of 9 indicates a median in the top 10% of all scores. Because average ratings tend to be high, a rating of "good" or "average" may have a low decile rank.

**Adjusted ratings.** Research has shown that student ratings may be somewhat influenced by factors such as class size, expected grade, and reason for enrollment. To correct for this, IASystem reports **adjusted medians** for summative items (items #1-4 and their combined global rating) based on regression analyses of ratings over the previous two academic years in all classes at the respective institution. If large classes at the institution tend to be rated lower than small classes, for example, the adjusted medians for large classes will be slightly higher than their unadjusted medians.

When adjusted ratings are displayed for summative items, **relative rank** is displayed for the more specific (formative) items. Rankings serve as a guide in directing instructional improvement efforts. The top ranked items (1, 2, 3, etc.) represent areas that are going well from a student perspective; whereas the bottom ranked items (18, 17, 16, etc.) represent areas in which the instructor may want to make changes. Relative ranks are computed by first standardizing each item (subtracting the overall institutional average from the item rating for the particular course, then dividing by the standard deviation of the ratings across all courses) and then ranking those standardized scores.

**Challenge and Engagement Index (CEI).** Several IASystem items ask students how academically challenging they found the course to be. IASystem calculates the average of these items and reports them as a single index. *The Challenge and Engagement Index (CEI)* correlates only modestly with the global rating (median of items 1-4).

**Optional Items.** Student responses to instructor-supplied items are summarized at the end of the evaluation report. Median responses should be interpreted in light of the specific item text and response scale used (response values 1-6 on paper evaluation forms).

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<sup>1</sup> For the specific method, see, for example, Guilford, J.P. (1965). *Fundamental statistics in psychology and education*. New York: McGraw-Hill Book Company, pp. 49-53.