IASystem
The Course Evaluation Standard

CSS 343 B
Data Structures, Algorithms, And Discrete Mathematics II
Course type: Face-to-Face

Evaluation Delivery: Online
Evaluation Form: T
Responses: 34/37 (92% very high)

Taught by: Yusuf Pisan
Instructor Evaluated: Yusuf Pisan-Assoc T Prof

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:

Median
4.4
(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:

CEI: 5.7
(1=lowest; 7=highest)

SUMMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	DECILE RANK Inst	DECILE RANK College
The course as a whole was:	34	41%	50%	6%			3%	4.3	5	6
The course content was:	34	44%	44%	6%	3%		3%	4.4	5	6
The instructor's contribution to the course was:	34	59%	29%	9%			3%	4.7	5	6
The instructor's effectiveness in teaching the subject matter was:	34	44%	38%	12%	3%		3%	4.3	4	5

STUDENT ENGAGEMENT

Relative to other college courses you have taken:	N	Much Higher (7)	(6)	(5)	Average (4)	(3)	(2)	Much Lower (1)	Median	DECILE RANK Inst	DECILE RANK College
Do you expect your grade in this course to be:	34	12%	9%	26%	50%			3%	4.4	2	3
The intellectual challenge presented was:	34	29%	47%	15%	6%			3%	6.1	8	7
The amount of effort you put into this course was:	34	18%	47%	24%	9%			3%	5.8	5	5
The amount of effort to succeed in this course was:	34	29%	50%	9%	9%			3%	6.1	7	7
Your involvement in course (doing assignments, attending classes, etc.) was:	34	24%	41%	18%	15%			3%	5.9	5	5

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: 10.7 Hours per credit: 2.1 (N=33)

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%	9%	15%	12%	18%	9%	15%	9%	3%		6%

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

Class median: 8.3 Hours per credit: 1.7 (N=33)

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
	15%	9%	18%	18%	9%	9%	12%		3%	3%	3%

What grade do you expect in this course?

Class median: 3.5 (N=33)

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)	E (0.0)	Pass	Credit	No Credit
27%	27%	12%	15%	6%	3%	6%		3%						

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

(N=33)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
79%	21%				

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STANDARD FORMATIVE ITEMS

	N	Strongly agree (5)	Agree (4)	Neither agree or disagree (3)	Disagree (2)	Strongly disagree (1)	Median	DECILE RANK Inst College
The instructor explained the learning outcomes/objectives for this class.	34	62%	35%	3%			4.7	
The syllabus listed the learning outcomes/objectives for this class.	34	74%	26%				4.8	
The overall organization of the course made it easy for me to learn the course concepts.	34	65%	32%		3%		4.7	
Course activities and assignments helped me achieve the learning outcomes/objectives for this class.	34	68%	26%	6%			4.8	
Course materials (e.g., textbook, other readings, lecture, Canvas site) helped me achieve the learning outcomes/objectives for this class.	34	50%	38%	9%		3%	4.5	
The instructor clearly explained how course activities and assignments related to the learning outcomes/objectives of this course.	34	56%	41%		3%		4.6	
My perspective was valued by the instructor.	34	62%	32%	6%			4.7	
The instructor clearly communicated their expectations for respectful communication and interaction in the course.	34	74%	24%	3%			4.8	
The instructor created a class environment where I felt valued and respected.	34	74%	26%				4.8	
The instructor ensured that course materials (e.g., textbook, other readings, lecture, Canvas site) were accessible.	34	79%	18%	3%			4.9	
I felt I was a valued member of the class community in this course.	34	71%	24%	6%			4.8	
Course activities and assignments provided opportunities for me to critically analyze/reflect on new ideas and concepts.	34	62%	35%		3%		4.7	
I was an active and engaged member of the class community.	34	59%	29%	12%			4.7	
The structure of the course gave me enough time to understand and process the ideas and concepts presented in class.	34	59%	29%	9%		3%	4.7	
The instructor regularly provided time and space for students to ask questions and clarify ideas and concepts.	34	62%	32%	6%			4.7	
I had the opportunity to engage with other students.	34	68%	32%				4.8	
The instructor provided opportunities to practice and apply course ideas and concepts before assignments and/or tests.	34	74%	21%	3%	3%		4.8	
Course assignments enhanced my understanding of the course ideas and concepts.	34	71%	26%		3%		4.8	
Feedback on assignments helped me to better understand and/or apply course ideas and concepts.	34	71%	21%	6%		3%	4.8	
Course activities and assignments provided opportunities to demonstrate my learning of course ideas and concepts.	34	65%	29%	6%			4.7	
The instructor clearly communicated what students needed to do in order to be successful in the course.	33	61%	36%	3%			4.7	
I learned ideas and concepts in this course that will be useful for me in other courses and/or after graduation.	33	70%	30%				4.8	
I learned skills in this course that will be useful for me in other courses and/or after graduation.	34	74%	26%				4.8	
The instructor effectively explained the relevance of the course ideas, concepts, and skills covered in this course.	34	71%	26%	3%			4.8	

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STANDARD OPEN-ENDED QUESTIONS

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

2. Yes, it. was very intellectually stimulating. As a part of getting successful in the Leetcode problem and assignment, I had to stretch my thinking and put in extra energy.

3. Yes, the combination of leet code problems alongside written in class assignments pushed my critical thinking skills in new ways. I believe it's because this is an approach not adopted by most professor which is a shame.

4. yes, very challenging

5. NO

6. I enjoyed learning about new concepts that grew my understanding of the field.

7. Yes, it had a lot of new interesting material that helped me improve my problem solving skills

8. Yes, I think the questions and exercises presented are normally very on topic and helped me use what I just learned in class.

9. fair

10. The class was intellectually stimulating because of the number of abstract concepts you learn in the course. The projects require deep thought, planning, and problem solving. In that way, it does stretch your thinking.

11. Yes, the class was intellectually stimulating. Some of the concepts expanded upon what we learned in CSS 343 and others were new topics which allowed me to expand my knowledge. I was able to apply what I learned in class exercises in completing assignments.

12. Actively solving LeetCode problems during class was intellectually stimulating, allowing me to apply learned concepts into code. Biweekly projects offered me practical opportunities to extend my learning into larger-scale applications.

13. The class was intellectually stimulating. The section on graphs and polymorphism stretched my thinking and was very interesting. Almost everything covered in this course was new and it forced me to think more critically on it.

14. it was both intellectually stimulating as well as it did stretch my thinking. The various algorithms presented as well as the problem solving aspects of the course definitely proved those points for sure.

15. Absolutely. This course had a wide range of topics which stretched my thinking a lot. Most of the concepts built upon more efficient or in-depth concepts we'd learnt in 342. It stretched my thinking because we were challenged to really fully grasp how concepts are implemented or at the least should work.

16. This class was great in explaining data algorithms and I truly felt like I learned and understood the topics.

17. Yes, it was, it requires a lot of thinking due to the many concepts I learned during each class.

18. Yes and yes because of all the concepts that we learned in class and the way they were taught were really helpful.

19. Very intellectually stimulating class with many different problems to solve.

20. This class is very intellectually stimulating and did stretch my thinking. Professor Pisan teaches the concept of 343 meaningfully, allowing us to understand complex concepts such as the various data structures we use and the associated algorithms. Due to the complexity of the topics, it allowed lots of time during and outside of the course to learn these topics.

21. Yes, a lot of the topics covered in the class were difficult to understand topics or completely new to me.

22. This class was intellectually stimulating with the problems and assignments we were given.

23. Yes, I learned new concepts that were relevant to my major.

24. This class was highly intellectually stimulating and did stretch my thinking due to the introduction and thorough explanation of new concepts in computer science and their applications.

25. Yes, good course, learned a lot of problem solving skills.

26. It was definitely intellectually stimulating.

27. It did.

28. Yes. The material was challenging. We were given very difficult problems and taught how to solve them using unique methods which were continuously built upon in the lectures.

29. Yes, there was lot of interesting concepts that were pretty confusing at first but I eventually got them.

What aspects of this class contributed most to your learning?

1. I like practicing those leetcode questions during the classes.

2. Leetcode problems and projects.

3. The office hours helped phenomenally, alongside that the openness to group work.

4. leetcode practice

5. NO

6. Participating in projects and in-class assignments contributed most to my learning.

7. The in class activities

8. The exercises forced me to come into class so that I would be at lecture every class.

9. leetcode problems contributed the most

10. The programming projects contributed most to my learning.

11. The sample problems in the lectures and going over the LeetCode problems together in class contributed most to my learning.

12. LeetCode problems and biweekly projects

13. An aspect of this class that contributed most to my learning was the instructors in class lectures. I just found them to be executed well and I was able to clear any misunderstands from the readings that I had when I went to class. Another aspect that contributed to my learning was the course discord. Very engaging and was able to get most of my questions answered.

14. The programming projects as well as the leetcode

15. Leetcodes, easily. These were massively helpful in understanding concepts and hands-on learning has always been helpful. Furthermore, the exam study-guides were extremely helpful for mastering material and gaging how much we need to study.

16. In class learning with visual and hands on examples.

17. Everything did

18. The lectures and class work contributed the most.

19. The professor is extremely helpful in giving examples and visual aids for tough concepts. Lectures were super interesting and engaging.

20. The aspects of the class that contributed the most were the leetcode questions we would do during or after the lesson, and the midterm preparations during class. These factors contributed greatly to what applied and understood the concepts.

21. The assignments gave me a chance to implement the ideas and concepts we learned in class. I especially liked the final Movie assignment with the polymorphic extra credit as it gave me a good understanding of the Factory design pattern as well as polymorphism.

22. Attendin class and reviewing over samples test and programs.

23. I enjoyed the new data structures we did not learn about in CSS 342

24. The aspects of this class which contributed most to my learning were the projects and the LeetCode assignments in class. Both of these allowed for hands-on experience that let me solidify new concepts through application.

25. Lecture, example problems, in class activities

26. What contributed most to my learning was the projects.

27. Class activities

28. Lectures/projects

29. I think the lectures and exercises helped most.

What aspects of this class detracted from your learning?

3. I believe the final exam being so close to the project deadline makes it difficult to focus on either. Reserving the last week of class to focus on the exams, even if it pushes the project work a little ahead of schedule would be ideal as it's difficult to manage both alongside my extracurriculars, and family obligations.

4. none

5. NO

6. I do not think anything aspects detracted from my learning.

7. The content is naturally difficult

8. I feel like the assignments should a bit more free form and feel very leetcode strict, making it very easy to know the grade I got on my programs.

9. difficulty of tests - for example 2-3-4 trees were learned about 1 day before the midterm but there were 2 questions asking for specific applications. not enough time to solve leetcode on our own. most of the time, half the class did not know what to do until the professor showed the answer. should give more hints on what to do next. no classtime dedicated to programs. very few explanations in class if any. the programs did not always match the material we're learning in class.

10. N/A

11. Some of the class assignments seemed to have vague instructions which detracted from my learning. Additionally, I feel as if some of the class concepts were taught too quickly and not thoroughly enough.

12. N/A

13. An aspect of the class that detracted from my learning was that we didn't do as much leetcode as I hoped we would. Leetcode is important for technical interviews, and I thought that we were gonna do one or two problems each class day. I wouldn't say this was a big deal though. That fact that this is the only thing I could come up with shows that I am very satisfied with this course and the professor.

14. none.

15. Sometimes the assignments were a bit unclear, but it was part of the fun to figure that out.

16. I don't believe anything detracted me from learning.

17. nothing

18. Nothing detracted me from my learning.

19. Nothing I could think of

20. There are no aspects I can think of at the moment that detract from my learning.

21. The exams are known to be hard which causes me to study harder which in the case of the final is taking time away from my other classes especially because the final is a week before finals week, so there are still projects in other classes. The final project being due 2 days before the final is also not very optimal for my stress levels and ability to learn.

22. The long lecture times.

23. None.

24. The only aspect of this class I found less helpful was the LeetCode project, the 4th project. While it was still helpful, I felt that I did not gain as much from it as the other projects we did. I feel as though it might be better as a "mini-project" of sorts compared to one of the 5 main projects.

25. Nothing

26. Some lectures left me a bit confused.

27. I would rather have more smaller projects than big projects

28. I enjoy leetcode problems as practice but having them on exams is a bit much. The problem I have with that is mistakes are punished heavily. Leetcode questions tend to be very tricky unless you know the specific tricks on how to solve them. Normally when doing leetcode problems you can make a mistake then go through your solution to find where your logic doesnt add up. On paper leetcode problems become much more challenging since you only get one shot to submit it. I dont know the specific statistics on how often leetcode problems are solved on the first submission but I would imagine its a low percentage. These questions made me feel like I was being tested on my ability to write flawless code on the first try not my abilities to use and apply the data structures and algorithms we learned in class.

29. I think that some parts of the lectures were a bit longer then they needed to be.

What suggestions do you have for improving the class?

2. Make it more group-oriented to get better ideas from other individuals' intuitions and reviews.

3. I believe some of the leetcodes could have been given more time to be solved. There would be moments in class where we would be doing mediums in 15 minutes, and by the end I would have 2-3 lines of code as I was still trying to understand the problem.

4. none

5. NO

6. I think this class was taught very well.

7. nothing

8. Only making the assignments a little harder by giving more freedom to the students to force more creativity from the students.

9. grading should be based on understanding, not mastery. right now, a high grade looks for mastery of the subject not understanding. mastery and perfection comes with experience which is relative to time practicing a subject. I do not think it is realistic for students coming to learn a new material to be expected to have perfect mastery on tests to receive an A grade. based on the tuition costs and the importance 343 skills are to our future jobs, most students are taking the course seriously. It does not make sense if the average grade is a 75 where it seems like a student has only learned 75% of the material. programs should not deduct point for minor issues like documentation. instead it should be warnings or reminders to the student. or there should be opportunities for revision for points back to showcase they properly learned. tests should look for understanding not perfect answers. If not, there should be chances to revise the tests for half points back. a professor at this university once said, the class average reflects how well I taught the class. Aim for 95% class avg!

10. N/A

11. Clearer assignment instructions and maybe more explanation of what the assignment requires in class would be helpful. More in-depth examples of problems and explanations of concepts would also be helpful in understanding the topics better.

12. N/A

13. A suggestion for improving this course is to do more leetcode problems.

14. none! If possible maybe provide more practice problems for some of the content covered for specific sections

15. A bit more clarity for the assignments would be really nice, that's the only suggestion, was a really great course.

16. Release the movie assignment sooner and make it due a day or two earlier to have enough time to study for final.

17. No suggestion, I just hope the final project of the course to be less scary

18. I can't think of any suggestions. Professor did a great job.

19. Nothing

20. Nothing at the moment.

21. Move the final back to finals week.

22. I do not have much as I do not think the class can be shorter than 2 hours.

23. None.

24. The only suggestion I have for improving the class is to organize the class slightly differently such that we would cover some of the material that we were not able to, such as red-black trees and some of the graph algorithms.

25. Maybe better instructions for programs?

26. Slow down the pace of the class.

27. I had no clue what maps were. Coming from a different 342 class that didn't touch on maps in c++ I felt it unfair that we didn't go over them in-depth.

28. Ether use very easy leetcode problems on the test or perhaps leave an area to explain the logic so we students arent docked significant points for making what I feel are acceptable mistakes when actually coding and solving leetcode problems.

29. Not sure how you could really do it, but maybe cut some of the redundancy

Your instructor is a member of a cohort of faculty who are piloting some new course evaluation questions focused around common elements of effective teaching. What did you like or not like, if anything, about the set of questions on this evaluation compared to other course evaluations you have completed?

2. I like prof Pisan's attitude and passion for teaching, and he knows his stuff.

3. I think it was fine, the short response questions focus more on us the student's than the actual course which I appreciate.

4. likes their teaching method

5. NO ⊂   [doge]   /   / /   / / / /| ((| | |) | |) /) L

6. I liked that these questions were good questions that can be used to improve the class.

7. I liked the ICAs. The material during lectures could be explained more simply. It helps when are are visual examples and less big words used.

10. N/A

11. The set of questions were good.

12. Questions are clearly understandable and straightforward.

13. Im sorry, I don't really remember enough questions from other course evaluations to give you a genuine answer. But I think that this course evaluation contained a good set of valuable questions.

14. I did not like or dislike anything in specific, about the set of questions being evaluated

15. I don't recall any differences.

16. I feel like the questions asked are good I wouldn't change a thing.

17. I like the Leetcode questions being integrated into the class, it requires recalling and understanding the concepts.

18. I don't usually do course evaluations, but just based on this evaluation I think all of the questions were good. Maybe one question that could be included is related to peer collaboration and how that helped if that was present in the class.

19. All questions were super solid.

20. I liked them all.

21. No comment

22. The questions were fine and I think they prompt for aspects that need to looked for.

24. I felt like the questions were about the same as normal, but maybe a little better. I did not notice too much of a difference.

25. Good

26. They were realistic

27. These questions were fine.

28. The questions seemed fine. I didnt notice a huge difference personally.

29. I don't feel particularly strong either way

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.[1] 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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[1] 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.