

CSS 343 B
Data Structures, Algorithms, And Discrete Mathematics II
Course type: Face-to-Face
Taught by: Yusuf Pisan
Instructor Evaluated: Yusuf Pisan-Lecturer

Evaluation Delivery: Online
Evaluation Form: D
Responses: 28/43 (65% high)

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 4.6 (0=lowest; 5=highest)	College Decile 7 (0=lowest; 9=highest)
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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: 5.8 (1=lowest; 7=highest)
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SUMMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	DECILE RANK	
									Inst	College
The course as a whole was:	28	54%	46%					4.6	7	7
The course content was:	28	54%	46%					4.6	7	7
The instructor's contribution to the course was:	28	68%	29%	4%				4.8	7	7
The instructor's effectiveness in teaching the subject matter was:	28	57%	25%	18%				4.6	6	7

STUDENT ENGAGEMENT

	N	Much Higher (7)	(6)	(5)	Average (4)	(3)	(2)	Much Lower (1)	Median	DECILE RANK	
										Inst	College
Relative to other college courses you have taken:											
Do you expect your grade in this course to be:	26	12%	19%	23%	38%	8%			4.7	2	3
The intellectual challenge presented was:	26	27%	38%	31%	4%				5.9	6	6
The amount of effort you put into this course was:	26	42%	31%	19%	8%				6.2	8	8
The amount of effort to succeed in this course was:	26	42%	27%	27%	4%				6.2	8	7
Your involvement in course (doing assignments, attending classes, etc.) was:	26	27%	42%	15%	15%				6.0	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: 14.5 Hours per credit: 2.9 (N=26)

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
	4%		4%	4%	15%	8%	31%	4%	8%	15%	8%

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

Class median: 12.7 Hours per credit: 2.5 (N=26)

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
	4%		4%	4%	27%	19%	19%		8%	12%	4%

What grade do you expect in this course?

Class median: 3.5 (N=26)

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
19%	42%	23%	4%	8%		4%								

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

(N=26)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
73%	27%				

STANDARD FORMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	DECILE RANK	
									Inst	College
Course organization was:	27	52%	37%	11%				4.5	6	7
Sequential presentation of concepts was:	26	58%	31%	12%				4.6	8	8
Explanations by instructor were:	26	50%	31%	19%				4.5	6	6
Instructor's ability to present alternative explanations when needed was:	26	58%	35%	4%	4%			4.6	6	7
Instructor's use of examples and illustrations was:	26	62%	35%	4%				4.7	6	7
Quality of questions or problems raised by the instructor was:	26	58%	38%	4%				4.6	6	7
Contribution of assignments to understanding course content was:	26	54%	42%	4%				4.6	7	7
Instructor's enthusiasm was:	26	62%	31%	8%				4.7	5	5
Instructor's ability to deal with student difficulties was:	26	58%	38%	4%				4.6	7	7
Answers to student questions were:	26	54%	35%	12%				4.6	5	6
Availability of extra help when needed was:	26	62%	35%	4%				4.7	6	7
Use of class time was:	26	69%	31%					4.8	8	8
Instructor's interest in whether students learned was:	26	58%	38%	4%				4.6	5	6
Amount you learned in the course was:	26	62%	35%	4%				4.7	7	8
Relevance and usefulness of course content were:	26	65%	35%					4.7	7	7
Evaluative and grading techniques (tests, papers, projects, etc.) were:	26	54%	38%	4%	4%			4.6	6	7
Reasonableness of assigned work was:	26	38%	42%	15%	4%			4.2	4	5
Clarity of student responsibilities and requirements was:	26	58%	38%	4%				4.6	6	7

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STANDARD OPEN-ENDED QUESTIONS

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

1. Yes. A lot of new concepts were presented but I felt like I was able to understand them, and they were not rushed through.
2. Yes. The professor Pisan would sometimes give us a problem to solve using algorithms and we had to really think about how we would solve them. These problems are definitely helpful for future interviews with tech companies.
4. Yes, good conceptual questions to expand thinking.
5. The abstract and discreet concepts
7. Yes, I learned a lot in the course
8. Yes actual explanations and helpful slides
9. Yes
10. This class has been so far one of my favorite classes in my major. The content learned in the class is very challenging. Yet, having a great instructor like Yusuf Pisan gives one hope to understands the concepts, and to implement them in projects.
11. This class was intellectually stimulating. Some subjects including graphs, TM, FSM, regular expressions, BNF, dynamic programming, and trees took a while to understand.
12. I really like the class. I learned a lot!
13. Yes, it did! I really enjoyed the exercises that are similar to LeetCode problems.
14. This course is very challenging but in a good way. Concepts in C++ and learning the core of programming and data structures is very stimulating.
15. Content was displayed well and easily understandable thanks to the professor. Many of the topics were new to me and a lot harder to grasp than previous classes (342, 143, 142). Professor made it easy and not difficult.
16. Yes, It challenged my way of thinking about computations. It also heavily increased my skills in C++, C++ design, and C++ memory management.
17. Yes. Content highly stretching my thinking. It requires a lot of reading and basic CS knowledge.
18. Technically very challenge, and a large time commitment.
19. Yes and yes. We explored problems related to what we learned. Applying what we learned to these problems helped solidify my understanding of the material.
20. Yes. The algorithms and data structures in this course were much more challenging than in other courses. We covered a lot of interesting and useful material.
21. This class was very intellectually stimulating. Every lecture I learned several new concepts. Professor Pisan taught me a great deal and was always happy to explain things I did not understand.

What aspects of this class contributed most to your learning?

1. In-class lectures and the class exercises used. It was really helpful that Professor Pisan walked through an example with everyone first, then gave us a few problems to try on our own and then went through the correct solution after we all tried.
2. Learning to use GitHub was very cool. Although it was difficult at the beginning, I got the hang of it and I know I will be using it in the future.
3. The professor is amazing!! He does a great job of explaining concepts and offering alternative explanations! Also the Panapto is super helpful!
4. Talking through class examples
6. The instructor. He was enthusiastic about the material. He took the time to explain the content in enough detail to the class. He even went beyond the scope of the course to help students begin the search for employment.
7. The lectures and class exercises helped the most.
8. Good class documentation; some professors have barely any online documentation but this professor did very good with uploading all helpful in class material to be reviewed.
9. Assignment and in-class exercise
10. Yusuf lectures are full of examples and in-class exercises, which help to understand such complex concepts better. He cares about students and wants them to understand the lectures. He is willing to explain any confusing concept, as long as the student shows engagement and interest in learning too. He makes use of GitHub to submit projects in his class. This tool is super important for students to start learning sooner than later. I think more instructors should start implementing this tool in their classes too.
11. Class examples and lectures.
12. I really liked the in-class exercises.
13. Hmm, everything! I think exercises, the visuals for the trees, programs, and then quizzes if I were to rank them.

14. In class lectures and asking questions when I needed to clarify a concept were the best ways for me to learn. I also learned a lot through the Assignments especially the final one Ass4.
15. In class exercises.
16. Git based homework and loads helpful examples from class. Whiteboard examples were great!
17. Dictionary (Hashing), trees, in-class exercise
18. Use of in-class exercises was very useful, and resources to visually represent AVL trees and hashing were very useful
19. Professor Pisan created a positive learning environment. He is passionate about the material, and he goes the extra mile to help students and ensure that they get the knowledge they want. I enjoyed the in-class exercises.
20. Assignments and lectures
21. I REALLY appreciated how Professor Pisan did not put up with ANY nonsense. Whenever people would be disruptive and distracting, he immediately mentioned it and put a stop to it. When people were playing on their laptop or phone, he put a stop to it. It really helped me feel I could listen without distraction. I was always very encouraged to participate.

What aspects of this class detracted from your learning?

1. The online quizzes a little bit. I felt like sometimes we would take a quiz on a new concept but not cover it in class until the next week.
4. I struggled with the linux assignment because the instructions were unclear at times.
6. COVID-19
7. Nothing
8. Corona virus
9. none
10. Nothing
12. Nothing detracted me from learning.
13. None
14. Certain explanations of the discrete mathematics were vague and unclear. Understanding the concepts needed more examples.
15. Not enough exercises like memory leak. These exercises helped in grasping topics for the day. The projects were tedious and not as helpful.
17. No.
18. N/A
19. Remote classes are difficult. Fortunately, Professor Pisan does a great job at teaching remotely, and this minimized the impact upon the class.
20. Some in class activities were too difficult to be solved on the spot if you had not seen the problem before
21. I found the workload a bit challenging to manage. I made it work for the majority of the quarter, but towards the end of the quarter I was drowning in too much work between all my classes and work.

What suggestions do you have for improving the class?

1. Instead of an online quiz each week, maybe having more graded in-class exercises related to new concepts would be helpful that way students actually get to practice these concepts and the professor could be aware of how well it is being understood. I really enjoyed the in-class exercises related to solving algorithms, but I think other worksheets (5-7 problems) more related to concepts learned in class would be helpful too. Overall, this course was excellent and very well taught!
4. The graph and movies assignment deadline would be nice to have been pushed back a few days.
7. Giving a little more help on the assignments and walking through it a little more. Most of the assignments were advanced and hard so a little more help on how to approach them would be beneficial.
8. I would recommend you make each student design his own final project, then bring it to class and have other students critique it. My group had different schedules, and by the time I had a chance to start my part, the UML was almost done and I didn't get the practice I wanted coming up with my own design. This is very common in group work; by the nature of school, everyone has different schedules and its almost impossible to have everyone work on everything; the work almost always gets split into parts. The reason given was because we should learn to work in groups, but because we weren't going to code together and because we were in large groups (even 2 would be better than 4), it was hard to really dig in mentally to the whole design process. That said, it really is a minor gripe. Very good class, I really enjoyed the quarter.
9. none
10. I would suggest more CSS students to take his class
11. More time focusing on topics on the final exam, including TM, FSM, and dynamic programming.
12. I really liked the class just the way that it is!
13. This class was awesome! It is my second time taking a class from you, and as always, it was a great experience.
14. More hands on coding in class. A lot of the time in class we look at code on the projector but did not practice writing it. A big one I remember is the inheritance lecture. We looked at all the code but when it came to having to code it for Ass4, I was unsure how it work or what I needed to do. Overall was a great course
15. More nightly exercises and perhaps 2 LARGE projects for the quarter. I think I would have taken more away from this class.
16. Getting rid of clang-format may be a good idea.
17. Pretty much everything is all good.

18. For the graphs assignment, either separate the assignment into two separate parts, with the Dijkstra algorithm and MST algorithm being the second part, or spend more time reviewing the algorithms.

19. Keep doing what you do.

20. None

21. I loved this class. Wish I could take it again.

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).

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.