

CSS 343 C
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: 39/47 (83% very 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 4.0 (0=lowest; 5=highest)	College Decile 3 (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: 5.6 (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:	38	32%	32%	24%	8%		5%	3.9	3	3
The course content was:	38	29%	34%	26%	5%		5%	3.9	3	3
The instructor's contribution to the course was:	38	39%	34%	16%	5%	3%	3%	4.2	3	4
The instructor's effectiveness in teaching the subject matter was:	38	34%	29%	16%	13%	3%	5%	4.0	2	3

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:	38		21%	24%	39%	8%	3%	5%		4.4	1	1
The intellectual challenge presented was:	38	21%	34%	32%	8%		3%	3%		5.7	4	4
The amount of effort you put into this course was:	38	24%	47%	13%	11%	3%		3%		5.9	6	5
The amount of effort to succeed in this course was:	38	26%	37%	24%	11%			3%		5.9	5	4
Your involvement in course (doing assignments, attending classes, etc.) was:	38	21%	42%	11%	18%	5%		3%		5.8	4	4

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: 13.0 Hours per credit: 2.6 (N=37)

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
			8%	3%	27%	16%	14%	5%	5%	11%	11%

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

Class median: 10.2 Hours per credit: 2 (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%	14%	17%	8%	11%	8%	8%	6%	8%	3%

What grade do you expect in this course?

Class median: 3.4 (N=37)

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
5%	43%	27%	14%	5%	5%									

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

(N=37)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
76%	16%	3%		5%	

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:	37	24%	46%	19%	8%		3%	3.9	3	4
Sequential presentation of concepts was:	38	29%	37%	24%	5%	3%	3%	3.9	3	4
Explanations by instructor were:	38	29%	24%	24%	16%	3%	5%	3.6	2	2
Instructor's ability to present alternative explanations when needed was:	38	24%	21%	32%	16%	3%	5%	3.3	1	1
Instructor's use of examples and illustrations was:	37	32%	32%	19%	8%	5%	3%	4.0	2	2
Quality of questions or problems raised by the instructor was:	36	36%	25%	28%	6%		6%	3.9	2	3
Contribution of assignments to understanding course content was:	37	30%	32%	19%	14%	3%	3%	3.9	3	3
Instructor's enthusiasm was:	36	56%	17%	22%	3%		3%	4.6	4	4
Instructor's ability to deal with student difficulties was:	36	28%	39%	17%	8%		8%	3.9	3	3
Answers to student questions were:	37	35%	27%	30%	3%		5%	4.0	2	3
Availability of extra help when needed was:	37	35%	27%	27%		8%	3%	4.0	2	2
Use of class time was:	37	35%	41%	14%	8%		3%	4.1	4	4
Instructor's interest in whether students learned was:	37	43%	30%	19%			8%	4.3	3	4
Amount you learned in the course was:	37	38%	32%	19%	5%	3%	3%	4.1	4	4
Relevance and usefulness of course content were:	37	46%	27%	19%	5%		3%	4.3	4	5
Evaluative and grading techniques (tests, papers, projects, etc.) were:	37	30%	32%	22%	5%	3%	8%	3.9	3	3
Reasonableness of assigned work was:	37	27%	32%	27%	5%	5%	3%	3.8	2	2
Clarity of student responsibilities and requirements was:	37	24%	46%	19%	3%	3%	5%	3.9	2	3

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STANDARD OPEN-ENDED QUESTIONS

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

1. This class constantly challenged me to find new and interesting ways to approach computer science. I really enjoyed learning about computer logic systems and developing way more complex systems than I did in previous classes.
3. It didn't stretch my thinking so much as solidify things I've been learning throughout the two C++ classes.
4. This class was difficult for me but not impossible. Tests were challenging and assignments were hard.
5. There was alot of good stuff in this course. Lots of CS concepts besides just algorithms were fun to learn about.
7. Yes, this class included lots of concepts. In order to fully understand the concept, extra research needs to be done. I have put a huge amount of time in order to figure out how to do the assignment in this class.
8. Yes, the assignments were hard and to a lot of time to do research because materials in class did not enough to finish the assignments
9. Yes, many intellectually stimulating concepts were covered throughout the course and my thinking was very stretched. Many of the concepts were challenging to grasp for me and the professor brought up different ways to apply these concepts.
10. It did. It dealt with topics that I had no experience with.
11. This course did a good job of identifying the underlying, or prerequisite information and where it can be studied so that I could spend all of my time actually reading relevant information and not hunting for it. KUDOS!
12. very intellectually stimulating!
13. No, i have already taken classes that covered most of the content in this class
14. I thought this class was fairly intellectually stimulating, but as I have done some of the stuff we learned in this class before for those topics it was pretty easy.
15. The class was most definitely intellectually stimulating, both exploring new concepts and algorithms while also helping us understand why those concepts were interesting.
16. I thought it was a good course overall.
17. The assignments required a lot of understanding of course material. I had to manage time properly in order to complete them as well as utilize tutors from the CSS labs.
19. Yes, new concepts every class were brought up and it really made me think.
20. It was very good for my CS knowledge.
21. Super challenging, good material
22. Yes, it presented lots of new materials and stretched my thinking when I learned about the different types of trees we have.
23. The instructor had a lot of in class exercises, which were really helpful reinforcing the understanding of the concepts.
24. Yes, I hard to think a a lot because the assignment is hard
25. Yes
27. Yes because we were learning a lot of new computer science concepts and theories.
28. It was interesting.
29. It did. Tough course with very challenging assignments and exams.

What aspects of this class contributed most to your learning?

1. In class lessons and exercises were excellent. Professor Pisan's automated software evaluation system "Jolly" was a huge help.
2. Example problems / Working in a group to solve small problems on board.
3. The lecture notes and the teacher's explanations were really helpful. There was also a Slack chat created by the teacher for students to help each other, as well as get feedback from the teacher himself on issues.
4. Class lecture and practice problems
5. C++ practice is essential.
7. The exercise is the most helpful for the progress of my study. Most of the CSS class doesn't include exercise in the middle of the lecture. This will make the student feels boring if they have to listen to the instructor on and on.
8. Assignments.
9. The professor was extremely organized, communicative, involved, and was very clear in all assignments. All of these things contributed most to my learning.

10. Meeting up with people outside of class.
11. The instructors ability to build each lecture slide so that it wasn't just some glazed over pearl of information, but was instead an interactive or useable demonstration of the subject matter. Very educational!
12. Learning acutal applications of what we are doing, including huffman encoding and dijkstras shortest path.
13. inclass activities
14. I thought the working through examples in class was very good and helped cement my learning.
15. The most important contributor to my learning in the class was the instructor. Throughout the quarter, I'll sometimes write down notes about what I want to remember to say in this feedback form at the end of the quarter. From the very beginning, I was reminding myself to express how prepared the instructor was, how he was transparent and open with his methodology, and how flexible he was in his teaching, making sure to adjust to any problems he encountered teaching us along the way. The exercises he gave were also very helpful in understanding the course material. They never felt arbitrary or unhelpful. Finally, he very clearly cared about all his students. He even brought free coffee one week after a particularly difficult project, and never forgot that a 5-10 minute break to wake up and return refreshed. But more than that, he always seemed like he wanted us to succeed. Personally, I didn't do well this quarter, but none of that was on him. Professor Pisan clearly contributed a tremendous amount of time and effort to making this course the best it could be. I only wish I had him as a professor before this quarter.
16. The examples and group exercises were the most helpful thing about the class. Same with the midterm and final prep worksheets.
17. In class activities.
- 18.
19. in class lectures and activities.
20. The content was great
21. The teacher, uploading lecture slides, and in class exercises
22. The group exercises.
23. Self learning
24. doing assignments
25. Group work
27. The in class practice examples.
28. The in class exercises.
29. The fact that the lectures were online.

What aspects of this class detracted from your learning?

1. Some of the other students mocking and bullying when a person does not know the answer. I get that we are all smart people, and it is probably not the job of UW to make sure that only quality students get degrees, but I would hope that these people would learn at some point that everyone has something to contribute.
3. None.
4. None
5. Calling students out in class to answer questions is not appropriate. The teacher should assume that students are there because they want to learn and not be FORCED to learn.
7. None
8. No thing
9. When other students would talk during lectures.
10. Nothing.
11. There were multiple points where important course information was provided on the class's Slack channel (administrated over by Pisan) and that medium for information exchange is terrible in my opinion. It's only use is for subject specific chat.
12. Instructor had a way ofmaking things seem more complicated
13. examples written on the board
15. Professor Pisan was one of the best CSS professors I've ever had. The only detractors to my learning in this class were on my end.
16. I felt like the office hours weren't much help because the instructor waseither busy or because he didn't always know what I was asking
17. Materials that will be covered were always conveyed clearly. So it was hard to study topics before coming to class. During class time, it was hard to grasp and practice topics learned for the very first time when they were introduced. The instructor could have explained concepts more clearly.
19. None
20. Some of the grading was extremely harsh without any repercussions
21. none
22. Not having panotpo recording to come back and re-visit the stuff.
23. Nothing much
24. none
25. Grading on test wasn't helpful to my learning, getting part "A" wrong and thus getting the rest of the question wrong even though it was done correctly just based on a wrong part A, didn't help me learn.
26. Sorry Pisan, I had a hard time with your stutter for the first half of the class :(I got used to it eventually, and I noticed that it's only a problem when speaking on not-yet-prepared material; the stutter goes away when discussing practiced material.

28. None.
29. Professor Pisan is a smart guy, but I don't think he's made for teaching. He seems like he would perform very well in research or something along those lines. Interacting with students and teaching in front of 50 students is just not his strength. He doesn't have empathy. He doesn't seem to understand the fact that students have other stuff going on in their lives. He doesn't really treat us as students trying to get a degree so we can get a job, but rather some specimens who need to understand Dijkstra's algorithm and parse this binary tree perfectly or they fail. I'm not going for my PhD. I'm not going for my master's, even. I think you can chill out on how hard you grade your exams. Flipping two numbers on an exam because of nervousness and anxiety doesn't make me a bad student, it makes me human. His grading style doesn't make sense. His questions are all multi-part and if you get the first one wrong (even by a little bit), you just lost 25% of your grade on that test. Also, we can tell that you don't double check the grader's work. So please just get rid of the graders and spend a little extra time personally grading out work. He makes a lot of mistakes during lecture and is pretty reluctant to admit them and tends to blame *something* whenever someone calls out a mistake. When half of the class fails the first mid term, you didn't get bad students, you just didn't teach very well. Overall, I would say, again, that Dr Pisan is a smart man and should be solving the big problems in the computer science world. Leave dealing with students to someone who is a bit more empathetic. Someone who can understand that we're here to just get a degree and get the hell out. I don't care about participation. I don't care about the group exercises. I don't care about all of those algorithms that I don't even remember anymore. I'm just here to graduate and leave, just like the other 99% of us. The other 1% will go on to get their master's and PhD's. Feel free to go hard on those people. I've had multiple programming jobs and I've never had a manager bash me so much for getting something wrong like this class has. They are my mentors and help me learn and get better. I feel like that was not the case with this class.

What suggestions do you have for improving the class?

1. I like the class as it is.
3. None.
4. Make tests a little less difficult
5. The homework is a bit off from the coursework. The teacher and class might benefit from homework tailored more towards course content. This quarter, we did: 1. Turtle drawing 2. A binary search tree 3. Graph traversal These are very basic concepts that took me very little time to complete. It would have been nicer to practice other concepts taught in class with less time dedicated to these.
6. I felt like I wanted to see more code examples. And when we were talking about various types of trees i think it really would have helped if you spend more time on the rules that control the self balancing trees because just visually doing it was confusing for me.
7. The class as current is pretty good. I'm not sure what else needs to be improve (for now).
8. More explanation about the concepts.
9. None
10. Provide more detailed lecture titles on the website.
11. Set up some means for course critical information that gets shared on the Slack channel to also be posted to a dedicated repository for critical information so it doesn't run the risk of being buried or lost amidst irrelevant chatter.
12. Try to work out more succinct straightforward explanations of the material
13. n/A
15. I have no suggestions. As long as Professor Pisan continues working with the enthusiasm and effort that he demonstrated this quarter, I can only see this course improving over time.
16. Only thing that I didn't find that useful were office hours.
17. More clear overview of the course which allows students to study topics before they are introduced in class. More clear definitions and explanations of concepts. More examples of concepts. Perhaps the biggest issue of this class was that there was really no "real" way to practice concepts learned in class. For example, we would go over how to do graph algorithms. But no additional practice problems were every provided. So it was hard to master a concept , as we would have to go to other resources not provided, then it was hard to make sure we practiced those concepts correctly (as other resources like youtube videos) as the instructed wanted. For future classes please provided many extra worksheets WITH ANSWERS to practice concepts.
19. None
20. Grade easier, and if a problem exists with the whole class, do more to help everyone out
21. none, great course!
22. Panopto Recordings.
23. The instructor could improve on the clarity of contents
24. none
26. Faster grading feedback (sorry Thomas) and ... more homework. I never thought I'd suggest it, because I hate spending tons of time on homework. But it would be nice to get feedback more frequently.
27. More diverse assignments that teach new programming skills.
28. Be better prepared for class.
29. I think it would be really useful to teach professors some management lessons. I had a 350 class where the professor taught us the different ways to manage people and get them to perform best. Professor Pisan did none of those things. Perhaps it would be best to focus more on students instead of the tasks. Teach us how to be better software engineers. We'll study Big O when the interviews come up. We'll have to remind ourselves binary trees when we get an interview with Google. This stuff doesn't matter that much right now. Sympathize with the students and don't expect too much from us. We have enough on our plate.

INSTRUCTOR-ADDED OPEN-ENDED QUESTIONS

What advice would you give to a student taking this course that will help them succeed?

1. Start working on assignments as soon as you get them. It is too late to get assistance 2 or 3 days out from the due date. Also, make friends and get a study group. Your fellow students will often be your best debugging tool.
2. Don't be afraid to use slack
3. Have time to spend on assignments and learning the algorithms. Learn and be able to demonstrate what algorithms are doing, not in code, but in theory.
4. Study a lot for tests. Start homework early. Do the in class practice
5. Pay attention and don't get off track.
6. Find someone to study with. It really helped to talk through the concepts and work on problems with someone else.
7. Do lots of the exercises and read the book in order to have a better understanding of the algorithm and the data structure.
8. Study hard and start your assignment as soon as possible
9. To take advantage of the online resources, which includes the posted lectures, resources page, and Slack. Do not be afraid to ask questions! The professor is always happy to provide explanations either in class or through the slack channel. Be prepared to spend much more time studying and doing the assignments for this course!
10. Study the concepts after every lecture
11. While being able to code a robust solution or implementation of the data structures and algorithms taught in this course is important, you will also need to practice the handwritten techniques for communicating those same concepts if you hope to pass exams, or to succeed in internship interviews.
12. Learn Valgrind beforehand
13. Relax
14. Start the homework earlier than you think you need to, and make sure to attend class because if you do you won't need to study nearly as much for the tests.
15. Put in the work. Show up for every class, don't be shy (like me) about asking questions, do the exercises and remember that your classmates are right there with you trying to learn and understand the material. And of course, START EARLY on the projects.
17. Attend all classes. Do not assume you will learn everything in class (you won't) so be prepared to seek other resources to learn materials. Start on the homework assignments early as there are many unforeseen problems in development that will show up.
19. Make sure you pay attention, show up to class everyday, get your friends to take this so you have peer to peer help.
20. I would tell them to be really prepared with C++, understand the fundamentals of Memory leaks for the coding part. For tests, be prepared for a lot of knowledge based stuff rather than coding.
21. Two weeks for assignments seems like a lot, but utilize the time well and start early for jolly feedback
22. Take lots of notes during the lecture and record if needed.
23. Teach yourself
24. Reading book, and doing assignment
26. Get started early on projects, so you can feel accomplished. Read the recommended material before tests, because some of the questions are obscure. seriously, $A * S * (\ln A + \ln S)$???
27. Start early on homework. Attend classes and pay attention to the class material. Practice/study for exams.
28. Get help early.
29. Quit your job and study full time.

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.