CSS 342 A
Data Structures, Algorithms, And Discrete Mathematics I
Course type: Face-to-Face

Evaluation Delivery: Online
Evaluation Form: A
Responses: 32/33 (97% very high)

Taught by: Yusuf Pisan
Instructor Evaluated: Yusuf Pisan-Other

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	College Decile
4.4	**6**
(0=lowest; 5=highest)	(0=lowest; 9=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:	31	52%	29%	13%	6%			4.5	6	7
The course content was:	31	45%	32%	16%	6%			4.3	5	6
The instructor's contribution to the course was:	31	48%	35%	16%				4.5	4	5
The instructor's effectiveness in teaching the subject matter was:	31	48%	26%	16%	10%			4.4	4	6

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:	31	6%	29%	10%	42%	6%	6%		4.4	1	2
The intellectual challenge presented was:	31	29%	39%	26%	3%		3%		6.0	7	6
The amount of effort you put into this course was:	31	45%	23%	23%	10%				6.3	8	8
The amount of effort to succeed in this course was:	31	39%	42%	6%	13%				6.2	8	7
Your involvement in course (doing assignments, attending classes, etc.) was:	31	35%	32%	16%	16%				6.0	7	7

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: 12.8 Hours per credit: 2.5 (N=31)

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
		6%	6%	10%	19%	13%	19%	3%	10%	10%	3%

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

Class median: 8.9 Hours per credit: 1.8 (N=31)

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%	26%	10%	16%	16%	10%	13%		3%		3%

What grade do you expect in this course?

Class median: 3.5 (N=31)

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
23%	29%	16%	13%	13%	3%	3%								

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

(N=31)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
77%	13%		6%		3%

STANDARD FORMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	DECILE RANK Inst	DECILE RANK College
Course organization was:	30	37%	40%	23%				4.2	4	5
Clarity of instructor's voice was:	31	35%	48%	16%				4.2	3	4
Explanations by instructor were:	31	39%	32%	26%	3%			4.2	3	5
Instructor's ability to present alternative explanations when needed was:	31	55%	32%	13%				4.6	5	7
Instructor's use of examples and illustrations was:	31	48%	35%	13%	3%			4.5	4	5
Quality of questions or problems raised by the instructor was:	31	42%	35%	19%	3%			4.3	4	5
Student confidence in instructor's knowledge was:	31	68%	23%	6%	3%			4.8	6	6
Instructor's enthusiasm was:	31	55%	26%	19%				4.6	4	5
Encouragement given students to express themselves was:	31	42%	35%	10%	13%			4.3	3	4
Answers to student questions were:	31	52%	35%	13%				4.5	5	6
Availability of extra help when needed was:	31	45%	35%	13%	6%			4.4	3	5
Use of class time was:	31	48%	32%	16%	3%			4.5	5	6
Instructor's interest in whether students learned was:	31	48%	26%	23%	3%			4.4	3	5
Amount you learned in the course was:	31	48%	29%	13%	6%	3%		4.4	5	6
Relevance and usefulness of course content were:	31	55%	29%	16%				4.6	5	6
Evaluative and grading techniques (tests, papers, projects, etc.) were:	31	52%	29%	13%		6%		4.5	5	6
Reasonableness of assigned work was:	31	58%	23%	13%		6%		4.6	6	7
Clarity of student responsibilities and requirements was:	31	52%	29%	13%	6%			4.5	5	6

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STANDARD OPEN-ENDED QUESTIONS

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

1. Yes. It constantly needed problem solving, particularly the leetcode.

2. This class did a LOT to stretch my thinking. Despite the fact that it wasn't too drastic to jump from Java to C++, the new techniques and considerations between languages was a lot for me to work with.

3. Yes, it delivered did by allowing me to think outside the box and teaching me that there code be multiple ways in which one could code. a solution.

4. The concepts themselves are stimulating

5. This class was very intellectually stimulating for me. As a person who was a little bit introduced to C++, I can say that the in-class LeetCode problems were highly relevant to the course. The project assignments were much more complicated and required most of my time for this class. However, they were very intellectually stimulating.

6. This class was intellectually stimulating as I was learning a new programming language this quarter. In addition, this class gave me a lot of different perspectives on how to solve programming challenges, such as those that use data structures.

7. Yes, this class is intellectually stimulating. I really stretched my thinking a lot. I learned essential concepts such as arrays, linked lists, trees, graphs, sorting, and searching algorithms. These topics often require abstract thinking and problem-solving skills, which can stretch one's thinking and help develop analytical and logical reasoning abilities.

8. This class is absolutely an intellectually stimulating class that forces you to stretch your thinking. You will be introduced to the material in class and practice how to use them, but it is up to you in your assignments to figure out how to use what we learned to perform a certain task.

9. Coding naturally stretches your thinking.

10. Yes, this course was intellectually stimulating and stretched my thinking because I solidified my understanding of current computer programming concepts I knew beforehand and learned new computer programming concepts. These concepts included C++ fundamentals, classes, pointers, dynamic memory allocation, operator overload, recursion, different types of data structures (arrays, vectors, linked-list, stack, queues, etc.), sorting algorithms, algorithm complexity, and many more. These computer programming concepts would then be applied using C++ and UNIX commands to build programs that would perform a series of tasks to test my understanding and work on my computer programming skills.

11. Yes, I learned a lot of new concepts such as recursion and depth first search and boolean logic. It was also extremely fun and stimulating trying to learn C++.

12. Yes

13. this class was great, it covered content i have learned in previous classes before but it was taught really well

14. Yes and yes. Doing the leetcode activities made sure I was engaged and understanding.

15. yes, it made me think about way to optimize solutions.

16. Yes, there are a lot of new things to learn.

17. Yes. Learning C++ and new code ideas

18. Yes it’s quite hard.

19. yes

20. The class was intellectually stimulating as our assignments were very difficult, it really helped me understand better how to write better algorithms, however at times this class felt very difficult

21. yes, it did stretch my thinking. Problems and code were approached from different angles, from both the professor and him encouraging the students for different approaches. Professor tried to keep the lecturing part as short yet efficient in teaching the material as he really wanted us to look at actual code as much as possible.

22. The class was very useful in expanding my knowledge of programming data structures.

23. Yes, then projects were intellectualy stimulating.

24. Projects were challenging enough that it would take hours of my time to successfully do.

25. I love the Leetcode exercises, really help to check my conceptual understanding.

What aspects of this class contributed most to your learning?

1. The leetcode was most helpful to my learning.

2. Definitely the leetcodes! These were phenomenal for both getting students to understand what was ahead for them in the industry, and also for being able to practice concepts individually!

3. I think that the leetcode exercises were the most helpful.

4. Trying problems myself

5. The project assignments.

6. The Leetcode problems, review days before exams

7. I would say all of it. All the things I learned from this class contributed to my major.

8. What contributed most to my learning is how to lectures are formatted (partially lecture, partially problem practice with leetcode), and the discord server that the professor created. The discord server allowed us to ask questions and other students, teacher assistants, or the professor himself could chime in and offer clarifications.

9. Leetcode work, the pace of assignments/tests being just right, fantastic explanations by instructor when prompted for more info by students

10. One aspect of this course that contributed most to my learning was the in-class sessions that went over various computer programming concepts and tested my understanding through LeetCode exercises or building small programs through Replit. Another aspect was the computer programming assignments as they too tested my understanding of computer programming concepts. They presented the opportunity to work with C++ and UNIX commands while remotely developing through Docker. They also allow me to work with the features provided by Git and GitHub and to submit changes through GitHub repositories. They also emphasized the importance of iterative and test-driven development. Another aspect was the study guides provided to prepare for exams as they reviewed the various computer programming concepts I learned as well to test my syntax and semantics knowledge of C++ through pencil and paper and not depending on my computer. Lastly, the course's Discord server was another aspect as it provided a convenient way to communicate and to see the responses to my classmate's questions and comments.

11. Practicing LeetCode and doing the projects, which all focused on a different concept.

12. lecture

13. homework and in-class problems

14. Coding while in class.

15. leetcode problems.

16. The challenges of each project.

17. The course was largely new due to the new language and some new concepts. Also being organized in projects was helpful.

18. The power points were helpful.

19. i liked the leetcode problems

20. The homework was definitely the most useful in contributing to my learning but it also was very challenging

21. I think the use of leet code for in class practice was excellent and I really liked doing them and all the problems that were selected fit in very well to the content that was being taught. The homeworks were all also as a whole good assignments to practice the knowledge at home and most of them were very interesting to work on, if sometimes a pain to get it working perfectly.

22. The use of leetcode to work through problems in class was most helpful. Secondary the 2 week assignments forced me to research and learn new methods of creating algorithmic solutions.

23. The projects and leetcode problems helped me learn the material a lot.

24. From Leetcode to Projects, these were great learning experiences that I would say were practical in the real world.

25. Doing Leetcode & projects

What aspects of this class detracted from your learning?

1. The longer projects with a lack of guidance made me want to give up.

2. None, actually! I was very into this course, and I think Professor Pisan did an incredible job.

3. I don't think that there were any.

4. too much leetcode, in class when the leetcodes are so hard i cant do them it is not a learning experience for me

5. No aspect of this class detracted from my learning.

6. Probably limited accessibility outside of the classroom - it was difficult to consult help outside the classroom.

7. None.

8. Aspects that detracted from my learning is getting stuck for long periods on assignments. This is to be expected of the course work, but it can be grueling to struggle and figure out the source of the issue. However, this is why help for the class is available. Whether through the tutoring center, the professor, or the discord channel.

9. Somewhat dry/confusing lecture regarding the math and logic stuff

10. One aspect that detracted from my learning was that for some in-class sessions, there weren't LeetCode exercises or building small programs through Replit involved. Thus, for some computer programming concepts, I couldn't fully understand without applying my knowledge through LeetCode exercises or building small programs through Replit.

11. Nothing really detracted from the learning. Sometimes we spend too little time on hard to understand concepts such as recursion or linked lists.

12. no

13. long lectures

14. none

15. N/A

16. nothing

17. None really.

18. Nothing.

19. none

20. I wish the class went over the algorithms for the homework more, especially for project 4 because it is very hard to make that jump. I also really am not a fan of the fact that the midterms involve us having to write code on paper, I would much prefer if it was like some my earlier programming classes midterms where we had a paper portion and a portion where we actually wrote code into the actual IDE

21. none

22. I don't believe any aspects of the class detracted from my learning.

23. Nothing really detracted from my learning.

24. Currently, none; what detracted from me was responsibilities outside of class.

25. Maybe half of the lecture can be viewed for students remotely, and then do a 15-quiz in class? Then in the actual lecture, the instructor can talk about where the student's understanding is a little off. The class time is better used for Leetcode, doing projects together, since students can get help.

What suggestions do you have for improving the class?

1. A little more help on the projects.

2. Might there be some consideration for turning the course into a fully project-based course? This is only a consideration, but I found that a lot of learning came from spending time on the projects, in part as an exercise in time management. Otherwise, this was a fantastic course! I hope it was for you too, Professor!

3. I don't think that I have any suggestions for improving the class.

4. id recommend cutting some of the hard leetcodes and just do simpler problems

5. I would suggest spending more time in class in preparation for the project assignments. Sometimes it felt like what we've covered in class is way easier than the project.

6. Nothing really, maybe just give students the option for Zoom office hours or extend your accessibility outside of the classroom

7. None.

8. Many of the project assignments were pretty clear in its description, except for the project 5 design project. It was difficult to figure out the expectations for each section of the design document. However, the professor was very timely in his responses in his emails and discord channel, so we were able to find clarifications.

9. Really emphasize utilizing office hours... some concepts needed to complete the assignments genuinely need a 30-minute sit-down and explanation, so the student isn't spending hours or days ripping their hair out. Not the fault of the instructor - just some students may be too prideful to ask for help and maybe giving anecdotes to alleviate the perceived shame of asking for help could encourage students.

10. One suggestion for improving this course is some of the slides provided weren't up to date with the slides used during the in-class sessions while others were unable to access due to being locked sometimes. Another suggestion for improving this course is to have a small assignment that goes over shell scripts and requires the students to build simple shell scripts.

11. I think sometimes it was hard to understand how to implement the projects because we didn't always spend time going over exactly how a project works.

12. no

13. other activities in class besides leetcode

14. none

15. N/A

16. nothing

17. None

18. Better examples.

19. more hands on material like more leetcode problems

20. To go over the certain aspects of the homework more in class, and midtems and finals that don't involve us having to write code on paper.

21. none

22. I would say the only improvement to be made would be more preparatory work in linked lists, especially in Leetcode as the 2-week assignment Skip list was exceptionally tough without more preparatory work.

23. I do not have any suggestions.

24. The Class was great overall and nothing much I can really suggest to improve.

25. Include more exercise and activities that students can do in class time, rather than listening to the lecture.

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.