IASystem
The Course Evaluation Standard

CSS 422 A
Hardware And Computer Organization
Course type: Face-to-Face

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

Evaluation Delivery:	Online
Evaluation Form:	T
Responses:	35/42 (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	College Decile
4.2	**5**
(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: 5.8
(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:	35	37%	37%	20%	6%			4.2	4	5
The course content was:	35	34%	43%	17%	6%			4.1	4	5
The instructor's contribution to the course was:	35	46%	34%	17%	3%			4.4	4	5
The instructor's effectiveness in teaching the subject matter was:	35	34%	34%	23%	9%			4.0	3	4

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:	35	3%	11%	20%	51%	9%	3%	3%	4.2	1	1
The intellectual challenge presented was:	35	26%	60%	11%	3%				6.1	8	8
The amount of effort you put into this course was:	34	26%	53%	15%	6%				6.1	7	7
The amount of effort to succeed in this course was:	35	23%	51%	23%	3%				6.0	6	6
Your involvement in course (doing assignments, attending classes, etc.) was:	35	31%	26%	29%	14%				5.8	4	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: 9.0 Hours per credit: 1.8 (N=35)

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%	34%	17%	14%	14%	11%			6%	

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

Class median: 7.7 Hours per credit: 1.5 (N=35)

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%	11%	9%	26%	17%	14%	14%	3%			3%	

What grade do you expect in this course?

Class median: 3.4 (N=35)

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
9%	40%	17%	17%	6%	9%		3%							

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

(N=35)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
57%	31%			11%	

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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.	35	46%	49%	6%			4.4	
The syllabus listed the learning outcomes/objectives for this class.	34	59%	38%	3%			4.7	
The overall organization of the course made it easy for me to learn the course concepts.	35	66%	23%	3%	9%		4.7	
Course activities and assignments helped me achieve the learning outcomes/objectives for this class.	35	54%	43%		3%		4.6	
Course materials (e.g., textbook, other readings, lecture, Canvas site) helped me achieve the learning outcomes/objectives for this class.	35	37%	40%	20%	3%		4.2	
The instructor clearly explained how course activities and assignments related to the learning outcomes/objectives of this course.	35	43%	49%	9%			4.4	
My perspective was valued by the instructor.	34	53%	32%	15%			4.6	
The instructor clearly communicated their expectations for respectful communication and interaction in the course.	35	54%	37%	6%	3%		4.6	
The instructor created a class environment where I felt valued and respected.	35	63%	31%	6%			4.7	
The instructor ensured that course materials (e.g., textbook, other readings, lecture, Canvas site) were accessible.	35	63%	29%	9%			4.7	
I felt I was a valued member of the class community in this course.	35	49%	37%	14%			4.5	
Course activities and assignments provided opportunities for me to critically analyze/reflect on new ideas and concepts.	35	60%	34%	3%	3%		4.7	
I was an active and engaged member of the class community.	35	54%	34%	9%	3%		4.6	
The structure of the course gave me enough time to understand and process the ideas and concepts presented in class.	35	37%	51%	6%	6%		4.2	
The instructor regularly provided time and space for students to ask questions and clarify ideas and concepts.	35	57%	43%				4.6	
I had the opportunity to engage with other students.	35	63%	34%	3%			4.7	
The instructor provided opportunities to practice and apply course ideas and concepts before assignments and/or tests.	34	62%	32%		3%	3%	4.7	
Course assignments enhanced my understanding of the course ideas and concepts.	35	63%	31%	3%		3%	4.7	
Feedback on assignments helped me to better understand and/or apply course ideas and concepts.	35	43%	31%	6%	14%	6%	4.3	
Course activities and assignments provided opportunities to demonstrate my learning of course ideas and concepts.	35	54%	40%	3%	3%		4.6	
The instructor clearly communicated what students needed to do in order to be successful in the course.	35	54%	40%		6%		4.6	
I learned ideas and concepts in this course that will be useful for me in other courses and/or after graduation.	35	51%	37%	6%		6%	4.5	
I learned skills in this course that will be useful for me in other courses and/or after graduation.	35	43%	43%	6%	6%	3%	4.3	
The instructor effectively explained the relevance of the course ideas, concepts, and skills covered in this course.	35	46%	40%	11%		3%	4.4	

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STANDARD OPEN-ENDED QUESTIONS

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

1. It was, you had to learn every concept because it was very necessary.

2. sure why not

3. Yes, the class required a lot of effort and the materials is new and hard. But the professor explained the materials very well and very flexible on deadline.

4. The reading material is decent and has good impact on understanding the slides

5. Yes the idea of how to work in assembly and computer organization is new and exciting

6. Yes, it was stretched my thinking to figure out to solving problem from exercises and assignment that these are essential for labs and exams. Because it is part of the dedication studies and improvement progress in individual students' efforts.

7. yes it taught me a new programming language (assembly) and forced me to think about computers in terms of moving things in and out of registers, rather than just a simple addition operation.

8. This course was intellectually stimulating.

9. Yes this class made me think a lot, which I enjoyed. It had me thinking of how to approach a certain problem.

10. Yes, the class helped me understand the hardware behind the software that I write.

11. Yes, i feel like some stuff in the exercise wasn't thoroughly shown in class so I had to brainstorm and make my own research online

12. Yes

13. It was ok

14. It was very difficult, as assembly language wasn't something Ive done before

17. I thought this class was enjoyable and a lot of the prompts and tasks he gave us were fun to think about. Working with people over all of the questions also helped me expand my thinking to and gain a better understanding of the material.

18. Yes but it was a lot of guess work.

19. This class was intellectually stimulating. It was very different from the previous CS core classes but brought a lot of things together.

20. yes. Although some of the content was hard to follow at first and its relevance was questionable, through the many examples and exercises and the professors ability to answer questions, I was able to grasp the content a lot better. A lot of the final project was quite hard to understand but the professor tried his best to simplify the final project as much as possible and give us as much explanation as possible to make sure we can complete it.

21. The class was intellectually stimulating. Breaking down computers to their simplest form forged a new perspective for me.

22. This class was intellectually stimulating and stretched my thinking in that it forced me to consider how computers work at a deeper level, particularly through Assembly code and circuits.

23. This class was intellectually stimulating and taught me new concepts such as how computer hardware and memory work as well as the assembly language.

24. Yes, it was a challenging subject to learn

25. Yes it was, the concepts were new to me and required me to actively engage with the class. Such as paying attention to lectures, collaborating with peers and watching videos out of the class to understand.

26. It was definitely intellectually stimulating. The concepts were easy at the start, but the moment CPU architecture is being explained, it can be a hit or miss at times.

What aspects of this class contributed most to your learning?

1. In class discussions, homework.

2. Collaboration in class and study groups outside of class.

3. I like everything

4. The understanding of the circuits and memory padding

5. The final project

6. Doing the exercises that requires to contributes in different team in every weeks for sharing opinions and comparisons with different answers. That way is aspect to improve our knowledge and understanding the particular subject of the class.

7. when we went over new concepts in class and did practice questions for the homeworks and exams

8. The aspects that most contributed to my learning were the homework and the in class assignments. It allowed me to discuss what I didn't understand with other people and we all worked together to understand the concepts.

9. The lectures, sometimes the textbook, and the assignments we did in and out of class.

10. I think the aspects of class that contributed the most to my learning are all the activities and labs done to help apply my learning.

11. In class exercise and homework

12. The Labs

13. Assembly Code In class VisUAL exercises

14. using machine language

15. The professor explained the topics well in class.

17. Prof. Pisan communicated well with us and also gave us plenty of time and chances to engage with him and other students

18. In class activities.

19. In class exercises were very helpful. Practicing concepts in class while we have the chance to ask questions of prof and peers was helpful.

20. The in class group exercises and the weekly homeworks that covered the topics from class were very helpful to practice the material. Combine this with the professors willingness to actually answer questions about these assignemnts both outside of class and during the start of the class made it a lot easier to not just complete these assignemnts but actually understand them. A lot of extra material was also provided to study for the exams as well. The professor was also very lenient with assignment due dates because he wanted to make sure we actually understood the material.

21. The lectures and the class exercises were the most useful for me during this course. I thought they worked together well to guarantee that the course content was adequately taught.

22. The aspects of this class that contributed most to my learning were the final project and our other coding/circuit assignments present on the homework.

23. The in-class exercises and live demonstration of concepts helped me better grasp the concepts covered in class.

24. NA

25. The lectures, in class activities and the homework's engaged most to my learning.

26. The aspect that contributed the most to my learning were the homework assignments.

What aspects of this class detracted from your learning?

1. Nothing.

2. Sometimes stuff the instructor says is a tiny bit hard to make out.

3. Sometimes I think the instruction in HW or assignments is kind of confused

4. Nothing

5. The slides are too boring

6. Sometimes when the teams already answered the problem but that has not explanation to understand something or not very great contribution to the team.

7. Sometimes the pace of the lectures felt slow and I found myself zoning out for a little bit.

8. I think one thing that detracted me was the book.

9. None

10. None

11. None

12. Exams

13. Keil uvision was not intuitive and is not a good teaching tool for students just learning assembly I think these were interesting but should be part of an elective class, it is not a necessity for software engineers starting out in their careers to learn. Circuits Logisim Flipflops Truth Tables

14. it was difficult, and required a lot of help to complete

15. The office hours were limited and it was hard to get help.

16. I mainly learn through completing homework, so I'd want there to be more homework. I believe there was optional work but if the work isn't required then I won't do it.

17. He had a family emergency, which is out of his control, and he communicated well to deal with it, but it hindered my learning for sure.

18. Nothing.

19. The first half of the class is very different from the second off and it was kind of a sharp pivot in terms of the concepts

20. none

21. Nothing at all. Professor Pisan did a great job teaching this course.

22. The only aspect of this class that detracted from my learning was that the lectures -- particularly the slides -- were sometimes unclear.

23. I think sometimes the professor was unsure on concepts and would just read off the board and hope we understand it instead of thoroughly explaining what is being shown.

24. Very fast lectures, we seemed to move through content very quickly

25. Nothing at the moment.

26. Some of the things that detracted me from learning were the lecture slides more specifically. The professor did a good job at doing their best in teaching the concepts.

What suggestions do you have for improving the class?

1. Perhaps give additional learning resources, it was very difficult to learn off the lectures alone.

3. None

4. Nothing

5. Get the lecture more engaging

6. I think it would be better giving the notification to us about preparing for the exercises requirement (in-person).

7. Spend more time doing practice questions. Rather than doing 1 practice question as a big group and then waiting until everyone is done, do smaller groups or just individual practice and have a higher volume of practice questions

8. The only suggestion I have is that when going over the assembly commands instead of the tables can you provide examples of the most relevant key words. The tables were hard to understand and those could be easily searched up.

10. I am taking CS 225 at the same time and some of the concepts covered are similar to the one's covered in this course. Having CS 225 as a recommended prerequisite might be beneficial for some.

11. I honestly think all aspects of the class is good

13. I dont think circuits are a necessary component of the class and only distracted us from focusing on the final project. The class also did not go over how assembly code related to circuits at all. All of the MATH portions of IEEE, conversion questions, for the midterm should be made easier. It does not make sense that the mathematics of the question is harder than our homework when we are only allowed to use a handheld calculator for a 2 hour Computer Science exam. This caused simple mistakes in calculator inputs and writing to result in points loss and time loss during an exam. The final project instructions should be re-written for more clarity. An in-class demonstration of project setup for each part would also be very helpful for students. The instructions also are not always linear, so an in-class demonstration of starting the first step of the final project part would help students.

14. n/a

16. Have more homework. Improve the slides or exercise answers to show better/step-by-step examples of problems. Don't force us to get into groups with random people as often.

17. The only kind of confusing thing is the final project, but it's mainly cause I wasn't used to using the program.

18. None

19. none

20. none, it was very good

21. I wish that the readings were shorter. Throughout the large sections of reading assigned, only a minimal part of each one was relevant to lectures that were given in class. This made it hard to stay motivated to do such a large reading.

22. I think that having clearer lectures and delving deeper into some of the tougher concepts, especially towards the end of the quarter, would be helpful.

23. None

24. Slow the class down

25. Nothing at the moment.

26. I think easing students into some of the terminologies of system architecture is key.

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?

1. I thought this set of questions was good in addressing everything.

3. I have no comment on this

4. Nothing

5. It have the agree disagree so that I less likely to click the average score

6. I would like to provide information or support who is especially being deaf like me. Sometimes, I had difficult to understand about small talks or many conversations at the same time with the team which I didn't very well understood to the exercises.

7. The questions felt normal and I didn't realize that this set of questions were different until just now.

8. N/A

10. I like how there were separate questions for reflecting how the class felt compared to how you felt. Some people find it harder or easier to grasp certain concepts but that rest of the class might not feel the same

11. None I think all of the questions are useful for the professor and student to learn something from

14. The instructor was good, however the class was very difficult

16. I think these questions are a bit too long. Its hard to think about the course so critically for so many questions. Plus some of the questions were very similar.

17. I don't like doing these

18. I think the evaluations is great as it is!

19. didn't notice the difference

20. good changes, I noticed more questions about content relevancy which are good to ask. More questions are asked that should be helpful for professors to improve their courses.

21. I like the questions about the effectiveness of assignments. I believe that assignments can be make-or-break for certain courses, so it is important to ask questions about how conducive they were to student understanding.

22. I did not notice any differences compared to other course evaluations.

23. The question set is fine and is not noticeably different to previous course evaluations

24. NA

25. Nothing at the moment.

26. The questions were good.

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.