CS 3330-001 **Computer Architecture** - Fall 2014

ENGR (17576)

INSTRUCTORS: **Tychonievich, Luther (lat7h)**

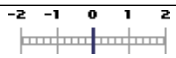
Respondents: 64 / Enrollment: 170

Summary: CS 3330-001 Computer Architecture - Fall 2014 (17576)

Overall Course Rating

CS-3330-001 Mean 4.03
CS-3330-001 Std Dev 1.09
CS-3330-001 Response Count 320

Difference from Category Mean, Expressed in Category Standard Deviations



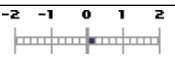
-0.06

SEAS, 3000-level courses Mean 4.09
SEAS, 3000-level courses Std Dev 0.96
SEAS, 3000-level courses Response Count 10192

Overall Instructor Rating

INSTRUCTOR: Tychonievich, Luther
Mean 4.42
Std Dev 0.80
Response Count 446

Difference from Category Mean, Expressed in Category Standard Deviations



0.24

SEAS, 3000-level courses Mean 4.20
SEAS, 3000-level courses Std Dev 0.92
SEAS, 3000-level courses Response Count 16510

~ QUESTIONS AND DETAILS ~ | *~ ANSWER MATRICES ~*

1. The course addressed technically rigorous subject matter consistent with the course objectives.

~
Question Type: Likert
~
contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.45	0.80	38 (59.38%)	20 (31.25%)	3 (4.69%)	3 (4.69%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2037	4.41	0.72	1031 (50.61%)	845 (41.48%)	97 (4.76%)	27 (1.33%)	16 (0.79%)	21 (1.03%)

2. The instructor used methods other than/in addition to traditional lectures (for example, active learning, in-class problems, collaborative learning, in-class discussion) effectively in this course.

~
Question Type: Likert
~
contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.14	1.03	30 (46.88%)	19 (29.69%)	8 (12.50%)	5 (7.81%)	1 (1.56%)	1 (1.56%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2365	3.96	1.05	824 (34.84%)	874 (36.96%)	335 (14.16%)	191 (8.08%)	69 (2.92%)	72 (3.04%)

3. There was a reasonable level of effort expected for the credit hours received.

~
Question Type: Likert
~
contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.00	1.17	29 (45.31%)	18 (28.12%)	7 (10.94%)	8 (12.50%)	2 (3.12%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2043	4.14	0.95	828 (40.53%)	864 (42.29%)	185 (9.06%)	106 (5.19%)	49 (2.40%)	11 (0.54%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

4. The homework assignments helped me learn the subject matter.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	3.89	1.10	23 (35.94%)	22 (34.38%)	9 (14.06%)	9 (14.06%)	1 (1.56%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2039	4.23	0.88	861 (42.23%)	794 (38.94%)	174 (8.53%)	79 (3.87%)	29 (1.42%)	102 (5.00%)

5. The textbook increased my understanding of the material.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	3.94	1.15	24 (37.50%)	24 (37.50%)	8 (12.50%)	4 (6.25%)	4 (6.25%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2038	3.62	1.13	392 (19.23%)	592 (29.05%)	363 (17.81%)	183 (8.98%)	91 (4.47%)	417 (20.46%)

6. The course material was well organized and developed.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.16	0.82	24 (37.50%)	29 (45.31%)	8 (12.50%)	3 (4.69%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2358	4.08	0.98	883 (37.45%)	981 (41.60%)	239 (10.14%)	145 (6.15%)	58 (2.46%)	52 (2.21%)

7. The instructor was knowledgeable about the subject matter.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
63	4.79	0.45	51 (80.95%)	11 (17.46%)	1 (1.59%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2356	4.57	0.66	1460 (61.97%)	721 (30.60%)	76 (3.23%)	28 (1.19%)	10 (0.42%)	61 (2.59%)

8. The instructor was well prepared for class.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
63	4.59	0.69	43 (68.25%)	15 (23.81%)	4 (6.35%)	1 (1.59%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2352	4.30	0.89	1144 (48.64%)	853 (36.27%)	184 (7.82%)	66 (2.81%)	47 (2.00%)	58 (2.47%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

9. I received adequate preparation from the prior courses in the curriculum to be successful in this course.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	3.89	1.12	23 (35.94%)	21 (32.81%)	10 (15.62%)	7 (10.94%)	2 (3.12%)	1 (1.56%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2035	3.97	0.94	609 (29.93%)	842 (41.38%)	315 (15.48%)	132 (6.49%)	29 (1.43%)	108 (5.31%)

10. The grading policy was fair.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.34	0.86	34 (53.12%)	21 (32.81%)	7 (10.94%)	1 (1.56%)	1 (1.56%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2364	4.12	0.92	884 (37.39%)	990 (41.88%)	276 (11.68%)	103 (4.36%)	44 (1.86%)	67 (2.83%)

11. The instructor responded adequately to in-class questions.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.64	0.55	43 (67.19%)	19 (29.69%)	2 (3.12%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2357	4.29	0.83	1076 (45.65%)	929 (39.41%)	187 (7.93%)	68 (2.89%)	27 (1.15%)	70 (2.97%)

12. The instructor effectively used technology in support of the learning goals for this course.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
64	4.28	0.86	32 (50.00%)	21 (32.81%)	8 (12.50%)	3 (4.69%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2358	4.08	0.95	844 (35.79%)	958 (40.63%)	285 (12.09%)	121 (5.13%)	48 (2.04%)	102 (4.33%)

13. The average number of hours per week I spent outside of class preparing for this course was:

~

Question Type: Multiple Choice

~

contributed by Office of the Provost

Results for CS-3330-001

Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
64	0 (0.00%)	13 (20.31%)	35 (54.69%)	13 (20.31%)	3 (4.69%)

Results for SEAS, 3000-level courses

Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
2044	111 (5.43%)	552 (27.01%)	825 (40.36%)	354 (17.32%)	202 (9.88%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

14. I learned a great deal in this course.

~
Question Type: Likert
~
contributed by Office of the Provost

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
64	4.22	0.92	30 (46.88%)	23 (35.94%)	6 (9.38%)	5 (7.81%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2036	4.18	0.89	847 (41.60%)	853 (41.90%)	220 (10.81%)	90 (4.42%)	26 (1.28%)

15. Overall, this was a worthwhile course.

~
Question Type: Likert
~
contributed by Office of the Provost

Results for CS-3330-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
64	3.89	1.14	24 (37.50%)	21 (32.81%)	9 (14.06%)	8 (12.50%)	2 (3.12%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2041	4.11	1.00	864 (42.33%)	766 (37.53%)	243 (11.91%)	113 (5.54%)	55 (2.69%)

16. The course's goals and requirements were defined and adhered to by the instructor.

~
Question Type: Likert
~
contributed by Office of the Provost

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
64	4.44	0.64	33 (51.56%)	26 (40.62%)	5 (7.81%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2360	4.29	0.76	1015 (43.01%)	1104 (46.78%)	172 (7.29%)	47 (1.99%)	22 (0.93%)

17. The instructor was approachable and made himself/herself available to students outside the classroom.

~
Question Type: Likert
~
contributed by Office of the Provost

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
64	4.41	0.73	34 (53.12%)	23 (35.94%)	6 (9.38%)	1 (1.56%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2358	4.28	0.83	1105 (46.86%)	900 (38.17%)	271 (11.49%)	62 (2.63%)	20 (0.85%)

18. Overall, the instructor was an effective teacher.

~
Question Type: Likert
~
contributed by Office of the Provost

Results for CS-3330-001, Tychonievich, Luther

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
64	4.31	0.81	32 (50.00%)	22 (34.38%)	8 (12.50%)	2 (3.12%)	0 (0.00%)

Results for SEAS, 3000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2370	4.17	0.97	1063 (44.85%)	874 (36.88%)	257 (10.84%)	118 (4.98%)	58 (2.45%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

19. Please make any overall comments or observations about this course:

~

Question Type: Short Answer

~

contributed by Office of the Provost

Results for CS-3330-001

Total	Individual Answers
36	*See below for Individual Results*

Luther was ok. But this class was awful.

Tychonievich is a likeable guy and super smart but I just wasn't really into the subject. Wish he just used slide sets or something easy to study from since I learn better that way. He drew a lot of pictures and diagrams of how things work in class but after I went back to study them for exams they were super confusing. So, I relied mostly on the book (but the book could be confusing too). Exams were pretty tough, homeworks were hard but easy to get an A on since he gave us the grading tools.

Hated the course, but I have to admit that I learned a fair amount. Class periods definitely got better as the year went on and Prof. Tychonievich responded to anonymous feedback/suggestions. I did not feel like the HCL homeworks helped my understanding at all. In general, more specific instructions on the homeworks and labs would be nice. Tests and quizzes made me feel like an idiot. I was glad I didn't study much for the final because nothing I would have thought to study would have improved my score. Some classmates definitely had a huge advantage coming in (prior knowledge), which was frustrating. The textbook material was interesting, but as far as being able to use it as a study tool for tests and quizzes it might as well have been in a different language.

This course required a lot of attention to detail and careful observation and absorption of several processes and concepts involved in the material. It would have been better if the professor stepped through the material carefully, but I felt from day one he assumed we already knew how to follow along. Even if he used some vocabulary he would have briefly defined and glossed just a second before, he would continue to use them extensively as if we were already familiar with it. I think most of the class was able to adjust to this as we had to read the textbook on our own and try to understand it outside of class, but it would have been better if he went through some of the material step by step, extremely slowly. Most of the class was still left confused by the end of half the lectures. I heard it was more helpful to attend the professor's office hours, but during class, what I got out of it was that it was very extensive and difficult. But there was a lot of useful material and I came out of the class learning very useful tips in efficient programming.

This class was great. In CS2190, Prof. Horton had us read an article on Computational Thinking (written by someone at CMU) and I must admit I didn't think that way at the time. After taking this course I now see the world in such a way. There were many topics that apply to other parts of the world then just computers: caching, pipelining, etc. I felt like I wanted to know more about related topics to the "bomb" lab. Regarding the reading in the class, Prof. Tycho. assigned hours and hours of reading the first week, which made me not want to do any of it. I usually do better than most people in school, so I thought I would do on par without reading the book. Then it turned out that Prof. Tycho. would essentially go over most content from the book in class. As a result, I felt no need to read the book other than to review for the tests. Seemed like an interesting enough book though with nice Asides. Saying that this class should require 3 hours of out-of-class work for every 1 credit hour is ABSOLUTELY ridiculous though. If you take the average engineering student, they have to take 16 credit hours per semester to graduate in 4 years. With your ratio of work, the hours of total work per week is 16*4 = 64 hours, and that's not even including the massive amounts of time wasted by transportation (walking, buses, etc.), which easily puts it up to 70 hrs/wk. What student can expect to have a balanced life working 10 hours a day? There would be no room for extracurricular activities, or anything but school, sleep, and food. But as I noted earlier, I didn't have the need to read the textbook on many occasions, so I didn't spend that much time on this class. Maybe you only said this to encourage the less bright students to work harder? If this is the case then I think this would only serve to discredit your authority in their opinions. Regarding your testing format, I was mildly fearful (though not a looming fear, more of a in-the-background awareness) that my performance on the test would not align with my true understanding. Luckily, this was never the case, but with a multiple choice formatted exam, this leaves a lot of seeming-randomness for misperceptions. For example, if we misread an answer choice, then grade \neq understanding. On a free-response exam, there is less of a chance for this--we generate the answers ourselves, and people (generally) understand themselves. As you have stated in the past, all people think differently, so some people may happen to process linguistics in a similar way as you. These people would naturally score higher on exams and mis-perceive answer choices less often. A free-response exam would remove this dependency, but that would be much more of a pain to grade :(You are a great lecturer! I also enjoy how level headed you are about grading and the possibility of you being wrong. I wish other professors were as open-minded.

Professor Tychonievich know's his stuff. I learned a lot in his class that will definitely be useful in the future. His exams have been fair. He answers questions well.

One of most organized Professor in CS department. Lectures were well structured. Only thing that always makes me sleepy is the time slot, which has nothing related to instructor though. Great lecture, great lab, great sweater PS: I love the it when Luther's doing anonymous feed back during lecture

Tychonievich is the man. Especially in a very tough course packed with very technical information. He not only knows everything, but knows how to explain it to anyone and everyone. Very fair, very passionate teacher.

The lectures could get a bit stale every now and again. If there were some way to make them a bit more interactive, that would probably help quite a bit.

Tychonievich is great as a person and extremely intelligent but this class was much too difficult overall. Although it is understandable to be thorough, he placed too much weight on his own course over the fact that students take 4-5 other courses in addition to his and has complete disregard for that fact.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	Tychonievich read most of the anonymous feedback to the class and sometimes this created a situation in which the feedback was mocked openly. I thought that this created a situation in which people were less likely to post legitimate concerns. I also thought that some of the quizzes were ambiguous and really confusing, but most of the problems the class had with the quizzes were discussed and dealt with in a fair manner.
	This course is redundant. The information that is covered in this class overlaps with the material from both CS215 and OS to the extent that there is no unique information in this course. I do not believe that the class in its current state provides us with any information that is not covered by other CS courses. Thus, in its current state I would recommend removing the course from the curriculum requirements.
	Tychonievich is awesome.
	Amazing sweaters.
	I think it'd be helpful to have animations for some aspects of the course. Seeing the process for something like caching would make it a lot easier to understand. The textbook tries to do what it can with a series of images, but the explanation gets needlessly wordy and complicated. Seeing it worked out in class helped, but if you miss a step it's hard to go back. So a video of some sort (or perhaps an interactive simulation) could be extremely valuable. Other than that, I have no suggestions. This course was great, and I learned a ton.
	Professor Tychonievich was a very fair professor who was always extremely clear about his expectations. I found the material to be difficult, but the lectures helped a lot. I also really appreciated the weekly quizzes and practice exams.
	Extremely smart professor. However, I think his style of teaching was different than other but not extremely effective.
	felt harder than it was
	You were tough, but I loved you nonetheless! Thanks for being an incredible professor :D
	Great professor who is extremely knowledgeable and funny, but is unfortunately not the greatest lecturer... He needs to make more jokes and engage the class a bit more.
	Very engaging course. Homeworks did range wildly in terms of difficulty, which threw some people off.
	If you go to the course webpage, you'll see how much time and effort Professor Tychonievich expects the course will take. The estimates he gives are pretty much spot on. It's a 3 credit course with lecture, a two-ish hour lab worth no credit, and more work than you'd expect (like many CS classes). That being said, it's extremely interesting and rewarding and all the good things you want from a class, plus it's mandatory for CS majors. Tychonievich can be considered polarizing, but he's one of the more effective teachers I've had, and I like him. If you put effort into the course, you'll get it out. If you put effort into learning from the professor (seriously, go to office hours), you will.
	None.
	Overall, I think Tychonievich was one of the better teachers teaching this course. I've heard horror stories of other professors, but he was very approachable and he taught the material quite professionally. However, I did not like the textbook and found it to be dull and hard to read. I don't imagine a better textbook than this, but it was still not enjoyable to read through it and the only big complaint in this course is to get a better textbook. Also please make notes more readable in the future.
	Prof. Tychonievich's teaching methods for this course are ineffective for me. I learn well when I can view pre-made presentations (like a powerpoint) on the projector while typing notes the professor says. If not, as long as it's screencasted that is also effective (b.c I can study it later). He had some premade material for lecture but most of the time it involved asking the students if we had questions and, if so, he would answer it on the board using an electronic drawing pad. The problem is that students hesitate to ask questions and you can't rely on students asking questions to teach. You have to teach the material first then ask questions. The main issue with lecture is that I could not copy down all the drawn material and even if I could, I used a pencil whereas he used multiple colors which were necessary for making the content readable and understandable but I don't have multi-colored pens. The worst thing is that he uploaded the static images and mp3 files separately instead of screencasting the lectures so it's essentially impossible to follow over the material again. This got frustrating b.c it made it so that I had to rely almost exclusively on the textbook which was far too wordy, contained unnecessary information, and was difficult to read, understand, and retain. The kind of content in computer architecture needs to be taught through active examples that can be studied later. Reading large amounts of text just makes it frustrating.
	The only issue I had with this course was that the curriculum that we covered did not seem to be very well-defined. Otherwise, Prof. Tychonievich did a great job.
	Luther was a great teacher, and explained the concepts thoroughly. Although the course was difficult at times, I learned a lot and thought the course to be very fulfilling.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	Not really a fan of computer architecture as I found the material boring (although from what I can tell, most students/peers feel the same way), probably at no fault of the professor (opinions taken across different universities and students who took the class under the previous professor). Homework, although interesting at times, and probably is a decent reflection of how to apply the material from the class into real life. However, it could felt tedious at times and, although perhaps did speed up the overall runtime of our typical code (just guessing, very few things we can do on an individual level would warrant very noticeable differences in speed up with optimizations not related to algorithms), silly. Too much time spent going over things we've learned a million times already. We shouldn't learn how to count in binary (for the 3rd time, at least...) in a 3000 level CS class I thought that the textbook was a little confusing. Many times I thought I understood the material in the text, but then did poorly on the pre-quizes. I also felt that the pre-quizes maybe could have been easier. Maybe having the pre-quizes be easier and the post-quizes around the same level they are now would be more fair. I think a little too much mastery of the material was assumed on our part from just the reading the material. Additionally, recording the material like Professor Bloomfield does for 2150 would be incredibly helpful. Although I actually attended class, I found myself often times lost the first time listening to lecture and having the video to accommodate the recordings I think would have helped a lot. He definitely seems like one of the most accessible professors in the department and I think the students do appreciate it. Professor Tychnoievich is a wonderful professor who knows the subject matter very well, however, he is teaching a course that is very much disliked by CS majors (hence why they picked CS over CPE). It's quite unfortunate that CS majors have to go through quite a few hardware related course from DLD to Computer Arch when the material from these courses is rarely ever utilized outside of school, exactly why students are not interested in the material to begin with. However, the structure of this course needs to be improved. The book is not helpful -- it is very dense and hard to decipher what is important and what is not. Lectures are full with segments that are complete word vomit filled with endless amounts of unnecessary tid bits about other concepts. There is no structured set of notes (say a PPT slide in 2150 where bloomfield who also word vomits a lot but you have set deck to go back on and be like "Oh but these are the most important takeaways." Quizzes were just a pain because of how dense the reading was and didn't help me learn at all. TA's were not knowledge at all and in the course like this -- there needs to be more support. It's a hard course to teach I understand and for the first semester it was well executed, however, my three recommendations are that 1) find another book 2)use power points 3) do more practice problems that make students think during class or just in general besides those C coding labs Great start to a new 3330 course. One note for the future: It would be helpful if you can determine a way to better sync the audio recordings of class with the image files (maybe even have a screen recording, which I understand would be tough if you are using the in-class computer as well as your laptop). Prof. Tychonievich was very good at explaining concepts and also very good at detecting when I had difficulty understanding something, even if I didn't know what it was that I was missing. He also explained things in great detail and if I didn't understand his explanation he would try a different approach at explaining. This really helped me understand the concepts. Although the course was difficult and not really anything I'm interested in, I felt motivated to work hard because Prof. Tychonievich obviously put a lot of effort into teaching. He also has cool sweaters. This was Luther's first time teaching the course. I really liked the how he did the in class anonymous feedback and how receptive he was to student suggestions. Overall a good course, even if I won't be using this material in the future (besides OS). First homework was brutal, but much more reasonable after that. Final was much harder than expected. I felt like many of the lectures and quiz material jumped around too much, making it difficult to process key concepts that we should be expected to know. It would have been nice to have actual slides that highlighted some of these ideas instead of drawing or using a text editor for notes. I wish the course went more in depth into different types of memory (like flash memory, etc.), which were really interesting to read about in the book, but even there they gave a summary view. This course is useless. We learned the first half of it in CS 2150 and CS 2330, and will most likely learn the second half of it in Operating Systems. Why is it a required class?