

Question Text	N	Top Two	Avg	SD	IMGS Avg	IMGS SD	Div Avg	Div SD	Sch Avg	Sch SD	Str Disagr	Disagree	Neutral	Agree	Str Agree	
1 Enhanced interest	21	76%	4	1.1	4.0	0.5	3.7	0.6	3.9	0.6	5%	5%	14%	38%	38%	
2 Material presented in organized manner	21	52%	3.3	1.2	3.8	0.8	4.0	0.6	4.1	0.6	10%	14%	24%	38%	14%	
3 Clear communication	21	38%	3.2	1	3.7	0.6	3.9	0.6	4.1	0.6	5%	14%	43%	29%	10%	
4 Positive learning environment	21	86%	4.1	1	4.1	0.6	4.1	0.5	4.2	0.5	0%	14%	0%	43%	43%	
5 Helpful feedback provided.	21	81%	4	1	3.8	0.8	3.8	0.6	4.0	0.6	5%	5%	10%	48%	33%	
6 Supported my progress	21	76%	4	1.1	4.0	0.6	4.0	0.5	4.1	0.5	5%	5%	14%	43%	33%	
7 Effective teacher	21	67%	3.7	1.3	4.0	0.6	4.0	0.6	4.1	0.6	10%	10%	14%	38%	29%	
											No	Yes				
8 Regularly attended class	21	100%	1	0	1.0	0.1	1.0	0.1	1.0	0.1	0%	100%				
											Str Disagr	Disagree	Neutral	Agree	Str Agree	
11 COS - Fair evaluation of work	21	81%	4	1	4.1	0.5	4.2	0.4	4.2	0.4	0%	14%	5%	52%	29%	
12 COS - Consistent evaluation of work	21	76%	4	0.9	4.0	0.5	4.3	0.4	4.3	0.4	0%	10%	14%	48%	29%	
13 COS - Timely evaluation of work	21	57%	3.5	1	3.8	0.5	4.2	0.5	4.2	0.5	0%	24%	19%	43%	14%	
											Str Disagr	Disagree	Neutral	Agree	Str Agree	Did Not Seek
14 COS - Availability outside of class	21	67%	3.9	1.2	4.2	0.6	4.1	0.5	4.1	0.5	5%	10%	19%	29%	38%	0%
15 COS - Helpful outside of class	21	76%	4.1	1.4	4.1	0.7	4.0	0.6	4.0	0.6	10%	5%	10%	14%	62%	0%
											Str Disagr	Disagree	Neither	Agree	Str Agree	
16 Use of the MIT Open Courseware online lectures enhanced my learning in this class (Salvaggio)	9	44%	3.6	1.3	*ID	*ID	*ID	*ID	*ID	*ID	11%	0%	44%	11%	33%	

Text Responses

Question: What did this instructor do well?

The instructor was very passionate about the topic and was invested in helping to identify problems that came up throughout the course.

very knowledgeable

Carl is very enthusiastic about his work!

He helped and taught us a lot about programming and imaging science.

The projects required for this course were meaningful and educational. Additionally, Carl's undying enthusiasm and excitement for the material he teaches is down right refreshing. When I did go to ask for help directly from him, he was willing and able to do whatever he could to help me fix my code and learn what was wrong with it.

Very helpful, and kind

Carl was very specific about what he expected for each project and was readily available outside of class for help.

I think that for the most part, the projects were interesting, if a little too challenging for some of the first years. I think that the lectures we had to watch were really helpful, if a little boring.

He explained critical commands and their importance well. Very approachable, and nice guy. Good at coding.

I like his enthusiasm about the subject and his willingness to help outside of class.

He presented the subject in an interesting manner.

He went pretty slow through classes which was good.

His instructions on the projects were clear.

The instructor always maintained a positive outlook

Very informative I learned a lot

Gave us specific guidelines for projects, helped outside of class regularly, was very fair about grades and welcomed student feedback

Question: How can this instructor improve?

The required projects taught me almost 100% of what I learned from this course. As I said, they're very good, although some of them I feel were outliers in the learning curve, but I seemed to not actually pick up much from the class. Carl moves very fast, which I attribute to his enthusiasm for the material, so its hard to follow along and I ended up zoning out part way through the semester, letting the projects lead me through a google/TA fueled education.

Carl often went way too fast for me, I've never had any programming experience before and often times I was completely lost at the end of class. sometimes he would show us something once then expect us to be experts in it the next day. We were also told to Google our questions which was difficult when you don't have a good idea what your doing I often didn't understand the answers I found.

be more clear and organized and learn to describe basics better and not solely rely on TA's to do everything

This class is not an appropriate class for first year students. While I am not a first year student, I believe that it is much to ask of first year students who have never programmed before to learn python while interfacing with hardware, the Linux terminal, and understanding imaging science theory. I do understand that this is a new course this year, but it is not tailored to individuals who have not (and have not been required to) yet learn computer science. With this being said, it would be helpful for the instructor to allow us to build hardware and test snippets of code in class with his help and the help of the four TAs who consistently attended class with us.

We cover a lot of material in a short time and it is easy to lose track

This class was poorly planned and the course outline was not given much thought. Assignments were put together on the fly and many people in the class experienced various hardware problems. The code that Carl prepared for class rarely worked and thus the class became known as trouble shooting with Carl. The professor did not engage the class and showed a marked disregard for the concerns of the students. Not much thought was given to this class and without the help of the TA's not a single person would have passed. Carl was always hard to find and rarely provided useful help for any of the students. The cost of the course was ridiculous as well. The kit required for the course costed \$360. I had to pay additional money due to the fact that some of my components were defective on arrival, and there were no spares that I could access. Very poor class, very poor teaching, very poor hardware! I would not recommend this class to anyone!

Go through sample programs and projects step by step in class to introduce syntax. Maybe make projects or homework that asks to analyze programs instead of create them. I needed to learn Matlab for this class.

It would have helped to learn more syntax in the beginning. It seemed like it was not a freshman level course because of the way it was taught. Maybe some little exercises to understand how the syntax of python work.

Since this was new this semester, future times teaching this course will improve the teaching of the class.

In summary: -Cover the fundamentals of coding including format and style; - work within a syllabus; - grading requirements should be listed if there are specific errors in the coding that are planned on being penalized; - better time management, in class, in the syllabus and assignments; - choose projects better suited for the class and what they are supposed to be preparing for (Blackbody was good and education of numpy was critical but efforts felt wasted on War and RANSAC; -better preparation to enable more in class practice; - I enjoyed working with the TA's but future classes should list a class time lab or recitation in enrollment if they continue to be this dependent on them, hire TA's from GCCIS/CS who are well versed in theory of coding; - if a special command is just as key as its implementation then both theory and application process should be taught; - assignments that make jump between steps of instructions is normal but it shouldn't be policy to avoid explanation of a jump in logic between steps [to enable comprehension] in the excuse that this enables the completion of the assignment, this demonstrates a critical flaw in the design of the assignment; - The class seems to be undecided if it wants to be an introduction to coding (which I felt it failed to do, the only one who did well survived baptism by fire) or a special topics class on coding for a Raspberry Pi to hardware interface. This class would have been better suited for a more experienced class that opted for it as an elective rather than a required freshmen class. Unabridged rant: This class had many problems. This is an introduction to coding, however, the students were not given any teaching on coding itself, rather they were taught methods to accomplish the project objectives. Very often my classmates struggled to understand the how to code and not the implementation of what to code. However, as we progressed, we were graded more severely on our style and design of our codes despite having minimal education in this aspect of coding. His policy was that you will develop your own style but offered little foundation in fundamentals and technique to base of developing styles off of. In any other practice it would be easy to assume that many of these students, myself included are fostering bad habits obliviously. Its frustrating when the advice of the TA is to just suffer through it when you lack comprehension. This could easily be resolved with more time spent in class coding and working from a textbook or accredited source, and possibly hiring GCCS students to TA. Another aspect was that this was project based. The class seemed to operate on a poorly coordinated schedule, often leaving less than a week to write a code. It is common courtesy in my experience to give students a full week to work on any assignment in order to enable each student to accomplish this within a full schedule period. It is arrogance to assume that students are free outside of the class. On that note, if the class is to rely on TAs outside of the lecture, it is then still class time and thus should be part of the schedule. On all but one day I have classes during TA open hours and so when we need to be graded with TA participation outside of class and there is less than a week to do this, it was unavoidable that I could not meet these demands without skipping classes. On the projects themselves I had a few issues. The first was that projects would often rely on a specific command. However, some of these commands were complex and the simple explanation of google it when the sub-directories of the required command were not covered yet still necessary, is not only lazy instruction but also renders the importance of a professor moot. This also did not help in the class's comprehension of how to code as google can only define a code so much in the what. Once again, if one is going to rely on a specialized command it pays spend time in the application of it. The reasoning that if the teacher were to explain how to use it would give away how to do the homework is one of the laziest things I have heard as a student. As an engineer and a scientist I know that it pays to be educated in the process just as much in the theory. A smaller problem was that many of these codes revolved around a more advanced subject. This is fine if not good as it previews application before comprehension. However, comprehension of the subject aside, on the later projects the background material was either excessively complex, limited, still required advanced subjects like Calculus and Physics (these are freshmen), copied from another class for a different language(a help page done in IDL), or not provided at all. If its going to be advanced it helps to either give the solution to the process or teach it if it is not too complex (vectors cross product). My other complaint was that these codes were not constructive to a learning environment with Python, in my opinion. A majority of the assignments revolved around completing desired methods within specific parameters, with a prewritten test harness. By this practice, we are not learning to code to a given goal but rather work around a desired format, equivocal to mimicking the teachers prewritten code. More or less we were not developing our own style but rather learning to imitate his. Worse is that in the testing of these codes the directions are vague and abstract leaving many opportunities for incorrect deductions between steps. This could have been easily resolved if not for the flaw that the these assignments are designed around these holes in logic as the explanation would give away the answer. This either means that the leap in logic is either relevant to the subject/method at hand or is a critical flaw that puts completion and success of the project in the probability of guessing how to appeal to the undeclared requirements. On grading alone, the TA's did a good job. However, the students were not given or instructed on the criteria of how they were being graded and when the class revolves around building codes around the teacher's design, it helps to know what the staff/grader is looking for. Other times, the depth and format of grading was inconsistent (projects being graded at a base 80; general intervals of Fail, 80, 100 which hinder grades; what defines failing (no submission, no output, error?);). The other was the tests which we had 15 minutes to analyze a code and decipher its output or write a code in such a time frame.

He did not seem to want to make this a class in imaging science or in programming. He tried too hard to make it neutral. He also did not seem to follow when we did not know certain topics. He assumed watching an MIT lecture meant we all learned all of the material in that lecture. There were plenty of things that we did not learn, and he just told us to make them. For example, we had to make a vector object, but the fact that half of us didn't know what a vector was did not seem to matter to him. He also went very fast through every lecture and covered much more material than we were prepared to learn.

In the beginning i felt that he was expecting us to come in with certain knowledge. Maybe start at a slightly lower level. other than that I enjoyed the class experience.

I think that maybe making sure all of the things he tries to do in class actually work so that there's less time trying to figure out why things aren't working, and more time learning. Also, making sure that the projects are doable in the time allotted.

There were: 25 possible respondents.

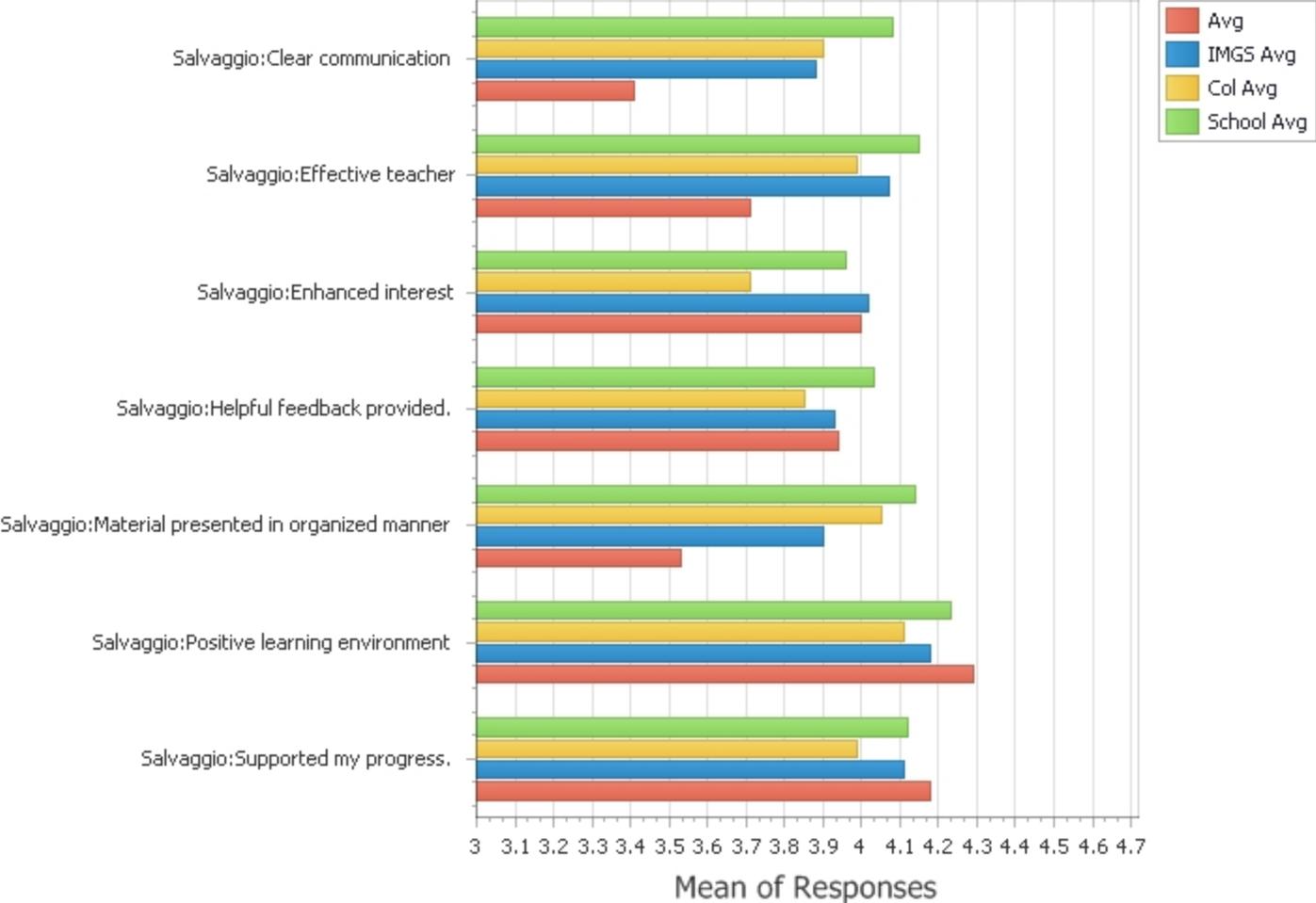
	Question Text	N	Top Two	Avg	SD	IMGS Avg	IMGS SD	Col Avg	Col SD	Uni Avg	Uni SD	No	Yes					
1	Regularly attended class	15	100%	1	0	0.96	0.19	0.97	0.17	0.97	0.17	0%	100%					
												Str Disagr	Disagree	Neutral	Agree	Str Agree		
6	Enhanced interest (Salvaggio)	17	65%	4	1.27	4.02	1.00	3.71	1.12	3.96	1.06	6%	6%	24%	12%	53%		
7	Material presented in organized manner (Salvaggio)	17	59%	3.53	1.07	3.90	1.07	4.05	1.02	4.14	0.97	0%	24%	18%	41%	18%		
8	Clear communication (Salvaggio)	17	59%	3.41	1.12	3.88	1.05	3.90	1.11	4.08	1.01	6%	18%	18%	47%	12%		
9	Positive learning environment (Salvaggio)	17	82%	4.29	0.77	4.18	0.92	4.11	0.97	4.23	0.93	0%	0%	18%	35%	47%		
10	Helpful feedback provided. (Salvaggio)	16	69%	3.94	1.06	3.93	1.04	3.85	1.08	4.03	1.04	0%	13%	19%	31%	38%		
11	Supported my progress (Salvaggio)	17	71%	4.18	1.19	4.11	0.90	3.99	0.98	4.12	0.95	6%	0%	24%	12%	59%		
12	Effective teacher (Salvaggio)	17	59%	3.71	1.1	4.07	0.97	3.99	1.08	4.15	1.00	0%	18%	24%	29%	29%		
												1	2-3	4-7	8-15	16-31	32+	
	Emails received	17	0%	0								0%	0%	18%	24%	41%	18%	
												1-3	4-6	7-9	10-12	16-18		
	Classes this semester	17	0%	0								0%	65%	35%	0%	0%		
												V Discrim	Discrim	Avg	N Discrim	Not At All D		
	How discriminating the student was this semester	17	0%	0								29%	0%	29%	18%	24%		
												V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
	Rating tendency - this semester	17	0%	0								12%	24%	12%	29%	24%		
												0	1-2	3-5	6+			
	Evaluations completed	17	0%	0								0%	18%	41%	41%			
												0	25	50	75	100		
	Evaluations completed %	17	0%	0								0%	6%	12%	6%	76%		
												Shibboleth	Email	Use Class SSO	Unknown	SSO		
	Login method	17	0%	0								94%	0%	0%	0%	6%		
												No	Yes					
	Future classes	17	0%	0								100%	0%					
												American Indian/Alas	Asian	Black/African Americ	Hawaiian/Pacific Isl	Multiple	Unknown	White
	Student race	17	0%	0								0%	18%	6%	0%	6%	0%	71%
												F	M					
	Student gender	17	0%	0								53%	47%					
												0						
	High school credits	17	0%	0								100%						
												V Discrim	Discrim	Avg	N Discrim	Not At All D		
	Discriminate overall	17	0%	0								24%	12%	29%	24%	12%		
												V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
	Rating tendency - overall	17	0%	0								6%	35%	18%	24%	18%		

Instructor	Text Responses
	Question: Comments
Salvaggio	Conveyed basic CS ideas
Salvaggio	The instructor organized the course materials on his class website. He had everything from projects that were due to the exacts codes and examples we did in class. He also offers helpful links alongside each project, or at least for most of them.
Salvaggio	Good at diagnosing problems with software/hardware issues.
Salvaggio	professor was nice
Salvaggio	Really well.

Salvaggio	great teacher, fun and educational
Salvaggio	Carl was always very helpful when answering questions, or if we had a problem that we could not figure out. He was always able to make the time to make sure that you understood whatever topic was causing you trouble.
Salvaggio	He inspired me and gave me hope. Made me believe in myself, that I could actually undergo a task a difficult as this. Against all odds, I did it.
Salvaggio	Provided help when asked
Salvaggio	This instructor was always willing to help and was also available to answer questions. You can tell the instructor cares a lot about his students and their success.
Salvaggio	Used plenty of applicable examples
Salvaggio	He was very understanding and helpful. He wanted us to succeed and would do everything in his power to assist us towards that goal. I loved that it was a hardware and software course.
Salvaggio	Good at explaining concepts and presenting the material.
Salvaggio	Giving us a lot of opportunities for hands on experience was really nice because I feel as if I wouldn't have picked it up as fast any other way.
Salvaggio	Taught the material fairly well to a point.
	Question: Improvement
Salvaggio	More examples or walkthroughs for assigned projects.
Salvaggio	teach more material
Salvaggio	The instructor can improve by sharpening his teaching abilities. He moves very quickly and doesn't give the class enough time to digest and process the materials. Instead, we are forced to get up and move on to the next topic. It would have been spectacular if the instructor was able to answer or explain question/material more effectively, in such a way where students who have no prior knowledge of coding whatsoever are able to comprehend better.
Salvaggio	trial by fire helps us learn a lot, but overall may not be the best way for first time programmers to pick things up. Its much easier to get left behind.
Salvaggio	some of the TAs grade using a significantly harsher grading scale than others
Salvaggio	If at all possible, it would have been nice if Carl was just a bit more available. I mean he was pretty available as it is but every little bit helps a lot.
Salvaggio	Elaborating on certain topics or repeating topics because it is difficult to remember every little thing that goes into a project.
Salvaggio	The instructor can improve upon scheduling the projects throughout the semester. Sometimes the there were too many projects assigned in a given period of time and it was hard to complete them by the given deadline.
Salvaggio	Try to explain concepts more in-depth; it was really hard to take notes in class that were useful when I went to actually code.
Salvaggio	Notes are rather disorganized and hard to follow. This was my first exposure to coding and that made it very easy for me to get lost. Perhaps start a little smaller.
Salvaggio	Not going off on tangents, it can be hard to distinguish what's important
Salvaggio	The grading structure for starters. If we have all the components of the code and are able to explain what our code does, but we're missing something causing our code not to run, I don't believe that should justify for a failing grade. We're supposed to be learning from our mistakes and being able to correct them, but with a seven day turnaround from project to project, it's challenging to go back and review what we did wrong on the assignment. Another thing would be to teach us the bare-bones and basics. I was surprised, paying for a RIT education, to have been told to go to a MIT website if I wanted to learn the basics of python programing. A great resource I utilized, but I feel I could've not only leaned more from a classroom environment, but I probably could've retained more as well. Finally, more organization would be effective. Handouts, quizzes, fill in the blanks, helping us better understand how python works.
Salvaggio	The only thing I would have liked incorporated into the class was a little bit more time spent on the basics of programming. For me, coming in with very little programming background made jumping right into this class a little difficult. However, I still learned a lot in this class, and I would keep everything else the same.
	Question: In what ways
	N/A
	It did not.
	Intro course, where we hit the ground running.
	No prerequisite classes
	interesting project.
	I didn't have any previous coding experience
	There were no required prerequisite courses required for this class even though there should have been.
	I had no previous knowledge of the topics covered in this class, I was completely starting from scratch.
	This course completely built my foundation in programming. Prior to taking this class I had no experience in programming and now I feel as if I have an extremely solid foundation in the python language.
	n/a
	This was my first CIS course, but I felt that from nothing, I was able to build up a firm understanding of the material
	I had no previous coding experience and this course went beyond my expectations of a beginner's course.
	No prerequisite courses
	N/A, no prerequisite courses taken yet.
	Question: Online effectiveness

N/A
n/a
n/a
not used
None
To be honest, I knew that the class was being recorded but I didn't know that those recordings could be accessed in any way, I must not have been listening at that point in time.
n/a
none
N/A
Question: How well did CIS courses prepared you
Expectations Met
It didn't meet my expectations at all. I expected to learn some basic computer science ideas and learned how to Google more effectively.
Much harder than anticipated and required too much offline learning but learned a lot.
very well
Teach many things about computing program. Learn a lot.
I don't feel as confident in coding s I had hoped to be
Unfortunately they weren't met. I was beyond passionate about undergoing this challenge, but the amount of information I retained was and still is minute.
I definitely gained a much better knowledge regarding coding, especially alongside hardware.
Going in I really didn't know what to expect, but I certainly feel like I got my money's worth out of all cis classes I took this semester.
Very well; they pushed my boundaries of learning in the best way possible.
I realized that in order to learn and apply the material, time management and coming into office hours for help was necessary for every project
I learned a lot from this class and it exceeded my expectations in regard to the amount of content I learned.
I hoped that I had some more introductory classes and I had to do a lot of learning on my own but it did teach me to learn on my own.
In my opinion, the class was way too hard to be considered an introductory coding class. I found myself struggling really hard with completing projects even though I started early, got help from TAs, and researched things on Google. I definitely feel that my grade doesn't reflect on the work and effort I put into the class.
Question: Suggestions for improvement
(1) There were a lot of TAs, all very helpful. The amount of TAs were necessary for the course. (2) Allow late submissions with percentage decrease.
The lecture should actually contain explanations on what we're supposed to be doing outside of class more than about once a month.
He explains as if we would understand right away. He blames us for no asking questions when even 3-4 questions won't do any justice. He relies on teaching assistant hours to get your projects done. I wish that the material we learned this semester was paced better and more elaborate. The professor provides MIT lecture links and online help. Although we are encouraged to do our own research, I had to solely rely on those videos to move on in the class. But having help in person is so much better, which this professor did not really provide. He moved too quickly and gives everyone extensions on projects because of that. All in all, the only suggestion for improvement I have to offer is to pace the course material better and to offer more elaborate answers.
Go over code examples more in class and potentially have less projects in order to focus on each one more.
If we can know what's on the grading rubric.
Something to fix how hard it is to take notes. Make this a 4 credit course
I understand the concept of problem solving when presented with an obstacle, but as a freshman introductory class, this was all sink or swim. One of the challenges that comes into play is when we're given examples using basic pre-algebra, having nothing to do with our assignment, and then our first assignment deals with physics. This could definitely qualify as a second semester class with a prerequisite to a true introductory to computing and control class. This is a more intermediate level class.
I would've liked a little bit more information on the basics of programming. The class sort of jumped right into coding, and I remember my first project was very difficult because I was unsure of what each part of a code even did. Eventually I understood, but that was several weeks into the class.
More in class time for programming.
n/a
While we are able to learn how to do each project from the knowledge we get from class and from the T.A's, the overall scale and amount of projects was overwhelming at times
Definitely work more on coding syntax and how to integrate that into thought processes or flowchart logic. While the explanations were fairly clear, it was really hard to take notes in class that were understandable when I went to code the actual assignment outside of class.

Question Averages



There were: 35 possible respondents.

	Question Text	N	Top Two	Avg	SD	IMGS Avg	IMGS SD	Col Avg	Col SD	Uni Avg	Uni SD	No	Yes					
8	Regularly attended class	28	96%	0.96	0.19	0.96	0.20	0.97	0.17	0.97	0.17	4%	96%					
												Str Disagr	Disagree	Neutral	Agree	Str Agree		
26	Enhanced interest (Salvaggio)	28	54%	3.32	1.28	3.98	1.05	3.73	1.12	3.98	1.05	11%	18%	18%	36%	18%		
27	Material presented in organized manner (Salvaggio)	28	50%	3.18	0.98	3.90	1.10	4.06	1.01	4.14	0.97	7%	18%	25%	50%	0%		
28	Clear communication (Salvaggio)	28	21%	2.54	1.07	3.84	1.11	3.92	1.10	4.09	1.01	21%	25%	32%	21%	0%		
29	Positive learning environment (Salvaggio)	28	54%	3.43	1	4.15	0.95	4.13	0.96	4.24	0.92	4%	14%	29%	43%	11%		
30	Helpful feedback provided. (Salvaggio)	28	36%	3.04	1	3.92	1.05	3.88	1.08	4.04	1.04	7%	21%	36%	32%	4%		
31	Supported my progress (Salvaggio)	28	50%	3.18	1.16	4.09	0.93	4.02	0.98	4.14	0.94	11%	18%	21%	43%	7%		
32	Effective teacher (Salvaggio)	28	32%	2.79	1.1	4.01	1.05	4.01	1.07	4.16	0.99	11%	36%	21%	29%	4%		
35	COS - Fair evaluation of work (Salvaggio)	27	52%	3.52	0.98	4.09	0.91	4.25	0.86	4.25	0.86	4%	7%	37%	37%	15%		
36	COS - Consistent evaluation of work (Salvaggio)	27	44%	3.33	1.07	4.12	0.89	4.30	0.81	4.30	0.81	4%	19%	33%	30%	15%		
37	COS - Timely evaluation of work (Salvaggio)	27	26%	2.89	1.01	3.93	1.06	4.22	0.92	4.22	0.92	4%	37%	33%	19%	7%		
												Str Disagr	Disagree	Neutral	Agree	Str Agree	Did Not Seek	
38	COS - Availability outside of class (Salvaggio)	27	23%	2.77	1.03	4.26	0.93	4.20	1.79	4.20	1.79	11%	26%	37%	19%	4%	4%	
39	COS - Helpful outside of class (Salvaggio)	27	58%	3.62	0.94	4.22	0.96	4.13	1.81	4.13	1.81	4%	4%	33%	41%	15%	4%	
												1	2-3	4-7	8-15	16-31	32+	
	Emails received	28		0								0%	0%	0%	0%	4%	96%	
												1-3	4-6	7-9	10-12	16-18		
	Classes this semester	28		0								0%	68%	32%	0%	0%		
												V Discrim	Discrim	Avg	N Discrim	Not At All D		
	How discriminating the student was this semester	28		0								29%	14%	14%	18%	25%		
												V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
	Rating tendency - this semester	28		0								0%	0%	11%	29%	61%		
												0	1-2	3-5	6+			
	Evaluations completed	28		0								0%	11%	43%	46%			
												0	25	50	75	100		
	Evaluations completed %	28		0								0%	0%	14%	7%	79%		
												Y						
	Instructor emailed	1		0								100%						
												Shibboleth	Email	Use Class SSO	Unknown	SSO		
	Login method	28		0								96%	0%	0%	0%	4%		
												No	Yes					
	Future classes	28		0								100%	0%					
												american indian/ alas	asian	black/african americ	hawaiian/pacific isl	multiple	unknown	white
	Student race	28		0								0%	7%	0%	0%	11%	0%	82%
												F	M					
	Student gender	28		0								46%	54%					
												0						
	High school credits	28		0								100%						
												V Discrim	Discrim	Avg	N Discrim	Not At All D		

Discriminate overall	28			0							32%	21%	14%	18%	14%		
											V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
Rating tendency - overall	28			0							0%	4%	14%	29%	54%		

Instructor	Text Responses
	Question: In what ways
	no prereq
	I had no previous knowledge of what was covered in this course.
	basically all new material
	More clear understanding of python.
	There were no prerequisite courses.
	There were no prerequisites to this course.
	Programs for this class will be used in future classes.
	The math courses were really helpful in this class.
	none
	I didn't have any courses like this until now, so this course was meant to introduce me, which it didn't do very well.
	I have not taken any previous courses as I am a Freshman.
	This was an into class, I had no experience
	It didnt (first year)
	This was a brand new experience for me. I have never coded before. I was not impressed, I wanted to like coding but this was in no way an introductory course for coding. Arguably my hardest class. Could not do projects effectively without help from the TAs.
	Topics from Trig and Calculus like summations and integrals but other than that the material was to far too complex.
	This was my first CIS course other than FIP. Some of the conceptual topics covered in 180 were also used in the project, not the coding concepts.
	It didn't
	It built significantly on any previous work/classes involving Python and that's all.
	It was a first year level course, but I don't think I learned anything. Came in with no coding experience, still don't really know how to code.
	It doesn't relate to anything else I've done honestly
	N/A
	This course was one of my first courses, so it could not really build on anything because there was nothing to begin with. I did learn a a lot about CIS material... however my objection to this is that the class focus too much on the CIS material and not enough on the BASIC FUNDAMENTALS and practices of all programming languages.
	It really didn't
	This course was dissatisfactory.
	Question: Online effectiveness
	not used
	not used
	Not used.
	Not used
	I really liked Carl's website , it was easily navigable and he included everything necessary. He also utilized mycourses well for recording the grades.
	We watched MIT lectures and they were very helpful.
	N/A
	not used?
	I did not use it.
	If by class recording, you mean MyCourses, then it has not been used regularly by the TA's to update grades often at all.
	Not used
	not used
	N/A
	N/a
	Some what effective. This was the only class of mine to use MyCourses, but that was only when The TAs remembered to grade things.

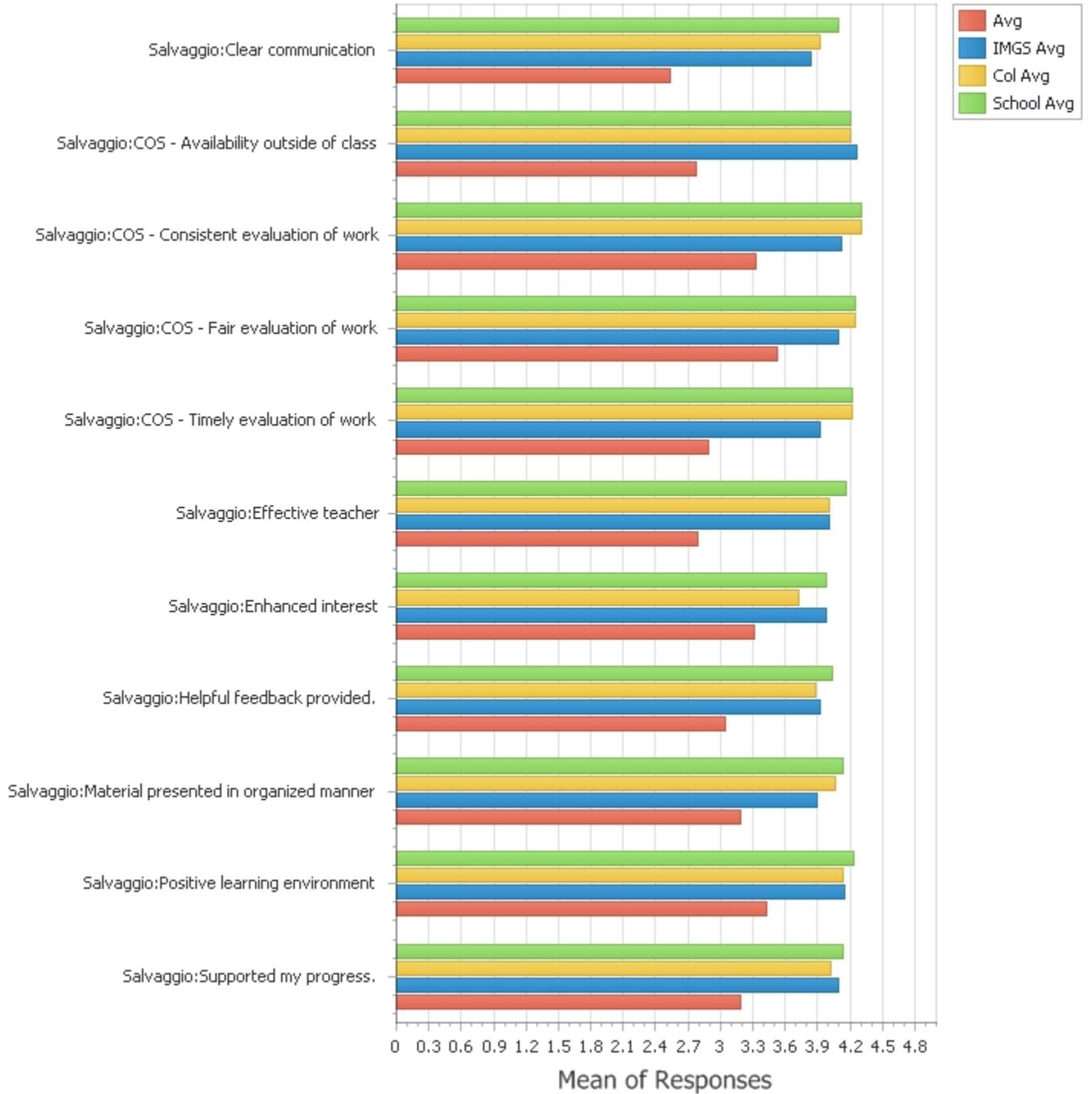
Not used
Was not used. I wish it was.
If this is talking about the online lectures we watched I didn't get much out of them so I stopped doing them
N/A
I like Carl's website much more than myCourses in terms of content, but myCourses dealt better with the grades.
I was never told there was an online class recording system I am sure if I had this system my experience with this class would be much better.
Question: How well did CIS courses prepared you
I liked having the experience to work with programming, and the building with the board. I feel that the projects should have been more imaged based though
They met my expectations but they all covered a lot of information in a short period of time.
it worked I guess. It was good in the beginning but halfway through got lost.
Learn the basic of programming and would be useful for other class we take later on.
well
This class was very different that I thought it would be. I thought I would learn basic python, but instead I learned a lot of things from other classes that I will have to take and was given pieces of python code. While I have a better understanding of python, this course did not teach me how to program well. It gave us helpful tools for the rest of our time at RIT with the more complicated codes, but I'm not confident in my ability to use those codes because I don't fully understand them because I didn't get a solid enough base.
I was expecting more of him to explain more about python before he gave s the projects. While doing the projects I felt like a lot of the requirements we did not cover.
What I expected
I learned a lot.
Really good.
very low. i expected this class to be a beginners course in programming. Me and most of the other students have never tried to program. However, I feel that the professor, although he said that we arn't expected to be able to program, taught us with the belief that we did.
Intro to Computing was meant to introduce me to programming and soldering and things of that nature. However, in reality this course just threw project after project at me without giving me a sufficient understanding of what was going on. There was never enough time to figure out what I was doing, I just had to hand it in. The Teacher's Assistants were the ones who helped me through. I would work for this code almost every day and half the time it wouldn't pay off. The TA's could only get me so far, and on certain days the TA room is overflowing with students in my same position. On those days I would spend hours waiting for help and end up getting nothing done. The past fourteen weeks have been so stressful because every second I wasn't working on another class I had to find a way to get to the TAs. I don't know how they expected us to do this on our own without prior experience in python. This course was so time consuming that it affected my other grades. The online MIT course we watched for homework did not help me learn more. The Innovative Freshman Experience, on the other hand, has been an extremely positive experience. At first it seemed incredibly overwhelming but as the weeks went on, all the students got a better understanding of what was happening, and what had to be done. The fact that the professors leave us mostly on our own to create a system that doesn't even exist is incredible. The atmosphere in the class is drastically different than any other because we are all working together as a team, not just a class. That is something that I will learn from no matter what field I go into. This is a course I tell people about at home and they are amazed.
Intro to Computing and Control was a disappointing class, to be honest. It was meant to be an introductory class with regards to Python and integration with hardware. I came in with an intermediate knowledge of Python and a basic knowledge regarding hardware and I was completely lost at least 75% of the time in this class. The projects were ridiculous for an introductory course.
much harder than I thought it would have been for an into class
they were challenging and rewarding
This course did not meet my expectations by a long shot, it was far too complex for an intro coding class and the teachers is disillusioned as to what it means to be a novice coder.
Poorly. Extremely poorly. I wanted to like coding, but this was so far and beyond the scope of an introductory coding class that I am biased to dislike it now.
This class specifically: not at all. It's been extremely difficult to learn in this class due to the high expectations of previous experience (which I even had) and how fast the professor taught. It was hard to understand him most of the time and though my grade has stayed fairly high, I have struggled to comprehend the material (almost of this class would have failed out if the TAs didn't help us). In terms of other courses, the freshman imaging lab has been an interesting and extremely education experience.
I expected to have a better baseline knowledge of a programming language however I don't feel confident in my knowledge even after taking this class.
It didn't.
This course was extremely disappointing. Upon entering the course, I was excited to learn about the fundamentals of computer programming and the python language. Because I had no prior experience in the world of computer science, I was happy that I was able to take an introductory course that applied the basics of python to the types of applications that I will be using in Imaging Science. Unfortunately for me, this was nothing like an introductory course. The fundamentals and basics of python were covered in one project, and it wasn't even the first one that we did. The projects done in the class were very advanced in terms of the levels of object-oriented programming and were extremely overwhelming for someone with no background whatsoever in the subject. Due to this, I had to see the class teacher's assistants almost daily to try and grasp an understanding of the projects that I was being asked to complete for class. This resulted in me not being able to hold a firm grasp on the material and struggle greatly throughout the semester. Despite struggling, I thought that I would at least be able to gain experience working with projects that correspond to Imaging Science. Well, it proved that I was wrong here too. Not until the very end of the semester did the class begin to cover the materials that we will be working with in our major. The rest of the projects covered various topic that would be better associated with electrical engineering. These hardware-intensive projects did not prove to be useful in my learning and the only real reason that we needed to buy both a Raspberry Pi and the other materials that came with the kit. This course was overall very dissatisfying and, worst of all, the immense amount of effort I put into it did not give me the result I wanted: to have an understanding of python. This will likely be a problem for me moving forward.

	For me personally, the class was very effective. I have already had a lot of experience with programming so I was learning more about its applications in the CIS course field. However, from my perspective as an above average programmer, this course is extremely difficult and fast paced for those who have had no experience (especially if imaging science material is trying to be taught simultaneously).
	Exceeded my expectations
	I was very dissatisfied with this class the pace was much too fast for any of the students to comprehend the work. I was in the class to learn the basics after all this is supposed to be an intro class. This was far too much for any freshman going through this process.
	Question: Suggestions for improvement
	I think it should be more like a DIP -light class that teaches programming principles
	I think that there needs to be more time to cover the topics that were taught in class, because even though the projects got done, that doesn't mean that I will be able to do them again.
	The class is Tuesdays and Thursdays. it would be nice to do like Tuesday class 1.5 hrs the Thursdays class 2 hours and that would be a lab where the teacher or TA would step by step walk through how to program. it would be nice to have homework assignments that are basically some of these projects where you walk through step by step how to do things like in a lab format and then the homework would be to complete the code or make a new method etc. then the bigger assignments (like war and the car) would be a project where we do those on our own
	Need more clear on the concept. Some of the stuffs we know how to do it, but don't know why we do it.
	have clear rubrics posted ahead of time
	I would recommend making this a two semester class. We really need a class that simply teaches coding, and then another class to teach us foundation codes for the rest of the imsci and mps codes we will have to write.
	Going over more of the basics of the language and the concepts of using a programming language.
	I don't think he knows how to teach beginners well. A lot was thrown at us in the first couple of weeks, and it never sank in because I had absolutely no prior knowledge of programming. I wish we had a rubric to know what specifically we did wrong on assignments.
	Define better the class material a the beginning and also have a rubric before assigning projects.
	Please go slower. When your son took over for only one week, I got lost in the class. I have not been able catch up and the TAs were of no help. Also, please don't leave everything for the TAs to teach bc every time I went, during the week they were swamped or not helpful. Also, the TA's schedules always conflicted with classes. i found myself having to skip math to get help. Also, don't treat the class like an intermediate class. Maybe there should actually be a quiz on some of the short code. I feel like that would help a lot.
	Intro to Computing needs to be changed. Coding and hardware projects are extremely complicated especially for those who are new to the topic. The course needs to slow down and give smaller assignments before heading into big projects. Start simple to introduce us to the topic, as the title of the course suggests. Watching the online MIT courses for homework does not fill-in for actual teaching and should not be used as an excuse to say we know what we're doing.
	I would have to say that the projects need to be fine-tuned and the TA's need to have knowledge of how to solve them as well, because even they were occasionally lost. The entire course needs to be re-evaluated, I believe, as this is a poor excuse for an introductory course. Many students did not know even the basics of Python (implementation or syntax) by the end of this course.
	it would be better if they were more introductory. i felt like i was thrown into the course not learning the basics i needed.
	Slow down the course significantly, have more hands of walk through for the first few weeks; or move this class into a later year and have an actual Computer Science intro coding class take its place or something because this was extremely hard.
	I don't have the time or patience to list out all that is wrong with this course so I'll keep this brief. The course assumes prior knowledge to coding when it's an intro course. Basic syntax is not taught in class. The teacher struggles with hardware and software issues from the tech he requires his students to use in class. When I approached him about my hardware not being able to connect wirelessly, a requirement to complete a project, he didn't know how to fix the issue and basically dismissed me, giving me no leniency during grading.
	The lectures would have been better if they were geared toward syntax rather than radiometry basics. Since this was supposed to be an intro class, it would have been better to teach us foundations as if the majority had never programmed before. My suggestions would be to start at a more basic level and then have the projects build from there.
	This is an introductory course. We should be learning the syntax and developing an understanding of how the syntax operates. Instead of assuming that most students knew what they were doing, the instructor should have assumed that none of the students knew anything about programming, because this is, after all, an introductory course.
	In terms of lectures, the professor needs to slow down and teach the basics first (if this going to be an intro class for first year students), instead of relying on worthless, confusing online lectures taught by someone else. In terms of content, the professor needs to stop assuming students understand everything he's saying, most of us are first years and even more have absolutely no experience with Python or programming. Most of the codes we are forced to write are poorly explained, with little more than a brief description online which we are then expected to know how to make into a code without any in class explanation. Not to mention, he does none of his own grading and the TAs' grading has caused numerous problems that have then been fixed when the professor re-evaluates the grade. He claims to have an open door policy when in fact most students in the class can never find him. He's very helpful when he can be found and great at explaining things to the individual, but his lectures need work.
	I couldn't understand the material conceptually because I hadn't taken those classes before. I didn't know how to code, and I didn't know how to code stuff I didn't understand. Areas for improvement include: Teaching syntax, teaching basic coding, having basic coding assignments to help understand coding, slowly integrating imaging material. It is supposed to be Intro to Computing and Control
	Do more in class practice
	I do not see any need for the Control part of the course. There were no real applications for the hardware and programs done to satisfy this section of the course. Plus, it does not seem like any of the projects done with the Control aspect have any relevance towards image processing, or at least the majority of it. There were two types of lectures for this class: the lecture done during the class period and the online MIT lectures assigned for homework. Out of the series of 16 videos, only the first five or so of the MIT lectures proved to be valuable to the course material. All of the other lectures went way off track from where we were with the class and only helped boost my final grade. The in-class lectures were hit or miss in that the material was either presented clearly enough to understand, or it was presented with the intent of us not being able to fully understand the tasks at hand. The biggest issue with the course is that it goes through the basics way too quickly for anyone to gain a proper understanding of them so that they could be applied to the projects. A simpler curriculum would help students move into more advanced projects easier.

	Online lectures need to go away... they are informative for the first few but then break off from the pace of the class. This material should be taught IN-CLASS if this is a basic programming class. Content wise, I think a few less project would be helpful to reduce confusion with overwhelming work. Also, rubrics ahead of time from program expectations would be extremely helpful.
	Not going so fast because a lot of kids didn't understand the material
	I would have to say the teacher should slow down and instead of laughing off matters he should do his job and make sure his students are succeeding. I came to college to learn not to have somebody call me out in the middle of class for something I do not know.
	Question: Comments
Salvaggio	Really cool guy, very approachable and like if I have a question Im not afraid to ask.
Salvaggio	He was very enthusiastic about the topixcs being taught and he did answer questions when asked.
Salvaggio	taught programming in a friendly way that did not intimidate new users while having projects that would be useful in the future.
Salvaggio	Make the class fun.
Salvaggio	This instructor was very helpful outside of class, when you could find him. He gave us useful codes for future use, but we didn't get a good enough foundation to be able to understand them enough to use them. I really liked how approachable he was and how helpful he was when I could find him. He responded to e-mails in a timely manner.
Salvaggio	He is very positve and very accomadating for students.
Salvaggio	He was very helpful with answering questions that I had about the projects and would give good feedback on my work.
Salvaggio	Most of the projects were really interesting.
Salvaggio	He provided us with software we could use to help us do certain tasks. He went over what we had to do for our weekly projects. He was awesome at responding to emails, and he was amazingly approachable and friendly. I had no problems emailing him about questions, and he genuinely wanted to teach us the material.
Salvaggio	Very upbeat and demonstrated how exciting and powerful computing can be.
Salvaggio	The instructor has a clear love for the subject of the course and this helps to bring some sort of motivation to the class.
Salvaggio	He is very good at coding, and his website is very organized and useful. The website tells you about each project, outlines and code done in class, drop off areas for finished projects, and other tools.
Salvaggio	Funny guy, keeps class interesting.
Salvaggio	Provides ample TA hours.
Salvaggio	Carl is an extremely nice and open professor who looks to help students in the best ways that he can. He is also incredibly knowledgeable and talented in the fields in which he works.
Salvaggio	The instructor was willing to communicate with the students.
Salvaggio	not much
Salvaggio	Don't rely so heavily on the tas and don't do as many projects
Salvaggio	To keep this evaluation fair I must try to muster some redeeming quality for Carl Salvaggio. He keeps a positive attitude and is open to most questions in class, though his answers may be vague.
Salvaggio	Carl is a very nice guy, he can tell you what to do effectively, but he does not teach it well. I don't think this class is right for Carl because I think he is a little out of touch with what it means for a course to be introductory. But I have no other qualms other than he was not great at teaching. He is very understanding though and willing to work with you if you are struggling.
Salvaggio	Was open to talk and answer questions. When he's in his office. But that's not often. He will answer questions through email but not thoroughly.
Salvaggio	He has a friendly smile
Salvaggio	He is great at explaining codes and work done in class when the individual seeks him out.
Salvaggio	Always had a positive affect and always was interested in what he was teaching, cared about what he was teaching.
	Question: Improvement
Salvaggio	have the final project due on the day that the final was scheduled not during the last week of regular session as it dis-proportionally takes up time that needed to be spent on regular course work for other classes
Salvaggio	He needs to explain topics more and make sure that we understand what we are doing. Because I had absolutely no idea what I was doing for most of the semester.
Salvaggio	The online lecture summaries were too much. I get why we have to write a summary of the lecture; but I think a bulleted list would work better. It's a little easier to do and understand. Some of these project were really difficult! Like not only are we learning everything programming, but also everything color science too. The war simulation was a good solid project to teach programming, temperature emissivity not so much. It is very difficult to learn the concept and apply it to coding. I would have liked to see more 'step by step' instructions. it is odd because usually professors will start out like that and drop it a few weeks in. but for Carl it was completely random. Like the first two weeks were step by step and it was great! then it went away for a few classes, then came back. even in one class period it would be there for half the class then not the other. It would be helpful to see more type this line 'for X in Y:' then hit enter and it should automatically indent for you but if it did not then hit tab and type...etc making loops are very difficult because we don't think that way, we are just being introduce to this whole new concept and yet we need to move on to more difficult programming things and projects that require loops. like at the beginning of the semester classes were introduce; and I think by now at the end of the semester I think I sort of know how to create a class on my own and understand what I am doing.
Salvaggio	explain the materials.
Salvaggio	I knew no programming going into this class and many of the concepts that we covered I don't think were explained fully. I was like he assumed we already knew the basics of programming when some of the class didn't.
Salvaggio	Nothing really needed to improve.

Salvaggio	Carl is so good at what he does that I feel he sometimes can't dumb the coding down enough for us, because it just makes so much sense to him. I feel that the entire course was very fast paced, and we simply did not have enough time to do all of the codes that we did and do them well, and he even had intended to try and do more. I think that a better understanding of python at the beginning of the semester would have made this a very helpful course, but it's not a first year first semester course, it's just too complex. That is not to say Carl is a bad professor, I really like him and plan on coming to him for help in the future. I just think that the course could use 1. more time and 2. some redesigning.
Salvaggio	Having a rubric before the projects been assigned would help. Also, having more available info on course material. I know we can find the commands on the internet but there are too many ways to do the same, so maybe having more prepared material made by the professor in order to complete the projects would made the learning faster and easier; and also leave the TAs for more difficult problems because a lot of students went to TAs hours without even an idea of how to start the project.
Salvaggio	He crammed a lot. For the last week of classes, when everything else is also due, he assigned two projects to be due and gave us information about them only a week prior. Because of that, the TA's weighed heavily in achieving a high grade. One in particular effectively told us how to program one of the assignments, and the way he wrote it received full credit in past years. However, it was too late because it was due when Carl found out the way we'd been writing out program, and told us we wouldn't receive credit for that part. A lot of us were up in arms about it, and Carl refused to subsidize. Because he was out of sync with the TA's, and distributed varying grades to past students, most of us lost unnecessary points. To continue, Carl doesn't know how to teach beginners well. A lot was thrown at us and we relied heavily on the TA's assistance. Without the TAs, I wouldn't have passed.
Salvaggio	Please go slower. When your son took over for only one week, I got lost in the class. I have not been able catch up and the TAs were of no help. Also, please don't leave everything for the TAs to teach bc every time I went, during the week they were swamped or not helpful. Also, the TA's schedules always conflicted with classes. I found myself having to skip math to get help. Also, don't treat the class like an intermediate class. Maybe there should actually be a quiz on some of the short code. I feel like that would help a lot. actually recording the class and posting it online might actually be really beneficial.
Salvaggio	He needs to make sure we know the information before he moves on and gives us our next project. Sometimes we are all busy with one project and he assigns another. There needs to be less projects or they need to be simpler so we can learn more easily with them. He also needs to be available for help more often. When there is a problem that the TAs can't solve, we need Carl to help. Sometimes he just doesn't answer the door when we know he's in there. He doesn't seem to care too much about how tough the course is on us, because it's all very easy for him.
Salvaggio	TA's did all of the grading, some assignment I would get back in a week and some almost a month after they were turned in.
Salvaggio	This instructor should understand that he is teaching to beginners because this is an introductory course. He expected way too much, way too fast from the students and seemed surprised when students were unable to complete assignments or when they were not knowledgeable of the basics of Python that he neglected to go over.
Salvaggio	He taught the material in a way that suggested he knew it extremely deeply but didn't communicate it in a way that helped students who are new at computing understand it. I felt lost after the first few weeks because I didn't know the foundation of some of the concepts.
Salvaggio	Take a good long evaluation of his projects, scrap the more complicated ones and develop projects that express actual understanding the fundamentals of coding.
Salvaggio	Slow down the class, a lot. This is an intro class, not a junior year course. Carl was also very hard to find, the TAs have designated office hours sure, but Carl is rarely anchored down in his office for more than 20 minutes at a time which makes asking him in person questions outside of class very difficult.
Salvaggio	Hello It's me And I was wondering if after all these codes you'd like to meet To go over everything They say time's supposed to be abundant But I ain't getting much sleep Hello, are you there, Carl? I'm in Carlson dreaming about who I used to be When I was younger and got sleep I've forgotten how I felt before the codes ruined everything There's a difference in our knowledge and a million years Hello the other side I must have emailed a thousand times To tell you I'm sorry, but I do not understand But when I stop by you never seem to be home Death to the Raspi At least you can see that I've tried To show you I'm not sorry, for killing the pi But it don't matter it clearly doesn't tear you apart at all Hello, how are you? It's so typical for me to ask for help I'm sorry I hope you're done Did you ever finish blackbody_fit.py It's no secret that the both of us Are running out of time Good-bye Hello from the other side I must have knocked a thousand times To try to see if you'd answer your door But when I knock you never seem to be there Hello from the outside At least I can say that I've tried To finish this hilariously bad code But it don't matter it clearly doesn't tear me apart (I give up) So I quit learning syntax! I tried studying numpy And to understand what I'm actually doing But when I run the code, errors occur Hello from the other side Is it that obvious that I cried While working on all of these codes Because now I'm done with this course (no more code)
Salvaggio	He could make a schedule for office hours instead of expecting the student to know when he might be in his office. He could slow down his lectures and make sure everyone is following along instead of going so fast that no one can keep up (I have seen most people asleep, playing computers games, and messing with phones during his lectures). He could grade SOME of the codes he assigns, or at least check the TA grading, so that students are graded fairly (different TAs grade differently). He could lower his expectations in terms of student experience with Python.
Salvaggio	Being clearer on the requirements for projects. There were aspects of the project that were never discussed but they were on the rubric and we had points taken off for not including them. Also, having regular office hours like the TAs so that we aren't searching CIS. Finally, being consistent on grading the projects and communicating with the TAs on the expectations because they would grade code differently as individuals as well as give students incorrect information about the project.
Salvaggio	Could explain things better before we have the assignment, and teach syntax or something to people that don't know how to code.
Salvaggio	Carl moves very quickly through his curriculum and although he always makes sure to stop his class to ask if anyone has any questions, there always winds up being questions that are either left unanswered or are very difficult to understand. He presents his lectures and projects in a literal sense in terms of what he wants the project to be able to do. The problem is, saying things literally and saying things how a programmer are not exactly the same. Because the majority of the students in the room have never worked with computer science before, they do not know how to think like programmers. As a result, the translation from what is laid out in the lectures and on his website to how the students will actually write the project using python is very different. The difficulty to understand the syntax and vernacular of computer programming led to the difficulties with completing the projects themselves. It is known that Carl is always willing to help out, however, he is very busy and not usually available. We then needed to rely heavily on the teaching assistants to help us get through the course. If the course could be simplified to introductory-level material, it would improve the students' experiences.
Salvaggio	Personally, I was fine in this class.... but in terms of average students with no knowledge of programming... the course took off way too fast. More time needs to be spent with basic programming concepts and programming situations that students already comprehend rather than programming for a new topic that we have not experimented with yet. Rubrics ahead of time!
Salvaggio	Make sure everyone knows how to use python instead of jumping right into it
Salvaggio	This instructor can come up with a better method of making sure his students are getting the knowledge they need. Making sure he is not offending his students in class. Also taking into account an adequate time for each of his assignments.

Question Averages

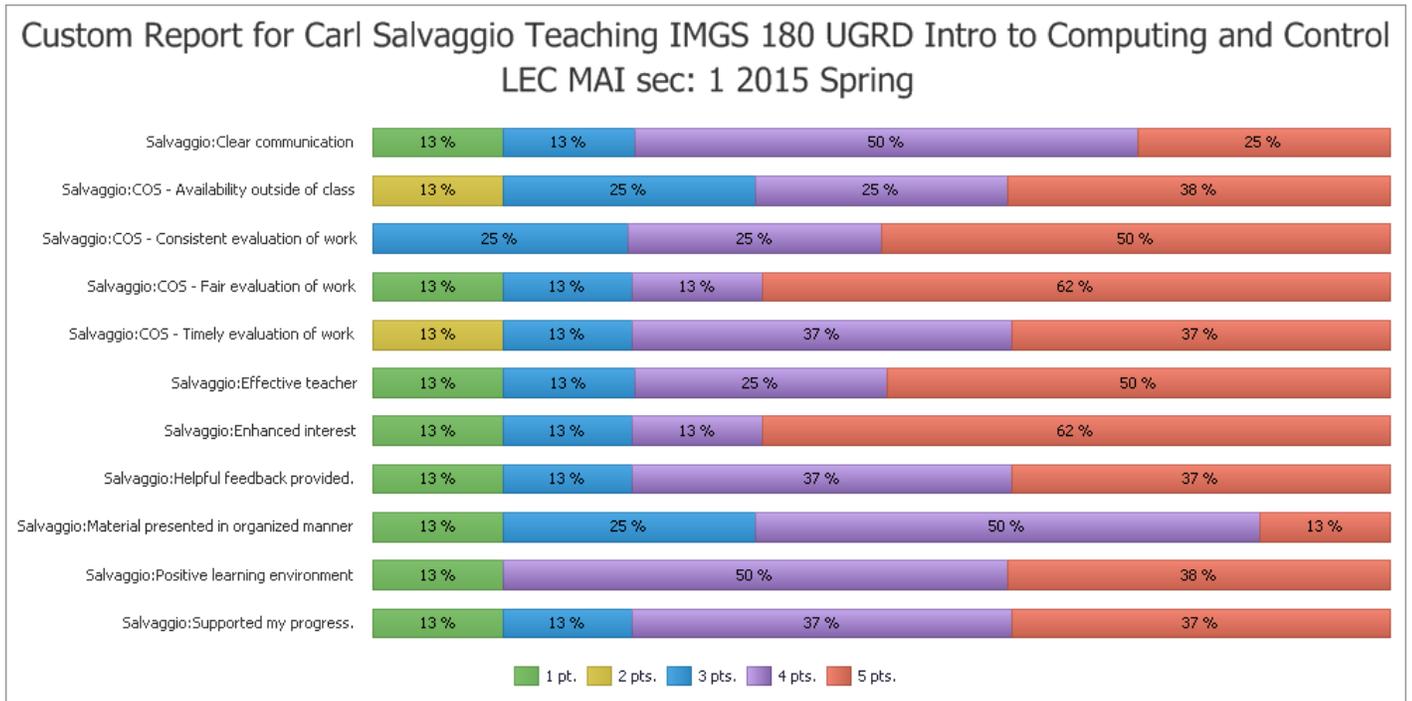
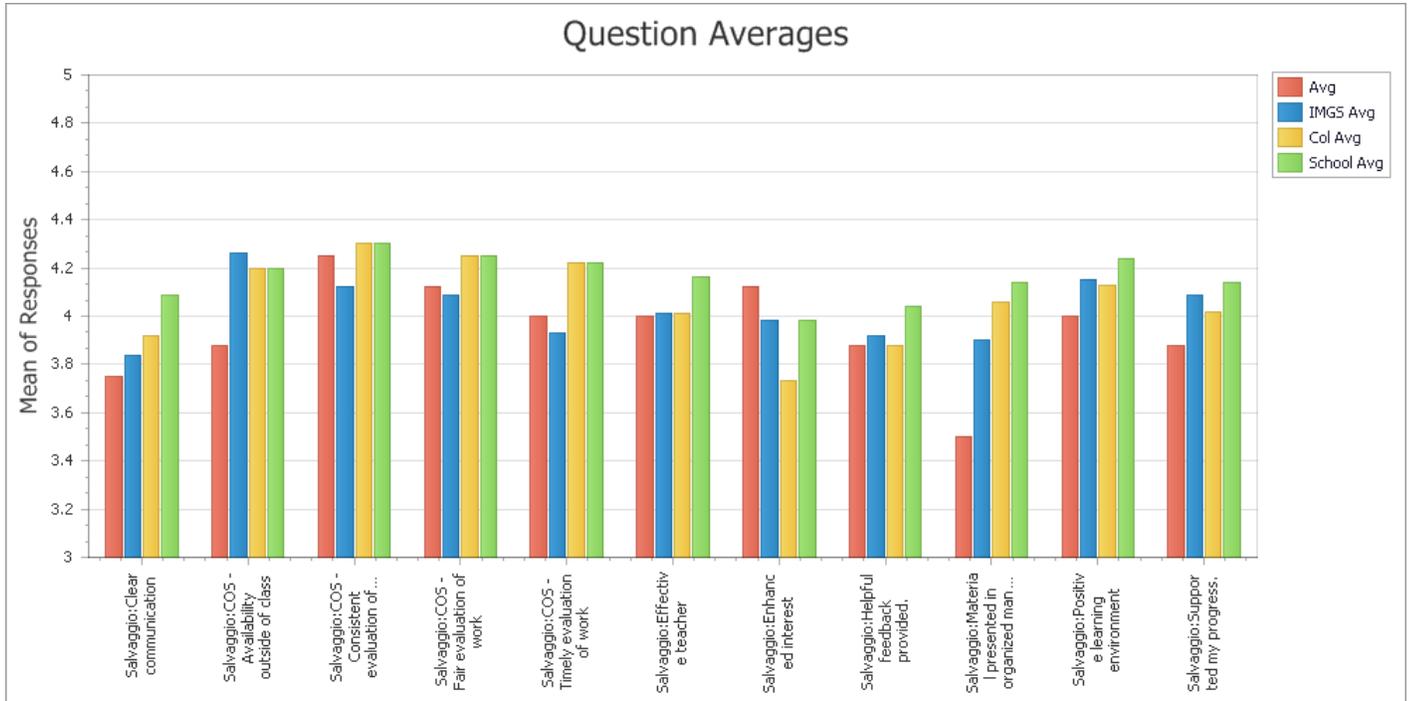


Custom Report for Carl Salvaggio Teaching IMGS 180 UGRD Intro to Computing and Control
LEC MAI sec: 1 2015 Spring

There were: 13 possible respondents.

	Question Text	N	Top Two	My Avg	SD	IMGS Avg	IMGS SD	Col Avg	Col SD	Uni Avg	Uni SD	No	Yes					
1	◊ Regularly attended class	8	100%	1	0	0.96	0.20	0.97	0.17	0.97	0.17	0%	100%					
												Str Disagr	Disagree	Neutral	Agree	Str Agree		
10	◊ Enhanced interest (Salvaggio)	8	75%	4.12	1.46	3.98	1.05	3.73	1.12	3.98	1.05	13%	0%	13%	13%	63%		
11	◊ Material presented in organized manner (Salvaggio)	8	63%	3.5	1.2	3.90	1.10	4.06	1.01	4.14	0.97	13%	0%	25%	50%	13%		
12	◊ Clear communication (Salvaggio)	8	75%	3.75	1.28	3.84	1.11	3.92	1.10	4.09	1.01	13%	0%	13%	50%	25%		
13	◊ Positive learning environment (Salvaggio)	8	88%	4	1.31	4.15	0.95	4.13	0.96	4.24	0.92	13%	0%	0%	50%	38%		
14	◊ Helpful feedback provided. (Salvaggio)	8	75%	3.88	1.36	3.92	1.05	3.88	1.08	4.04	1.04	13%	0%	13%	38%	38%		
15	◊ Supported my progress (Salvaggio)	8	75%	3.88	1.36	4.09	0.93	4.02	0.98	4.14	0.94	13%	0%	13%	38%	38%		
16	◊ Effective teacher (Salvaggio)	8	75%	4	1.41	4.01	1.05	4.01	1.07	4.16	0.99	13%	0%	13%	25%	50%		
19	◊ COS - Fair evaluation of work (Salvaggio)	8	75%	4.12	1.46	4.09	0.91	4.25	0.86	4.25	0.86	13%	0%	13%	13%	63%		
20	◊ COS - Consistent evaluation of work (Salvaggio)	8	75%	4.25	0.89	4.12	0.89	4.30	0.81	4.30	0.81	0%	0%	25%	25%	50%		
21	◊ COS - Timely evaluation of work (Salvaggio)	8	75%	4	1.07	3.93	1.06	4.22	0.92	4.22	0.92	0%	13%	13%	38%	38%		
												Str Disagr	Disagree	Neutral	Agree	Str Agree	Did Not Seek	
22	◊ COS - Availability outside of class (Salvaggio)	8	63%	3.88	1.13	4.26	0.93	4.20	1.79	4.20	1.79	0%	13%	25%	25%	38%	0%	
23	◊ COS - Helpful outside of class (Salvaggio)	8	75%	4.12	1.13	4.22	0.96	4.13	1.81	4.13	1.81	0%	13%	13%	25%	50%	0%	
												1-3	4-6	7-9	10-12	16-18		
	◊ Classes this semester	8	0%	0	0	0	0	0	0	0	0	13%	88%	0%	0%	0%		
												V Discrim	Discrim	Avg	N Discrim	Not At All D		
	◊ How discriminating the student was this semester	8	0%	0	0	0	0	0	0	0	0	25%	0%	0%	0%	75%		
												V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
	◊ Rating tendency - this semester	8	0%	0	0	0	0	0	0	0	0	25%	13%	25%	13%	25%		
												0	1-2	3-5	6+			
	◊ Evaluations completed	8	0%	0	0	0	0	0	0	0	0	0%	13%	75%	13%			
												0	25	50	75	100		
	◊ Evaluations completed %	8	0%	0	0	0	0	0	0	0	0	0%	0%	0%	0%	100%		
												Shibboleth	Email	Use Class SSO	Unknown	SSO		
	◊ Login method	8	0%	0	0	0	0	0	0	0	0	100%	0%	0%	0%	0%		
												No	Yes					
	◊ Future classes	8	0%	0	0	0	0	0	0	0	0	0%	100%					
												american indian/alas	asian	black/african americ	hawaiian/pacific isl	multiple	unknown	white
	◊ Student race	8	0%	0	0	0	0	0	0	0	0	0%	25%	0%	0%	13%	0%	63%
												F	M					
	◊ Student gender	8	0%	0	0	0	0	0	0	0	0	50%	50%					
												0						
	◊ High school credits	8	0%	0	0	0	0	0	0	0	0	100%						
												V Discrim	Discrim	Avg	N Discrim	Not At All D		
	◊ Discriminate overall	8	0%	0	0	0	0	0	0	0	0	25%	13%	0%	13%	50%		

											V Easy	Easy Grader	Avg	Hard Grader	V Hard Grader		
Rating tendency - overall	8	0%	0	0	0	0	0	0	0	0	13%	25%	25%	25%	13%		



Customize

Text Responses
Question: In what ways
this was the first CIS course I have taken.
Made substantial use of knowledge of computer programming. Also made use of math skills.
This is my first CIS class. But, in terms of previous concepts, Professor Salvaggio was always great about relating processes and applications to concepts many of the students were familiar with in order to ensure that we really grasped the material.
Made use of information from calculus and physics

well, used information from calculus and physics.
This is a freshman level course. It furthered my education in circuits, object oriented programming, python, and image analysis.
N/A
I had a basic background in programming, but that was nowhere near the amount we learned in this class.
There was no pre-req for this class, which is ridiculous. The level of learning expected for this class is outrageous and with no coding experience many people are left to desperately scramble to catch up on material. There should be a intro to coding pre req for this class.
Question: Online effectiveness
This was very helpful and I watched this many many times, I watched most of the classes again.
When it works it is great, but has a tendency to crash.
The effectiveness of the Matterhorn online class recording system was stellar. Being able to go back through my notes, while watching the class recordings over again helped me so much throughout this course. I wish every class did this. I especially believe that the use of the recordings was helpful for a class like this (an introduction to programming). Extremely effective and helpful. Wonderful resource.
VERY USEFUL. Great to have for any class.
I loved being able to rematch the lectures! Very helpful!
This was the most useful tool the class provided, being able to access past classes to retake notes that were missed or to catch up after missing a class was incredibly useful.
It was a great idea because there were some lectures when I forgot to write something down or forgot what the professor said, so it was nice to go back and review the information a second time.
Not used by anyone in class and hardly useful because the board isn't visible.
Question: How well did CIS courses prepared you
This course taught me a lot about a subject I knew nothing about before i entered it.
Excellent
This class was a great introduction to programming. It combined a variety of useful concepts and processes, as well as intertwined software and hardware. We touched on a variety of subjects in each assignment, and I think each assignment taught me something valuable about programming which I can apply again in the future.
Very well, build a foundation for future CIS classes
This course did a fantastic job meeting my overall expectations.
This course has a "fire hose" of information at all times and it becomes incredibly easy to fall behind, but hard to catch back up. I felt like I was learning a great deal, but at a slower pace than what was expected of me.
Although the class was really intense and difficult, I can't say I didn't learn anything about programming. Since I knew the basics of Python, I had a simple foundation which helped a lot.
Horrid and rushed teaching, and far too advanced. TA's are basically the teachers.
Question: Suggestions for improvement
The assignments could have been spaced out more evenly, there were not many assignments at the begging of the semester and a lot of assignments toward the end of the semester.
As presented the course is not friendly to commuters. Perhaps notifying us in advance of materials needed to use Raspberry Pi from home, and a system to allow us to access a Pi connected at home. Also, number of hours a TA is available is not the same thing as available to me.
The only thing I have to suggest is that due dates be announced a little earlier per project. But, I do very much understand that for a lot of the projects in this class it is dependent on how much we get done in lecture. A few days earlier, even, would help, though.
Make this class a 2nd year class, first years aren't prepared.
More time spent on the car and shorter time to work on some of the other assignments.
I think the structure of the class and the format of learning coding before dealing with hardware was a good decision. I don't think the amount of material was ideal though, there was too much to learn and too quickly. It's harder for inexperienced students to grasp some of the basics and move forward with more complex concepts.
Carl needs to plan out his course better, instead of taking his sweet time with the first half of the projects and cramming the hardest half into 3 weeks at the end of the semester.
Question: Comments
this instructor knew the subject very well and very helpful if you needed help, the TAs were also very helpful. the instructor also taught the subject well in a understanding manner. the instructor also was reasonable with amount of assignments, but the assignments could have been spaced out better over the course of the semester.
Always so enthusiastic and helpful - made me really want to learn. Interesting, engaging. Professor Salvaggio made sure that everyone was always feeling comfortable about material- whether it be Python syntax or hardware, he was always open to questions and always answered them in a constructive, helpful manner. He wants you to succeed and is always open to help out, but also forces you to be independent, which is great.
His teaching style makes unfamiliar material understandable
Presented the material in a clear and concise manner, always willing to help and provide feedback, enthusiastic, very willing to work with the student, wants the student to understand the material and succeed in the class.
Great job at explaining concepts, if a bit slow going about it.
Carl makes lectures fun and engages the students while teaching, he is very amicable and easy to approach with questions.
Pretty much nothing
It was a good idea to start learning how to program first and THEN moving onto the RPI's because it allowed us to take in the foundation and programming, and then apply it to the real world.
Question: Improvement
the assignments could have been spaced out better over the course of the semester. could have had maybe one more pure software assignment.
The flow of homework assignments was off - balancing the workload over the semester a little better would be helpful
The only thing is the same as mentioned above - if due dates for projects could be posted even a little earlier that would help a lot.
Could be a bit more organized, expect more out of students.
Some assignments had too much time while others felt too rushed- better time division between assignments.
Carl's ability to organize the course is pretty good considering the major changes he made to the format, but still the amount of exercises and homework items and projects were scarce in the beginning of the course and became overwhelming near the end. There was too much material crammed into too little time (and it didn't help that the class fell behind schedule a bit as well).
In every way possible, namely the way he presents material and his approach to assigning work and helping students.

Commonly Occurring Words and Phrases from Your Students' Comments

always assignments **class** competent fantastic great helpful information learning material semester student
teaching

There were: 11 possible respondents.

	Question Text	N	Top Two	Avg	SD	IMGS Avg	IMGS SD	Col Avg	Col SD	Uni Avg	Uni SD	No	Yes						
1	Regularly attended class	2	100%	1	0	0.96	0.20	0.97	0.17	0.97	0.17	0%	100%						
												Str Disagr	Disagree	Neutral	Agree	Str Agree			
6	Course was well organized	2	50%	3.5	0.71	3.73	1.15	4.09	0.96	4.09	0.96	0%	0%	50%	50%	0%			
7	Advanced student understanding	2	50%	3.5	0.71	4.01	1.09	4.12	0.96	4.18	0.92	0%	0%	50%	50%	0%			
												Much Less	Less	Average	More	Much More			
8	Amount of work in course	2	0%	3	0	3.45	0.92	3.26	0.83	3.25	0.93	0%	0%	100%	0%	0%			
												Str Disagr	Disagree	Neutral	Agree	Str Agree			
9	Would recommend course	2	50%	3.5	0.71	3.78	1.22	3.77	1.08	3.93	1.04	0%	0%	50%	50%	0%			
10	Enhanced interest (Salvaggio)	2	50%	3.5	0.71	3.98	1.05	3.75	1.11	4.00	1.04	0%	0%	50%	50%	0%			
11	Material presented in organized manner (Salvaggio)	2	50%	3.5	0.71	3.90	1.10	4.06	1.01	4.14	0.97	0%	0%	50%	50%	0%			
12	Clear communication (Salvaggio)	2	50%	3.5	0.71	3.84	1.11	3.92	1.10	4.09	1.01	0%	0%	50%	50%	0%			
13	Positive learning environment (Salvaggio)	2	100%	4	0	4.15	0.95	4.13	0.96	4.24	0.92	0%	0%	0%	100%	0%			
14	Helpful feedback provided (Salvaggio)	2	0%	3	0	3.92	1.05	3.89	1.06	4.04	1.03	0%	0%	100%	0%	0%			
15	Supported student progress (Salvaggio)	2	50%	3.5	0.71	4.09	0.93	4.02	0.98	4.15	0.93	0%	0%	50%	50%	0%			
16	Efective teacher (Salvaggio)	2	50%	3.5	0.71	4.01	1.05	4.01	1.07	4.16	0.99	0%	0%	50%	50%	0%			
19	COS - Fair evaluation of work (Salvaggio)	2	100%	4.5	0.71	4.09	0.91	4.25	0.86	4.25	0.86	0%	0%	0%	50%	50%			
20	COS - Consistent evaluation of work (Salvaggio)	2	50%	4	1.41	4.12	0.89	4.30	0.81	4.30	0.81	0%	0%	50%	0%	50%			
21	COS - Timely evaluation of work (Salvaggio)	2	50%	4	1.41	3.95	1.05	4.20	0.92	4.20	0.92	0%	0%	50%	0%	50%			
												Str Disagr	Disagree	Neutral	Agree	Str Agree	Did Not Seek		
22	COS - Availability outside of class (Salvaggio)	2	0%	3	0	4.28	0.92	4.20	1.79	4.20	1.79	0%	0%	100%	0%	0%	0%		
23	COS - Helpful outside of class (Salvaggio)	2	50%	4	1.41	4.22	0.96	4.13	1.81	4.13	1.81	0%	0%	50%	0%	50%	0%		
												Str Disagr	Disagree	Neutral	Agree	Str Agree			
24	Instructor was available (Salvaggio)	2	50%	3.5	0.71	4.10	0.89	4.05	0.83	4.14	0.86	0%	0%	50%	50%	0%			
25	Feedback was timely (Salvaggio)	2	50%	3.5	0.71	3.93	0.99	4.09	0.92	4.09	0.95	0%	0%	50%	50%	0%			
												1	2-3	4-7	8-15	16-31	32+		
	Emails received for course evals	2	0%									0%	0%	0%	0%	0%	100%		
												1-3	4-6	7-9	10-12	13-15	16-18	19-21	22+
	Classes this semester	2	0%									0%	100%	0%	0%	0%	0%	0%	0%
												Vry Discrim	Discrim	Avg	Not Discrim	Not At All D			
	How discriminating the student was this semester	2	0%									0%	0%	0%	50%	50%			
												Very Easy	Easy Grader	Avg	Hard Grader	Very Hard			
	Rating tendency - this semester	2	0%									0%	50%	50%	0%	0%			
												0	1-2	3-5	6+				

Evaluations completed	2	0%								0%	0%	100%	0%				
										0	25	50	75	100			
Evaluations completed %	2	0%								0%	0%	0%	0%	100%			
										Y	N						
Emailed eval reminder by an instructor this semester	2	0%								0%	100%						
										Shibboleth	Email Login Link	Current Classes	Unknown	School SSO			
Login method	2	0%								100%	0%	0%	0%	0%			
										american indian/alas	asian	black/african americ	hawaiian/pacific isl	multiple	unknown	white	
Student race	2	0%								0%	0%	0%	0%	0%	0%	100%	
										F	M						
Student gender	2	0%								0%	100%						
										0							
High school credits	2	0%								100%							
										Vry Discrim	Discrim	Avg	Not Discrim	Not At All D			
Discriminate overall	2	0%								0%	0%	50%	50%	0%			
										Very Easy	Easy Grader	Avg	Hard Grader	Very Hard			
Rating tendency - overall	2	0%								0%	50%	50%	0%	0%			

Instructor	Text Responses
	Question: In what ways
	2nd time taking it. Helped me understand coding more.
	Question: Online effectiveness
	Very useful if I was unable to attend class for any reason.
	It was helpful if I needed to review the material that was discussed in class.
	Question: How well did CIS courses prepared you
	This was taught much better than last year.
	Question: Suggestions for improvement
	More time to work on the car. With all of the code we have to add, I wasn't able to get it all done.
	I think that the final project should be started a week or so earlier so students have time to grasp electronics and building the car.
	Question: Comments
Salvaggio	I learned a lot more this time around. The course was taught very well.

Increase the chart's size,
to view its layout.

There were: 13 possible respondents.

	Question Text	N	Top Two	Avg	IMGS Avg	Col Avg	Uni Avg	No	Yes			
1	Regularly attended class	11	100%	1	0.96	0.97	0.97	0%	100%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree
6	Course was well organized	11	100%	4.64	3.92	4.13	4.13	0%	0%	0%	36%	64%
7	Advanced student understanding	11	100%	4.64	4.20	4.14	4.22	0%	0%	0%	36%	64%
								Much Less	Less	Average	More	Much More
8	Amount of work in course	11	82%	4.09	3.42	3.26	3.25	0%	0%	18%	55%	27%
								Str Disagree	Disagree	Neutral	Agree	Str Agree
9	Would recommend course	11	82%	4.18	3.86	3.78	3.95	0%	9%	9%	36%	45%
								Str Disagree	Disagree	Unsure	Agree	Str Agree
10	Online Transition: Learned to similar degree since transition to remote	11	91%	4.36	3.48	3.31	3.48	0%	9%	0%	36%	55%
								Much Less	Less	Same	More	Much More
11	Online Transition: Time spent compared to traditional class	11	36%	3.55	3.23	3.12	3.00	0%	0%	64%	18%	18%
								Ver Difficult	Difficult	Unsure	Easy	Ver Easy
12	Online Transition: Communication w/instructor since switch to remote	11	82%	4	3.88	3.91	4.00	0%	9%	9%	55%	27%
								Str Disagree	Disagree	Neutral	Agree	Str Agree
13	Enhanced interest	11	91%	4.64	4.04	3.81	4.02	0%	0%	9%	18%	73%
14	Material presented in organized manner	11	91%	4.55	3.96	4.07	4.16	0%	0%	9%	27%	64%
15	Clear communication	11	91%	4.36	3.93	3.95	4.11	0%	9%	0%	36%	55%
16	Positive learning environment	11	100%	4.73	4.19	4.19	4.29	0%	0%	0%	27%	73%
17	Helpful feedback provided	11	91%	4.36	3.97	3.93	4.07	0%	0%	9%	45%	45%

18	Supported student progress	11	100%	4.64	4.14	4.07	4.18	0%	0%	0%	36%	64%	
19	Effective teacher	11	91%	4.55	4.08	4.05	4.19	0%	0%	9%	27%	64%	
22	COS - Fair evaluation of work	11	100%	4.36	4.16	4.28	4.28	0%	0%	0%	64%	36%	
23	COS - Consistent evaluation of work	11	91%	4.45	4.17	4.31	4.31	0%	0%	9%	36%	55%	
24	COS - Timely evaluation of work	11	100%	4.45	4.06	4.24	4.24	0%	0%	0%	55%	45%	
								Str Disagree	Disagree	Neutral	Agree	Str Agree	Did Not Seek
25	COS - Availability outside of class	11	90%	4.5	4.28	4.24	4.24	0%	0%	9%	27%	55%	9%
26	COS - Helpful outside of class	11	100%	4.6	4.28	4.16	4.16	0%	0%	0%	36%	55%	9%
27	Instructor was available	11	82%	4.18	4.17	4.11	4.17	0%	0%	18%	45%	36%	
28	Feedback was timely	11	100%	4.36	4.07	4.16	4.12	0%	0%	0%	64%	36%	

Text Responses

In what ways

SOFA 103 had some material related to this class, but not much.

Calculus, University Physics I, Color Science, Vision & Psychophysics, Probability and Statistics, and SOFA 103 all played a huge role in understanding the material from ICC. Coding different projects allowed a firmer grasp on concept that we otherwise would have simply studied and not necessarily applied.

This was all brand new content as I have never done any computer programming in my life before this class. It will be very useful in future CIS classes.

No prerequisites but having taken Color Science before, was very helpful when working with numerous projects that covered blackbodies.

Expanded upon the basics of color science.

The subject matter of the material covered in this class was pretty new in general, as it acts as our introduction to programming. In that sense a lot of the material was independent from previous courses, although some concepts from previous courses (like calculus, physics, and color science) were used as the basis for programs we wrote. However it wasn't required that we were intimately familiar with these concepts as the project files gave us a summary of all we needed to know to write the code.

Intro to CS course, first official programming class in the dept.

integration, Blackbody objects, color science equations

Instead of just learning c++ using purposeless examples, many of our projects involved topics of radiometry and color science.

As an introductory computing course, ICC was more or less learning new material "from scratch" if you were a student with little to no previous coding experience (like myself). It did however, incorporate numerous imaging science concepts that I was learning (or would learn) in other CIS classes.

Online effectiveness

It was honestly worse being online. I had a hard time concentrating. I think staring at a screen for 1 and a half hours with no breaks was what got me.

Very effective! For nearly every project, I referred back to Matterhorn/Zoom. Although Matterhorn was not reliable for me for off-campus dealings (even with VPN)

Very helpful! One issue was that it was often near impossible to actually read what was happening on the screen as the video streaming quality was so low.

For Coronavirus: could easily be taught online and instruction was still well-done and put together. Then again, getting help on code is significantly harder when not done in person. Going over everything virtually is very troublesome so the in-person troubleshooting was very helpful.

Effective.

The part of the class where we used Opencast Matterhorn was alright. The resolution could have been better as sometimes text was hard to read, even at the highest possible quality. And there was one instance where a class accidentally wasn't recorded. Also the interface uses Flash which isn't too cool. But it was still perfectly adequate and allowed me to revisit previous material effectively. I understand there are plans to upgrade the system which will amend my concerns with the resolution and Flash player. As for when we switched to online learning, Zoom was functionally okay. The resolution was higher than Matterhorn, however I take issue with their morals as a company and the privacy concerns surrounding their services.

MatterHorn went well before coronification.

It was pretty effective overall but the quality could be better

Matterhorn is amazing. Every school should have it.

One of my favorite things about CIS classes (even before the switch to remote learning) is the recorded class sessions. These were incredibly useful to reference or refresh course material, and I didn't have to worry about missing important information if I couldn't make it to a class.

How well did CIS courses prepared you

I'm surprised with the amount of information I've learned this semester from this class. I think it's cool that I can tell people that I know more of coding and how it works.

I was very excited to learn how to code, as other than MATLAB in Fundamentals of Color Science, I lacked prior coding experience. Learning Python in Prob & Stats was useful alongside learning C++ in ICC (although we went far more in-depth with C++, which I believe is a good thing since Python is easier to adapt to coming from knowing C++)

Met expectations.

Definitely learned C++ and helped entirely with coding process.

It meets my expectations, alot of useful content.

IMGS 180 specifically exceeded my expectations, in fact I think it may have been one of the most effective classes I've taken at RIT so far. Having no programming experience going into it, I was intimidated by the notion of C++ being an intermediate language to learn rather than novice, but I think this class did a great job teaching it and succeeded in never being too hard or too easy.

I expected to learn how to control a RaspberryPi/Arduino as per the course description, which wasn't even talked about.

Pretty well.

I came in looking to replace a requirement in my own college and ended up applying for an IMGS minor.

I learned more about C++ than I ever thought was possible in 4 months. This class exceeded my expectations.

Suggestions for improvement

Suggestions would be to spend more time on the basics in the beginning. I felt VERY rushed and I had no experience going in. I felt that some basic concepts were rushed so it made it harder in the end. I think if we spent more time on basic information rather than all of the ten projects, I would have done better. I suggest getting rid of one of the projects to allow for this. Also, the plotting for the blackbody was WAY to difficult in the fourth week. Need more time in the beginning since this is an Intro course with no prereqs. I also think learning Python would have been easier. C++ is way too difficult for a beginner.

No, not any that I can think of. Carl has an excellent grasp on teaching and how to get information to stick inside brains. The only thing I wish we could have done more of was smaller, simpler projects that go more over the basics of C++ rather than immediately applying concepts to the Imaging Science-based projects.

It was common that the projects were either extremely difficult and time consuming or pretty easy and took only a few hours. Even with the difference in difficulty, we were often given the same amount of time to complete them, which made it very stressful to complete the difficult projects in a timely manner. There was not much 'middle ground' difficulty level assignments.

Would have been very helpful if last project touched more on the beginning of image processing. I have an internship over the summer where I have to do image processing and as of now, I have no background in it. Gone over immensely during IPCV but just touching on it would be very nice.

None for IMGS 180.

Implement the late policy from IPCV. Move away from Slack.

I definitely believe the project-based methodology of the class is incredibly beneficial. More time for larger projects toward the end of the semester when other classes are also upping the workload may be beneficial to students, however. I also think it might be helpful to incorporate more in-class coding (primarily at the beginning of the semester) so students can follow along and work through the basics and errors while being able ask questions.

Comments

I think Carl did a great job establishing a positive learning environment. I know I could have gone to him for help and not be scared. I think he is very knowledgeable and wants his students to succeed.

The lectures were always very chill and low-stress; the progression of concept complexity was at the perfect rate; he was always available for questions through Slack (extremely useful); he didn't over-complicate things; idk too many things to list

Pretty much everything! Carl, in all honesty, has been the strongest professor I've had during my time at RIT. He is incredibly positive (yet realistic), always open to help (if you can hunt him down in Carlson--otherwise he's incredibly responsive to Slack and e-mails), and open to discussing short-comings in a positive and supportive manner. He involves the class but keeps an excellent balance of teaching material during class time.

Explained the material very well, and was open to any questions we had. Really wants us to succeed.

Carl is a wonderful guy who really knows his stuff. Will explain something to you over and over again until you understand it. Will always help you out if he's not already in a meeting or insanely busy. Very helpful and good to take life advice from.

Very well organized!

Was very clear in his explanations and used lots of examples to help us understand the material. Was easy to talk to and available.

Incredibly knowledgeable and establishes a fun learning environment. Carl is always willing to help, and ensures that between himself and the TA's, you can always find help if you have a question. Encourages questions and actually leaves long enough of an awkward pause for people to ask them. :)

Improvement

Carl needs to make sure he goes over vocabulary better. I didn't know some of the vocab in the beginning and couldn't understand what he was talking about. I had to research what he was talking about half of the time. He's been coding for years, this was my first coding class. He needs to realize it is an intro course in that sense.

Like aforementioned, a suggestion is introducing simpler projects that students are given roughly 1-3 days to complete. That way we build momentum into the larger imaging science projects and come to understand the foundational concepts with greater strength. The only other thing is getting projects back in a timely manner. For the most part, this was great. There were a few times, however, where we would receive projects after handing in a new one where the feedback would have been beneficial. Again, this only happened once, so not a big deal by any means (and I'm sure grading code takes a good while! Especially with the excellent feedback from TAs)

The time frame for due dates was a bit skewed with the difficulty levels of the assignments.

Like I mentioned, going over issues with code is much easier to do in-person so 2 people can point at the screen and say here this is where I'm having trouble. Also, compared to all of my other professors, Carl struggled being compassionate about student's situations. Work still had to be done on time and should be started the moment he explains the project. This is definitely not possible at home with everything going on. Personally with a relative in the hospital who could have the disease, I appreciated the compassion my other professors showed and how kind they were about my position (or any students for that matter). With Carl, that was not the case and I was very surprised of that fact as he was so nice and understanding the other half of the semester. Disappointed in how he handled the switch and if this continues into the fall, I hope he realizes more of what is going on for students and professors alike. Everyone is struggling.

Perhaps allow more flexibility when grading projects, instead of requiring an exact output down to the character just make sure that the core concepts the program is meant to illustrate are sound.

Please have Carl make a clone of himself because he is extremely busy and we all enjoy taking up his time with all of our coding issues.

Note: Spring 2019-20 was the semester interrupted by the COVID-19 pandemic. In-person classes ended after spring break and the semester was finished with alternate delivery modes.

There were: 22 possible respondents.

	Question Text	N	Top Two	Avg	IMGS Avg	Col Avg	Uni Avg	No	Yes						
1	Regularly attended class	12	100%	1	0.96	0.97	0.97	0%	100%						
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
6	Course was well organized	12	92%	4.33	3.95	4.14	4.13	0%	0%	8%	50%	42%			
7	Advanced student understanding	12	92%	4.42	4.20	4.14	4.21	0%	0%	8%	42%	50%			
								Much Less	Less	Average	More	Much More			
8	Amount of work in course	12	75%	4.17	3.41	3.26	3.25	0%	0%	25%	33%	42%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
9	Would recommend course	12	67%	3.67	3.86	3.78	3.95	0%	17%	17%	50%	17%			
10	Instructor enhanced interest	12	58%	3.67	4.04	3.81	4.03	0%	17%	25%	33%	25%			
11	Material presented in organized manner	12	92%	4.17	3.98	4.08	4.16	0%	0%	8%	67%	25%			
12	Clear communication	12	67%	3.67	3.95	3.95	4.12	0%	17%	17%	50%	17%			
13	Positive learning environment	12	92%	4.42	4.19	4.19	4.29	0%	0%	8%	42%	50%			
14	Helpful feedback provided	12	92%	4.42	3.97	3.93	4.08	0%	0%	8%	42%	50%			
15	Supported student progress	12	83%	4.17	4.14	4.07	4.19	0%	0%	17%	50%	33%			
16	Effective teacher	12	75%	4	4.08	4.05	4.19	0%	8%	17%	42%	33%			
19	COS - Fair evaluation of work	12	67%	3.83	4.18	4.28	4.28	8%	0%	25%	33%	33%			
20	COS - Consistent evaluation of work	12	83%	4	4.18	4.32	4.32	8%	8%	0%	42%	42%			
21	COS - Timely evaluation of work	12	67%	3.75	4.06	4.22	4.22	0%	17%	17%	42%	25%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree	Did Not Seek		
22	COS - Availability outside of class	12	82%	4.36	4.29	4.24	4.24	0%	0%	17%	25%	50%	8%		

23	COS - Helpful outside of class	12	100%	4.45	4.28	4.16	4.16	0%	0%	0%	50%	42%	8%		
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
24	Instructor was available	12	75%	4.08	4.17	4.11	4.17	0%	0%	25%	42%	33%			
25	Feedback was timely	12	67%	3.92	4.07	4.14	4.13	0%	8%	25%	33%	33%			
								1-3	4-6	7-9	10-12	13-15	16-18	19-21	22+
	Classes this semester	12						0%	92%	8%	0%	0%	0%	0%	0%
								American Indian	Asian	Black / African	Hawaiian	Multiple	Unknown	White	Hispanic /Lat
	Student race	12						0%	0%	0%	0%	33%	0%	67%	0%
								F	M						
	Student gender	12						58%	42%						

Text Responses

In what ways

C++ was brand new for me, so it didn't build on anything previous

It built upon more coding than I had done before, so it was good to learn for future courses

Since I transferred to my new major this is the first semester taking CIS classes so this class didn't build on earlier classes.

Used concepts from color science

Some projects use Imaging concepts while others don't

stuff builds off tis

This class was definitely a fundamental class for IPCV, and I believe if you understood everything in this class, IPCV builds off of it pretty well.

My previous coding experience was helpful, but not necessary.

Online effectiveness

It worked well, and I was able to easily go back and check information from a previous lesson.

I regularly looked back at recorded lectures to refresh my memory on different topics. It was very helpful and effective

Very useful to look back on lectures

It was useful. I used it a couple of times if I was confused on an assignment.

Very useful

this calss should not be taught in person,please keep it online

I relied on the class recordings to do this class. Without them I would be lost.

The recording system was very useful. I always referred back to the class recordings to better understand projects.

I really appreciated being able to go back and watch the lectures after class if there was something I was unsure on.

Extremely effective! we could see exactly what he was doing as he was doing it, and for complicated explanations the recorded lectures were extremely useful.

How well did CIS courses prepared you

This was my first taste of C++, and the class unfortunately gave me a bad first impression of the language. I only learned of tools like GDB, the GNU Project Debugger, outside of class from the TAs. While I now know how to generally program in C++, I'm actually more inclined to do things in another language, because of this class.

It met expectations for next semester courses

This class is nothing like what is listed on the course description and what is listed on the professor's website. The professor acknowledged this and said this has been the case for a number of years now. I do not know why the descriptions are still out of date but I was very disappointed to learn that the course was nothing like it's description.

Expectations were met.

yes

This class made me scared of my junior year.

This one specifically helped me realize how much I like coding in an applicable situation like research.

Suggestions for improvement

The use of the CMake and Eigen libraries both had abrupt transitions. Both of these are complex libraries with lots of parts and options, and it's easy to break something. I think that more explanation and guidance with them would have really helped.

No suggestions

Fix the description of this class to reflect what this class is actually about.

In the projects, give us a good place to start. The hardest part of a project was always getting started and knowing which file to write first and what part to write first.

A lot to learn and understand in a short time. May be beneficial to spend more time on basics

keep this course online

This class is really hard to rate, because this class really needs a prerequisite. This class went way too fast for someone that has never done any programming before and has 4 other classes. I do not think the professor did bad as much as he had to do too much in too little time. This class was frustrating and made me hate coding because I always felt behind. I needed a lot of outside help. The TAs saved all of our grades. The way I would describe this course is if every week you had an exam, but it was an exam on what you just learned that week. It gives no time for things to sink in or work with it before you have to have a running program.

As a person who was completely new to coding at the beginning of this course, I suggest spending much more time on the basics.

I know you want us to start working on projects early and by that logic we should be done well before projects are due, but starting to go over the next big project while we are working on the last one is stressful.

Comments

The instructor was readily available via Slack and helped tons through that communication.

carl is a god.

Went over basics in class

The lectures were organized.

This professor could not have been nicer and more willing to help. He responds to slack/emails very fast. I do like him, I just hated this course. The TAs were also very helpful.

Pretty much everything!

Professor Salvaggio explained the material effectively. He gave us plenty of time to do assignments. If I needed help, he was available within minutes to hours on slack.

Improvement

The pacing of the assignments is too variable. Bigger assignments – like the temperature emissivity spectrum lab and the spectrum-to-patch lab – could have been built up in chunks, with grading as multiple submissions. Rubrics would also be incredibly helpful, as it was hard to figure out what we would lose points for until after we were graded.

Could have gone more extensively into things for the projects, like for people who are brand new to linux or c++ like how to rename directories properly, etc.

Fix the description of the class to accurately reflect what the contents of this class is.

carl is a god.

I do not know how because of everything that has to get done in one semester, but this class really needs to go slower for new programmers.

As a beginner at coding, I feel like too much material was taught too quickly. I think spending more time on the basics in the first few classes would be helpful. I also feel that some of the assignments were a bit too challenging too early on.

Early on in the semester, we had one class canceled due to a recharge day and another due to a meeting. I feel like this set us behind in the course from the start and it always felt like we were a week behind on the material we would need for the projects. Overall, it was doable, I just feel that if there was one less project earlier on that it would have felt much more manageable and less overwhelming. One important thing I think this instructor can keep in mind is the fact that we are often taking 5 or 6 other demanding courses at the same time and sometimes it might be physically impossible for us to get started on a project and spend the recommended amount of time on it despite our best efforts.

Might want to make setting up the cmake environment a project or a requirement earlier on, as it seemed a lot of people chose not to set it up when it was easier to and this did not help them later.

Note: Spring 2019-20 courses took place during a semester impacted by COVID-19. In-person classes ended after spring break and the semester was finished with alternate delivery modes.

There were: 19 possible respondents.

	Question Text	N	Top Two	Avg	IMGS Avg	Col Avg	Uni Avg	No	Yes						
1	Student regularly attended class	4	100%	1	0.96	0.97	0.97	0%	100%						
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
6	Course was well organized	4	75%	4	3.96	4.14	4.13	0%	0%	25%	50%	25%			
7	Course advanced student understanding	4	100%	4.25	4.21	4.14	4.21	0%	0%	0%	75%	25%			
								Much Less	Less	Average	More	Much More			
8	Amount of work required	4	75%	4	3.37	3.26	3.25	0%	0%	25%	50%	25%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
9	Would recommend course	4	25%	2.5	3.87	3.78	3.95	25%	25%	25%	25%	0%			
10	Instructor enhanced interest in subject	4	75%	3.5	4.04	3.81	4.03	25%	0%	0%	50%	25%			
11	Material presented in organized manner	4	50%	3.75	4.00	4.08	4.16	0%	25%	25%	0%	50%			
12	Instructor communicated material clearly	4	75%	3.5	3.96	3.96	4.12	0%	25%	0%	75%	0%			
13	Positive learning environment	4	50%	3.25	4.21	4.19	4.29	25%	0%	25%	25%	25%			
14	Helpful feedback provided	4	50%	3.5	3.98	3.93	4.08	0%	0%	50%	50%	0%			
15	Instructor supported student progress	4	50%	3	4.14	4.07	4.19	25%	0%	25%	50%	0%			
16	Instructor was effective	4	50%	3.25	4.10	4.05	4.19	0%	25%	25%	50%	0%			
19	COS - Fair evaluation of work	4	0%	2.25	4.18	4.28	4.28	25%	25%	50%	0%	0%			
20	COS - Consistent evaluation of work	4	50%	3.5	4.18	4.32	4.32	0%	25%	25%	25%	25%			
21	COS - Timely evaluation of work	4	75%	4.25	4.06	4.22	4.22	0%	0%	25%	25%	50%			

								Str Disagree	Disagree	Neutral	Agree	Str Agree	Did Not Seek		
22	COS - Availability outside of class	4	100%	4.25	4.29	4.24	4.24	0%	0%	0%	75%	25%	0%		
23	COS - Helpful outside of class	4	75%	4	4.28	4.16	4.16	0%	0%	25%	50%	25%	0%		
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
24	Instructor available outside class	4	100%	4	4.17	4.11	4.17	0%	0%	0%	100%	0%			
25	Feedback was timely	4	75%	4	4.07	4.14	4.13	0%	0%	25%	50%	25%			
								1-3	4-6	7-9	10-12	13-15	16-18	19-21	22+
	Classes this semester	4						0%	100%	0%	0%	0%	0%	0%	0%
								American Indian	Asian	Black / African	Hawaiian	Multiple	Unknown	White	Hispanic /Lat
	Student race	4						0%	25%	0%	0%	0%	0%	75%	0%
								F	M						
	Student gender	4						0%	100%						

Text Responses

In what ways

We used some basic concepts of Radiometry and color science (minimally) and used some basic mathematical concepts. Overall though, I would say not much.

It built on subject matter primarily from SOFA 103, by utilizing topics such as Blackbodies and other radiometric concepts, and IMGS 351 with topics such as spectra conversion to RGB values

This course built on topics discussed in previous courses (such as color science, vision and psychophysics, etc.) and taught us how to apply and program these concepts.

Online effectiveness

This system is extremely effective. This class was already very challenging, but I'm sure most students would agree that it would have been downright impossible without the class recordings due to the professor glossing over key details and expecting us to commit all new concepts to memory immediately.

The class recordings were often effective for reviewing class material. But the main modality for this class was in person.

I found the recorded lectures very useful for review purposes.

How well did CIS courses prepared you

I was surprised by the amount of computer science packed into imgs 180. I found the courses challenging and the teachers did not help this by making little effort to make the class more interesting or manageable. I learned a significant amount of new information, much of which seems to be doubtfully applicable in future endeavors.

IMGS 180 mostly met my educational goals in terms of the class material, despite not performing well in the class due to my own personal effort.

I found they met my expectations well.

Suggestions for improvement

Course material and lectures could be given in a more interactive or interesting manner. Far too much content is trying to be squeezed into this class (specifically the number of projects). The students either need to be helped along better or the projects need to be spaced out more; the workload becomes unmanageable very quickly unless this is the ONLY class you're taking.

Things instructor did well

Very straightforward and clear instruction. Funny and engaging with material presentation.

His recorded lectures were high quality and saved most students. He also Talks at a slow enough pace.

Well spoken, kind, easy to talk to

It felt like a lot of thought was put into how to structure the course and how to utilize concepts from previous classes. He was very willing to help and answer any questions that I had.

Ways that instructor can improve

Towards the end of the semester, it felt like there was not a lot of time to complete the projects. This coupled with the workload from other classes within the imaging science program made it difficult to keep up with the workload. His policies on extensions and grading felt unforgiving at times.

Fair grading system

This instructor can significantly improve by creating a much more positive learning environment and by actually supporting the students success. He is often out to get the students; his stubborn, nit picky policies and grading style make him very difficult to communicate with about an issue, and it's extremely discouraging to students who are working tirelessly to succeed.

I feel as though that Dr. Salvaggio does not allow for any late credit or extensions on any assignments often leaves certain scenarios unavoidable for some students, which can lead to students not performing at their fullest potential.

Note: Spring 2019-20 courses took place during a semester impacted by COVID-19. In-person classes ended after spring break and the semester was finished with alternate delivery modes.

There were: 24 possible respondents.

	Question Text	N	Top Two	Avg	IMGS Avg	Col Avg	Uni Avg	No	Yes						
1	Student regularly attended class	10	100%	1	0.92	0.96	0.96	0%	100%						
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
6	Course well organized	10	100%	4.5	4.08	4.12	4.12	0%	0%	0%	50%	50%			
7	Course advanced student understanding	10	100%	4.6	4.21	4.11	4.18	0%	0%	0%	40%	60%			
								Much Less	Less	Avg	More	Much More			
8	Amount of work required	10	60%	3.8	3.37	3.22	3.15	0%	0%	40%	40%	20%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
9	Would recommend course to others	10	80%	4.3	3.83	3.77	3.95	0%	0%	20%	30%	50%			
10	Instructor enhanced interest in subject	10	100%	4.6	4.04	3.78	4.03	0%	0%	0%	40%	60%			
11	Material presented in organized manner	10	100%	4.8	4.15	4.07	4.17	0%	0%	0%	20%	80%			
12	Instructor communicated material clearly	10	90%	4.5	4.04	3.94	4.12	0%	0%	10%	30%	60%			
13	Positive learning environment	10	100%	4.6	4.32	4.18	4.32	0%	0%	0%	40%	60%			
14	Helpful feedback provided	10	100%	4.4	4.06	3.87	4.07	0%	0%	0%	60%	40%			
15	Instructor supported student progress	10	100%	4.7	4.20	4.05	4.21	0%	0%	0%	30%	70%			
16	Instructor was effective	10	90%	4.5	4.19	4.03	4.21	0%	0%	10%	30%	60%			

19	COS - Fair evaluation of work	10	100%	4.4	4.21	4.26	4.26	0%	0%	0%	60%	40%			
20	COS - Consistent evaluation of work	10	90%	4.3	4.12	4.28	4.28	0%	0%	10%	50%	40%			
21	COS - Timely evaluation of work	10	60%	3.5	3.91	4.14	4.14	0%	20%	20%	50%	10%			
								Str Disagree	Disagree	Neutral	Agree	Str Agree	Did not Seek		
22	COS - Availability outside of class	10	90%	4.2	4.46	4.20	4.20	0%	0%	10%	60%	30%	0%		
23	COS - Helpful outside of class	10	100%	4.6	4.35	4.12	4.12	0%	0%	0%	40%	60%	0%		
								Str Disagree	Disagree	Neutral	Agree	Str Agree			
24	Instructor available outside class	10	90%	4.3	4.25	4.06	4.11	0%	0%	10%	50%	40%			
25	Timely feedback provided	10	70%	3.6	3.95	4.07	4.09	0%	20%	10%	60%	10%			
								American Indian	Asian	Black / African	Hawaiian	Multiple	Unknown	White	Hisp /Lat
	Student race	10						0%	10%	10%	0%	0%	0%	80%	0%
								F	M						
	Student gender	10						70%	30%						
								1-3	4-6	7-9	10-12	13-15	16-18	19-21	22+
	Classes this semester	10						0%	100%	0%	0%	0%	0%	0%	0%

Instructor	Text Responses
	Question: In what ways
	This course expanded upon color science concepts learned from the previous semester. We learned in more detail (from a coding perspective) about different imaging principles and how they solved.
	Many of the projects dealt with topics from previous courses such as blackbody radiation, integration, projectiles, etc.
	I had very little programming knowledge before this class so it is a bit difficult to keep up
	Cant say it really used much coding wise this was my first coding class but it went very well. It built on my understanding of some essential math and physics concepts like calculus and a lot of black body concepts.

	The course integrated subjects from calculus, physics, SOFA 103, and color science in the form of code.
	this was the first course in a series of c++ courses
	Because this is an intro course, it didnt build on any previous knowledge I had. It will definitely be useful for ipcvs next year.
	Question: Online effectiveness
	The recordings were reliable and posted immediately after class ended. We could access them from MyCourses.
	Very effective, I used the recordings on a regular basis if I couldnt recall something that was said during class.
	very useful to be able to look back at old lectures
	Very good recording system. Very clear and one of the most helpful things I have encountered in college. One thing tho, would be helpful to post the examples code every time not just some of the time. We can just go back and look at it through Zoom so might as well post it it makes it easier all around. And can view it all at once.
	Very effective to review lectures.
	very, helped me find things I couldnt remember from class
	very useful
	Very effective
	It was very effective. I could go back and rewatch lectures if I didnt understand something
	Question: How well did CIS courses prepared you
	This course is helping me meet my goals and advance through my program, its hard because I had no background in coding prior to enrolling in this class.
	This course specifically was extremely helpful in terms of coding and improving my workflow. I really enjoyed the class and it exceeded my expectations.
	I am not performing as well as I would like to be, but I feel that I am gaining important info for future classes that will begin to make more sense as it is applied
	It actually helped me a lot with the basic understanding of how code runs as well as where it comes from. Let me understand fundamental topics that I can build from here.
	It went beyond expectations; I didnt expect to learn so much of C++ so quickly when I had no experience with it before.
	met expectations well
	Met my expectations
	It met my expectations very well
	Question: Suggestions for improvement
	I would recommend encouraging prospective students to explore learning C++ prior to coming to RIT, so that they can learn the concepts in class better and implement better solutions.
	None. The course is organized very well and while it can be challenging at times, there are plenty of resources available to students that can help make it much easier.
	class is very fast paced for an intro class

	Wish the class was longer honestly. It was fast pace but it never felt like we were rushing. But it would have been awesome to get more into C++ with more concepts covered. Wish some topics did go a little more in-depth, sometimes felt a little lost with certain projects because it was only talked about for one class with the concepts being taught in the same class.
	N/A
	no suggestions
	I think this class shouldnt be advertised as a level 100 class as it is very in depth coding and as a beginner of code someone who has NEVER coded before I felt like there were things I needed to previously know before the class just about how code works in general, Carl does it as good as it can get but I just wish there was a few more lectures about beginning on code or some basics we could learn or a document to reference on terms and how things like functions or loops work written by Carl for reference rather than example projects.
	No suggestions
	Question: Things instructor did well
Salvaggio	The instructor provided a lot of example code to learn from, and was willing to go through trial and error in testing the code from questions that students had.
Salvaggio	Love Carl. Amazing guy with a great attitude. One of the smartest people I have met. Enjoys teaching and engaging with his students. Has some of the greatest outfits I have ever seen. Is always willing to help you understand a concept more and also help fix your code. Cant wait to have more classes with him and I hope I can work with him in the future:)
Salvaggio	friendly, willing to help, TAs are also very helpful
Salvaggio	He was able to explain C++ and code in general, very well. He would break things down into simple terms and always gave very in depth feedback on assignments. While its not something *he* did well, his TAs were always available whenever we were also free, which was extremely helpful. Overall, he was an amazing professor.
Salvaggio	Carl was a great teacher and definitely presented the course very well
Salvaggio	Communicated the information clearly and was willing to help. Great prof.
Salvaggio	I very much like the way Carl teaches and his willingness to answer questions in and out of class
	Question: Ways that instructor can improve
Salvaggio	If he keeps doing what hes doing, I dont really see any areas he would need to improve upon.
Salvaggio	give a few more coding examples before assigning projects, it is hard to build off of the information given with little coding knowledge
Salvaggio	Just post the example code before class or after class so we can see it in code form and not through zoom. And pleaseeee have longer office hours or three days a week at least I need more Carl.
Salvaggio	Nothing in particular needs improvement
Salvaggio	I struggled with this class because I have never coded before and asking questions was hard when a lot of answers were in pseudo code from TAs and I didnt understand pseudo code cause I think there could have been a little bit longer of a beginner class. Like I had never coded before this class and it was difficult to understand when I really can only use my computer for opening chrome and things, ive never had to code or use an environment and I think just more of a beginner lecture could be extremely helpful especially since this is advertised as a level 100 class. (in my mind its at least a 200/300)

Note: Spring 2019-20 courses took place during a semester impacted by COVID-19. In-person classes ended after spring break and the semester was finished with alternate delivery modes.

