

Course Response

Course Evaluation - University spring 2015

CSCI-4530-1

Barbara Cutler

ADVANCED COMPUTER GRAPHICS

Of 25 students enrolled, 19 responded. Response rate = 76%

Overall

	Number Responding/(%age of Respondents)							Avg.	Med.	s.d.
	1	2	3	4	5	N/A	Omit			
Overall, this course was excellent.	0 (0%)	0 (0%)	0 (0%)	5 (26%)	14 (74%)	0	0	4.74	4.82	0.45
Overall, this instructor was excellent.	0 (0%)	0 (0%)	0 (0%)	4 (21%)	15 (79%)	0	0	4.79	4.87	0.42
Key	1 = Strongly Disagree		2 = Disagree		3 = Neutral		4 = Agree		5 = Strongly Agree	

Course (Institute)

	Number Responding/(%age of Respondents)							Avg.	Med.	s.d.
	1	2	3	4	5	N/A	Omit			
The course readings and assignments (including projects, reports, homework) are effective in helping students learn.	0 (0%)	0 (0%)	0 (0%)	7 (37%)	12 (63%)	0	0	4.63	4.71	0.50
The pace of the class is appropriate.	1 (5%)	0 (0%)	2 (11%)	12 (63%)	4 (21%)	0	0	3.95	4.04	0.91
The course helped me learn to apply course material in order to improve thinking, problem solving and decision-making.	0 (0%)	0 (0%)	1 (5%)	6 (32%)	12 (63%)	0	0	4.58	4.71	0.61
The course deepened my understanding of principles and problem solving techniques that are important for my major.	0 (0%)	0 (0%)	1 (5%)	5 (26%)	13 (68%)	0	0	4.63	4.77	0.60
Examinations, presentations, and reviews fairly assessed knowledge of subject material.	0 (0%)	1 (5%)	0 (0%)	7 (37%)	11 (58%)	0	0	4.47	4.64	0.77
This course is significantly more challenging than other Rensselaer courses I have taken.	0 (0%)	0 (0%)	0 (0%)	5 (26%)	14 (74%)	0	0	4.74	4.82	0.45
The course stimulated my interest in the subject.	0 (0%)	0 (0%)	2 (11%)	2 (11%)	15 (79%)	0	0	4.68	4.87	0.67
The course encouraged my taking an active role in my learning.	0 (0%)	0 (0%)	1 (5%)	6 (32%)	12 (63%)	0	0	4.58	4.71	0.61
I have acquired the subject knowledge and skills set forth in the syllabus.	0 (0%)	0 (0%)	1 (5%)	10 (53%)	8 (42%)	0	0	4.37	4.35	0.60
Key	1 = Strongly Disagree		2 = Disagree		3 = Neutral		4 = Agree		5 = Strongly Agree	

Instructor

	Number Responding/(%age of Respondents)							Avg.	Med.	s.d.
	1	2	3	4	5	N/A	Omit			
The instructor is very knowledgeable of the course domain.	0 (0%)	0 (0%)	0 (0%)	3 (16%)	16 (84%)	0	0	4.84	4.91	0.38
The instructor is aware of the student's level of understanding and course difficulties.	0 (0%)	0 (0%)	2 (11%)	3 (16%)	14 (74%)	0	0	4.63	4.82	0.68
The instructor is fair in evaluating student performance.	0 (0%)	1 (5%)	2 (11%)	3 (16%)	13 (68%)	0	0	4.47	4.77	0.90
The instructor is well prepared for class meetings.	0 (0%)	0 (0%)	0 (0%)	4 (21%)	15 (79%)	0	0	4.79	4.87	0.42
The instructor makes effective use of class time.	0 (0%)	0 (0%)	0 (0%)	7 (37%)	12 (63%)	0	0	4.63	4.71	0.50
The instructor provides adequate feedback.	0 (0%)	2 (11%)	2 (11%)	5 (26%)	10 (53%)	0	0	4.21	4.55	1.03
The instructor is clear and understandable.	0 (0%)	0 (0%)	1 (5%)	3 (16%)	15 (79%)	0	0	4.74	4.87	0.56
The instructor is accessible during office hours.	0 (0%)	1 (8%)	2 (17%)	1 (8%)	8 (67%)	6	1	4.33	4.75	1.07
Key	1 = Strongly Disagree		2 = Disagree		3 = Neutral		4 = Agree		5 = Strongly Agree	

General Information

	Number Responding/(%age of Respondents)										
	A	B	C	D	F	P	NC	S	U	Omit	
What grade do you expect to obtain?	7 (39%)	7 (39%)	2 (11%)	1 (6%)	0 (0%)	1 (6%)	0 (0%)	0 (0%)	0 (0%)	1	
	Yes	No	Omit								

Was this class required for your major?	3 (17%)	15 (83%)	1
	Yes	No	Omit
Was this class a graduation requirement?	7 (39%)	11 (61%)	1

Instructor-Added

	#	Responses
Comment on the lecture format and the instructor's teaching style:	1	Good class environment for discussing the material.
	2	There's a lot of theory, but I think it would be nice if some code examples were given. Not too much since we still have to figure stuff out on our own, but I feel like we didn't get enough examples.
	3	Lectures was very engaging and interesting. Can get a little dry, but that tends to happen with highly technical material for 2 hours.
	4	Format is good. I like how the class participates so much.
	5	Engaging. Since slides are put online, I could focus on listening and analyzing what is in and talked about in the slide rather than copying it down.
	6	I really liked the videos to show graphics concepts.
	7	I generally like the lecture format, but I think it's somewhat unpolished. The content is great, but it could have been more structured in terms of when that day's presenter was going to talk about their paper, and for how long. Also, lectures sometimes give off the appearance of being about to run over time, or very nearly doing so.
	8	Seemed pretty good and I liked it
	9	The lectures are fantastic!
	10	Clear and enthusiastic
	11	Had trouble paying attention for some longer lectures... but the slides are immensely helpful!
	12	Lectures were fine.
	13	Great teaching style, plenty of helpful elaborative graphics for algorithms and concepts. I am glad she switched to presenting concepts before we read the research papers on them (it made the papers much more readable).
	14	I love Barb's style. Even though we often had to go back and finish up material, we kept a good pace and made the most of our time.
	15	The section reviewing the papers can sometimes be a little long, but the actual lecture parts are great.
	16	Excellent lectures, the instructor used brief video examples illustrating concepts that the lecture would discuss, encouraging students to view the videos analytically. Discussions were engaging and the professor was happy to discuss topics to a reasonable extent in order to keep the lecture well-paced.
Comment on the balance of programming, theory, concepts, and math on the homeworks, exams, and in class discussion:	1	A good balance in general. Especially once we switched to discussing the concepts before reading the papers related to them!
	2	There seems to be a nice balance in our assignments, but I was very surprised that questions about the papers we read weren't on the latest exam. Some consistency to the exam material might be a good idea.
	3	Seemed like exams were half theory and half programming, homeworks were a little more programming intensive. Math throughout. I liked the balance.
	4	Good balance, the math wasn't too bad.
	5	Challenging but fair.
	6	So much programming...
	7	The balance between theory, concepts, and programming in the course is good, but in actuality there is usually not any need to use analytical calculus, though many problems are presented as analytical calculus problems. The understanding of analytical calculus is still required for an understanding of the material, just not really tested for.
	8	Pretty good
	9	Good.
	10	A fair balance.
	11	Too many papers.
	12	Good balance of theory and actually doing.
	13	The class is very heavily programming (homework), and concept(research papers) based, and that's nice. Applying what we learn is the most rewarding thing.
	14	I always dreaded the tests, but they were fine. I enjoyed in class discussion the most. I wish that the theory behind what we learned was more pertinent, but it's still a very good balance.
	15	I appreciate that concepts are emphasized over math in the lectures and tests. The homeworks are a good place to figure out the actual implementation details.
	16	The implementation of real-life physics in the concepts, papers, and assignments was fascinating and engaging. The math became a bit intimidating at times however.

What advice would you give a friend who is considering taking this class? What are the necessary pre-requisites, co-requisites, or prior experience?	1	Make sure you set aside time for the homework and papers, as they can be a big time sink. The coding especially can be hard to debug.
	2	Start assignments early and make sure your laptop doesn't break.
	3	If you haven't taken any graphics before, expect to work hard during the first homework or two. Significant time investments are required - reading and commenting on 2 papers per week plus intense homeworks.
	4	Make sure you have enough time (ie, don't take 5 courses), Make sure you like graphics, Be fluent with C++. Prior graphics experience (as I have) is very beneficial.
	5	Be able to set a lot of time everyday thinking about the homeworks.
	6	Take it, but not with other work intensive courses.
	7	I think it can be easy to say whether or not someone will like this course if they've taken Data Structures with Cutler. The homeworks are a large part of both the educational value and the time commitment of the course. There's not so much a strict pre-requisite course or set of courses I could recommend but there is certainly a set of knowledge it's useful to have. While I enjoyed taking Graphics with Franklin it was in no way necessary and barely helped me at all in this course.
	8	Computer Graphics is a good idea to take before hand
	9	Don't procrastinate. If you start your homeworks early you should have plenty of time and office hours to understand and complete the problem.
	10	Learn to read research papers. The home work is impossible without them.
	11	Lots and lots of hard work. Probably not worth it for somebody not going into graphics.
	12	Take the class on a light schedule or P/NC it. I would recommend taking Multi Variable Calc, Franklin's Graphics, and Into to Algo before ACG. I would also encourage Animation 1 or a Game Dev class to give some context.
	13	Take the class. Find a way to take this class under any circumstances. Having good spatial reasoning skills (be able to visualize abstract things) makes the class much easier. Knowing OpenGL helps, but you can get around without knowing it.
	14	Definitely understand that the course is very programming-heavy and make sure you're not overloading that semester. It would be best to know some OpenGL going in, but it's not necessary. Absolutely 100% know C++ inside and out.
	15	I didn't take Computer Graphics and I never felt like I was missing anything. Taking Computer Vision at the same time actually worked out really well, there are tons of overlaps between the two that I can now take advantage of.
	16	Be prepared to invest a fairly large amount of time into the homeworks, read the papers twice to make sure you understand, and don't be afraid to ask questions.
What did you like best about the class? What did you like least about the class?	1	The projects were very interesting and fun to work on. They really helped me understand the algorithms and techniques being used and discussed in the papers.
	2	The material is really interesting, but assignments are hard (probably by design though). It's especially bad if you get computer problems.
	3	I liked the rigor, and think it should be kept at the same level. The homeworks were also quite fun and super cool once completed. I also liked the progress posts - those encouraged me to start working early. I didn't like how loosely defined the paper LMS comments were. I would have liked a better rubric or guidelines on what makes a good LMS paper comment. I would have also liked 1 or 2 "freebies" - you can skip 1 or 2 LMS posts per semester without it affecting your grade. Sometimes when swamped with other work it was hard to get that in as well, and in those situations the comment usually isn't high quality work anyway.
	4	Best part: Learning about all of the graphics algorithms Worst part: Having to read and then write about the research papers every class
	5	Best - Homeworks were fun and challenging Least - Reading posts were a little tedious when homework was due around that time.
	6	I really liked the homeworks. I really disliked how much time the homeworks took.
	7	I think the best thing about the class is probably the readings and past work that is studied. It's all really inspiring and exciting and I love the focus on the history of the subject. My least favourite thing was probably the lack of focus on the nitty-gritty of setting up an OpenGL program from scratch. As much as it's a thing I never want to need to do I'm sure it would be good to know. It would also help when it comes to knowing what to do to edit the source code. Depending on one's final project this could become important later in the course.
	8	It was fun any we made cool things It took alot alot of time
	9	I both liked the homeworks the best and the least. They were very difficult and pretty stressful, but once I got something working it was incredibly satisfying.
	10	The favorite thing is the challenge. Least favorite was the semiweekly readings
	11	The videos and discussions were wonderful. I disliked the papers.
	12	I liked learning about how CG actually works. In a class based so much on practice and doing, the tests were not helpful and overall trivial.

	13	I loved the project, they were so much fun. The thing I liked least about the class was probably reading the papers, because some of them were way over my head, but it really wasn't that bad and it was an important learning experience.
	14	I liked the formality and rigor of the class most, and the final project the least. The final was a lot to get done, and I felt a lot of pressure to make a contribution to the field; better guidance on what to choose would have helped.
	15	I liked the final project, I'm always frustrated with Computer Science classes that never involve going in and figuring out how to program something. I didn't really like the paper presentations, they tended to go a little long.
	16	I loved that the class made me think of what goes on "behind the scenes" in simulations, especially the spring system involved in cloth simulation. I didn't enjoy the scale of the homework assignments and lack of "time off" from assignments though.
After this term the plan is for the course to be offered in odd-numbered Spring terms (and "Interactive Visualization" in even-numbered Spring terms). The number of students per course will probably increase (as much as double). What suggestions do you have to maintain or improve this course given these changes?	1	Try to reverse the change. If that's not possible, hold additional lecture times and possibly find a second professor. The class is big enough as it is already.
	2	Deadlines will probably have to be stricter - the deadlines were flexible for us which was great, but in a larger class that would be awful for the TA to have to try and manage.
	3	I think the classroom experience would significantly deteriorate with that many people. Having a small class facilitates better discussions without everybody trying to talk at once. It also feels more personal and you get to know the people in it better.
	4	Maybe some small group assignments (in class or as short homeworks) to get students to know each other better before final projects.
	5	Being stricter about the schedule of each individual lecture, especially in semesters when individual presentations on papers is still a thing, will be very important. Adhering to a pacing and a schedule is really the fundamental thing that will allow the class to remain good with an increased enrollment.
	6	not sure how much this would change, possibly bigger groups at the end
	7	I think the structure of the course will be good even with the scaled class size. Hopefully the amount of participation will remain about the same.
	8	Two sections, maybe. Otherwise maybe expect less participation on an individual basis.
	9	Have groups present the papers fully, instead of having everyone read them. Professor Patterson did this for Theory of Networked Systems and it worked quite well.
	10	It may be hard to maintain a level of discussion during class, maybe more LMS discussions?
	11	I think a big part of the classes appeal is the casual and personal interface with the students. Knowing and liking the professor makes you feel more accountable for your work, and it also makes asking questions easier. So, try to keep the same atmosphere if you can. With double the amount of people, presenting papers will have to be a little more formal so people don't ramble on. Slightly more formal guidelines will also ensure people present what you want them to (comments, contributions, and extension possibilities) instead of just getting people summarizing.
	12	I would be a little sad to see it change semesters, I lucked out being able to take it so early and don't think that others would have the same opportunity to do so if this were switched. Since it's going to, I might suggest making the homework assignments (some or all) team-based and expand them a bit more. This would suit the larger number of students and prepare them more for the final project.
	13	Get rid of the paper presentations (I guess that might involve getting rid of the Com Intensive status) and split the class in half for final presentations.
	14	Definitely get more TA's because the number of questions and assignments to grade will skyrocket. While difficult, try to "streamline" the assignments more, where the focus of the assignment is more geared to the actual focus, and less worrying about glfw/glew.
Other comments:	1	Great class, great professor. The grading was really slow, Professor Cutler seemed a little overburdened with Data Structures + Graphics. Lessening the workload on her would probably help greatly.
	2	This class is really good and I would genuinely love to do more with it because there are a lot of things to learn and do in this field and with the techniques taught in this class. Looking back on the course I think the first homework is most easily understood as a problem is very grounded in computer graphics, while the second and third are more real-world understandable, so I think it might be better to move homework one later in the course, but that could just be me.
	3	Consider Using WEBGL maybe, as its faster to pick up, and I feel like easier to implement
	4	Too many papers.
	5	Keep up the great work. We need more graphics classes from barb. If an administrator is reading this, you need to assign someone to do data structures more often and let her teach these awesome graphics classes.

6	<3 Barb Cutler
7	This was my favorite CS class at RPI.
8	Professor Cutler is probably the best professor I've ever had at RPI, insanely knowledgeable, very patient, and very passionate about both the material and the students' role in learning. Despite struggling with it, this has been one of my favorite classes in college, I only wish I had more time to devote to the class with a busy semester.

Additional Feedback

Additional Feedback

#	Responses
1	I really hated the classroom. It was way too hot and stuffy.
2	Very good class overall, but a lot of work. For those of us who don't need the communication intensive requirement and are simply interested in graphics, there was a lot of reading & writing involved.
3	I think for the final project, you get a lot of "extend the homework to do this!!!" which is all fine and good, but there's so much more to do than what the homeworks are doing and in a lot of cases there are existing optimisations and better implementations for what the homework does, and I feel like in general it would be better for someone to tackle a newer problem that isn't so much straight out of a homework assignment in such an obvious way as some of them are. I think there's a lot more to be learned not doing an extension on a homework, and also not aiming for any sort of "real time" applicaiton, which you have also warned against.
4	hey its 12:21 may 14th (sorry for forgetting until midnight)
5	Way too many papers.
6	see "Other comments" section