CS 4720-001 **Web and Mobile Systems** - Fall 2015

ENGR (17646)

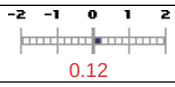
INSTRUCTORS: **Sherriff, Mark (mss2x)**

Respondents: 25 / Enrollment: 75

Summary: CS 4720-001 Web and Mobile Systems - Fall 2015 (17646)

Overall Course Rating

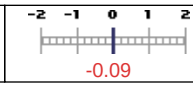
CS-4720-001 Mean 4.24
CS-4720-001 Std Dev 0.69
CS-4720-001 Response Count 124

Difference from Category Mean, Expressed in Category Standard Deviations	

SEAS, 4000-level courses Mean 4.13
SEAS, 4000-level courses Std Dev 0.92
SEAS, 4000-level courses Response Count 9170

Overall Instructor Rating

INSTRUCTOR: Sherriff, Mark
Mean 4.15
Std Dev 0.88
Response Count 172

Difference from Category Mean, Expressed in Category Standard Deviations	

SEAS, 4000-level courses Mean 4.23
SEAS, 4000-level courses Std Dev 0.91
SEAS, 4000-level courses Response Count 14042

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

1. How accurate is this statement for you: The project was of acceptable length.

~
Question Type: Likert
~
contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	3.88	0.88	5 (20.00%)	15 (60.00%)	2 (8.00%)	3 (12.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	3.88	0.88	5 (20.00%)	15 (60.00%)	2 (8.00%)	3 (12.00%)	0 (0.00%)

2. How accurate is this statement for you: The project was of acceptable difficulty.

~
Question Type: Likert
~
contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.08	0.76	7 (28.00%)	14 (56.00%)	3 (12.00%)	1 (4.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.08	0.76	7 (28.00%)	14 (56.00%)	3 (12.00%)	1 (4.00%)	0 (0.00%)

3. How accurate is this statement for you: The project helped me better understand the phases and intricacies of software development.

~
Question Type: Likert
~
contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.04	0.89	8 (32.00%)	12 (48.00%)	3 (12.00%)	2 (8.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.04	0.89	8 (32.00%)	12 (48.00%)	3 (12.00%)	2 (8.00%)	0 (0.00%)

4. Which topic/lecture in this course was your favorite and why?

~
Question Type: Short Answer
~
contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Individual Answers
22	*See below for Individual Results*

Learning about how users used applications and the different types of users.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	UI Design Class - Got to gauge good design habits and best practices UI design for both platforms. We can all figure out how to code up an app, but making it nice to use is necessary if we want the app to prosper. Learning about the differences between iOS and Android and what Apple does specifically differently was interesting. I really enjoyed going over Android because I felt like I had not understood any of it from 2110. Going through and talking about encryption and security was fun. I liked the WillowTree Apps presentation and how it wasn't so "Work at WillowTree, we are great." Monetization; it was interesting learning how to make money from our work. My favorite lecture was WillowTree's guest lecture because I found it interesting to hear from a professional company on their process for developing good apps. I enjoyed learning about the Android & iOS Architectures, because that's the kind of thing you don't learn when you're Googling how to make an app. Entire topic base was incredibly useful. Lectures weren't particularly helpful. The lecture on security helped me understand a lot, though. Self-signing, keys, and provisioning were useful topics to cover. UI design, accessibility, security & app signing. These were the broader mobile concepts that I think would translate into how to build better apps, no matter what platform. UI design - fun to discuss and experiment with. I enjoyed learning about the architectures of Android and iOS devices. We use our phones so often, I thought it was interesting to learn how they actually work. I found web services and iOS most interesting but mostly I just don't like Java very much. Security, just something I've been interested in I enjoyed the monetization lecture as it was interesting to talk about the business side of app development. The iOS signing one; it cleared up a lot of things I've wondered about iOS for a while. The ones on UI design. I thought it was interesting to see how different the approaches to UI design on a website or computer application can be from a mobile application Security; it seemed more relevant to the non-mobile world than other topics. I also just find security interesting in general. none Privacy in applications. The subject is becoming very relevant and often not discussed in courses. iOS My favorite lecture was on RESTful services. I don't have a favorite.
5. Which topic/lecture in this class do you think you will find the most useful in the future? ~ Question Type: Short Answer ~ *contributed by Sherriff, Mark (mss2x)*	Results for CS-4720-001, Sherriff, Mark Total: 23 Individual Answers: *See below for Individual Results*
	Security/privacy RESTful services was the most useful for me in the future because I will be doing a lot of web development in my future career. The lectures on App lifecycle. Important for getting started with app development. Everything relating to the actual parts of the application. REST. MVC as it applies to mobile applications and the Android/iOS app lifecycle I honestly thought they were all generally useful in some way.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	UI design, accessibility, & security. These broader concepts translate more directly into how we develop professional mobile applications, regardless of the platform. Maybe going over specific examples of how to implement these things in either iOS or Android would be a good way to combine some of the demos we did into topics we discussed. iOS and web services. We do Java in other classes so that's new and nice. Web service MVC and its intricacies. REST/SOA none I'm honestly not sure since I don't know how much mobile development I'll be doing in the future. Same lecture described in previous question. Probably the basic app structure ones. Unit tests for Android Accounting for different users, versions, and visual aesthetics. I think that the emphasis on focusing on the users' needs while designing software will be very helpful as I move into the professional world. Honestly, web service stuff. Kind of wish we did spend a little more time on it. Wireframing. Storyboards. Signing apps. The procedure of signing the apps and uploading them to the respective platform stores Security; I probably won't be using many of the design principles and whatnot in my career, but the security lectures were applicable to more than just the mobile world.
6. What lecture/topic(s) in this class "did not work" or were not seen as useful in the long run? ~ Question Type: Short Answer ~ *contributed by Sherriff, Mark (mss2x)*	Results for CS-4720-001, Sherriff, Mark Total: 21 Individual Answers: *See below for Individual Results*
	The section on web services did not seem very fleshed out, and it may be better to leave out altogether aside from how it solely relates to mobile applications. It's really hard to teach mobile, because a large part of how you learn to develop in mobile is just by doing it. I think spending a day or two talking about core Android / iOS architecture was useful, and maybe going over "here are some cool things you can do -- go find out how on your own!" would have been enough to intro the two platforms. The in-class demos for how to do specific things in iOS or Android got tedious quickly, because either you weren't using that feature, or you could just Google or look at the Github examples if you wanted to figure it out on your own. I felt like REST and SOA should have been useful, but it was a little confusing, so I didn't end up really feeling like I had mastered the material. Nothing I can think of. Specifics of Android and iOS. These were very hand-wavy and could have been condensed to allow for more discussions on general mobile development. I think each lecture was useful in one sense or another. I honestly thought they were all generally useful in some way. I think the testing lectures didn't work very well. Testing is important, but we didn't seem to devote enough time to it. It is covered extensively in other classes, so maybe it's not necessary in this class? My least favorite lecture was the one regarding the WillowTree presentation. It didn't seem useful to the class and was rather a showcase of the company. I could see the relevance of the company with our coursework and I understand supporting local businesses. However, I did not take anything from this lecture. N/A Hard to learn as the professor is also learning

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

n/a

Most of the web services stuff. Could have been much shorter, and then could have made room to discuss things like Heroku, which I was much more excited to learn about.

Privacy policies

I thought the UI lectures were a little overdone, but that may be because I have already taken HCI.

monetizing it important but I supposed not immediately useful for most of us. Still a good topic. They were all fine.

More info on web services please

none

Publishing to the store. I hated Android studio omg. The web services part was interesting but a bit rough.

Monetization and UI guidelines were particularly unhelpful discussions. Monetization should cover how to monetize (integrating wtih AdMob). For UI guidelines, it was never made clear why you wouldn't follow them? I mostly regarding these guidelines as the default of the editor, and thus, automatic.

iOS

Can't think of any off the top of my head that really stick out here.

7. How accurate is this statement for you if you used the podcasts from this class: Podcasts were useful to catch up on material that I missed due to absences.

~

Question Type: Likert

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.31	0.95	9 (36.00%)	4 (16.00%)	2 (8.00%)	1 (4.00%)	0 (0.00%)	9 (36.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.31	0.95	9 (36.00%)	4 (16.00%)	2 (8.00%)	1 (4.00%)	0 (0.00%)	9 (36.00%)

8. How accurate is this statement for you if you used the podcasts from this class: The podcasts were useful to review material that I was unclear on.

~

Question Type: Likert

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.41	0.62	8 (32.00%)	8 (32.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)	8 (32.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.41	0.62	8 (32.00%)	8 (32.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)	8 (32.00%)

9. How often did you listen to the podcast for a lecture?

~

Question Type: Multiple Choice

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Every lecture (NA)	Nearly every lecture (NA)	Whenever I needed to review a topic (NA)	Only when I missed a class (NA)	Randomly just to see what it was like (NA)	Never (NA)
25	0 (0.00%)	0 (0.00%)	14 (56.00%)	3 (12.00%)	1 (4.00%)	7 (28.00%)

Results for SEAS, 4000-level courses

Total	Every lecture (NA)	Nearly every lecture (NA)	Whenever I needed to review a topic (NA)	Only when I missed a class (NA)	Randomly just to see what it was like (NA)	Never (NA)
25	0 (0.00%)	0 (0.00%)	14 (56.00%)	3 (12.00%)	1 (4.00%)	7 (28.00%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

10. Do you have any suggestions/comments that we should take into account for future projects for this course?

~

Question Type: Short Answer

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Individual Answers
21	*See below for Individual Results*

None.

Overall, I really liked the freedom we got in picking our projects, and the scope of our particular project fit nicely into the expectations for the class project. Yay! I do think it would have been nice to get a little more time between the MS assignments and the Final Build for each stage. We ended up getting extensions on all of them, I think, and I honestly would not have been able to finish the final builds without those extensions. The weekly MSes is tough, but makes some sense -- however, more time between the last MS and the final build is great because it gives you more time to refine the app to its more polished form.

You can't skip through the podcast and that made listening to them hard sometimes. Because I would mute the recording until it got to minute 31 or whatever I needed and it was very tedious. I think the milestones were a good idea. Also the decision we had to choose one of the two platforms for the final was great. Finally, I liked the demo days. They were fun.

Be more specific about the requirements of the milestones. For example, instead of having the requirement as "send data from one screen to another," make it "send data from one screen to another and show that it is sent."

Longer milestones or milestone flexibility. It was difficult to manage weekly milestones, especially when we have to work in Rice 340 for iOS.

Not really.

iOS can be improved a lot, but this is understandable given that this was just integrated into the course

Better TAs that care about the students

No

I think there was too much focus on "polish" for the final project. For those of us who had never done mobile development before, there was a huge amount of work that went into implementing the functionality for each of the use cases and creating a passable layout. Implementing a useful and well thought out app should not be worth the same amount of points as making it pretty.

not having a Mac and having to do the iOS project in Rice 340 was awful, is there any possible way to alleviate this? I know a Mac is obviously needed for iOS development, but this was a huge pain point.

I hope there would be more clear grading policy... sometimes I get lost and had no idea what TA was trying to look into..

Don't grade app functionality until the final OS build. It was aggravating to be dinged for broken functionality when the goal was to only make sure data was stored, or the camera worked. There should be a separation of expectations of requirements and functionality when grading, I guess.

I think the iOS project had very high expectations given how difficult it was to find help online. I wish there were lower expectations for it than Android.

The guidelines for each project milestone were well laid-out, however the grading rubrics for the overall projects did not seem to follow this same tone. Grading for projects varied greatly from each TA, so some groups got higher grades for comparable projects while others got much lower grades. A difference like this would be expected due to the subjectivity of grading a project, but this difference seemed to be more than 1-5 points. Groups with similar projects would receive grades differing by 10-15 points, solely because of the subjective nature of the grading rubric. More rigorous grading rubrics that lay out requirements for the end projects may help curb this problem as different TAs seemed to understand requirements differently.

Instead of requiring a list of features for the app that all have to be implemented to receive full credit, I believe offering a lot of optional features where only a certain number have to be implemented to receive full credit will make it possible to have more flexibility with the project. I took this class in order to create an app that I wanted to publish on both the Google Play Store and App Store and succeeded in doing this however I found myself wasting time incorporating location and an extra sensor when my app didn't require those things. Before publishing my app on both stores I removed these features. At the same time, I had a ton of extra features in my app that weren't required and demonstrated significant effort.

I didn't realize there were podcasts! I knew you recorded lecture but I didn't realize the format was so easily usable as a podcast.

Honestly, both of the projects are too long. Have one milestone each and take a week off both of them. And be a little more lenient with iOS development. That really doesn't favor those of us who don't have Macs.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

The class feels like it could have benefited from a lab. Lectures often ended early, so perhaps you could condense them into Mon/Wed then use Fri as a lab day, where we can work on our projects with TAs present. It'd also be a big help when learning Swift and xcode, which were a massive pain this semester. Also, the requirement in milestones to "have made significant progress" from the previous milestone is problematic. Sometimes groups want to get ahead on one milestone if they know they will have a busy week the next week, but then they still lose points next week despite having met all requirements simply because of lack of progress, not to mention sometimes progress happens on the back end and isn't immediately visible to TAs.

In the future, I would like to suggest a clearer concept of what you're looking for. In particular, the idea of polish seemed ambiguous and my team suffered initially with lots of points being taken away for polish. When the TAs regraded the same app, most of our points were redeemed. I found this situation to be very frustrating as our course discusses UI and wire framing but not to a level of detail where production ready apps should be expected. In general, it might be a good idea to "showcase" examples of previous apps so that students have an idea for what the expectation is.

The iOS was a little scrambled, partially because Prof. Sherriff was learning along with us it seemed. He did not really have as good of an estimate on time or the learning curve for the iOS deployment. The TAs were resultingly spread very thin because many students were far less comfortable with iOS. It seemed also because of xcode and iOS updates, it was more difficult to find information online because many things were in C-objective or used deprecated methods.

11. During the project, how many hours per week did you dedicate specifically to project work?

~

Question Type: Multiple Choice

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	0-2 (NA)	3-5 (NA)	6-8 (NA)	9-12 (NA)	13-16 (NA)	17 or more (NA)
25	1 (4.00%)	12 (48.00%)	8 (32.00%)	3 (12.00%)	1 (4.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	0-2 (NA)	3-5 (NA)	6-8 (NA)	9-12 (NA)	13-16 (NA)	17 or more (NA)
25	1 (4.00%)	12 (48.00%)	8 (32.00%)	3 (12.00%)	1 (4.00%)	0 (0.00%)

12. How would you rate the availability of TAs?

~

Question Type: Likert

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Excellent (4)	Good (3)	Average (2)	Weak (1)	Very Poor (0)
25	2.64	0.57	0 (0.00%)	17 (68.00%)	7 (28.00%)	1 (4.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Excellent (4)	Good (3)	Average (2)	Weak (1)	Very Poor (0)
25	2.64	0.57	0 (0.00%)	17 (68.00%)	7 (28.00%)	1 (4.00%)	0 (0.00%)

13. How would you rate the helpfulness of the TAs?

~

Question Type: Likert

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Excellent (4)	Good (3)	Average (2)	Weak (1)	Very Poor (0)
25	2.56	1.08	5 (20.00%)	9 (36.00%)	7 (28.00%)	3 (12.00%)	1 (4.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Excellent (4)	Good (3)	Average (2)	Weak (1)	Very Poor (0)
25	2.56	1.08	5 (20.00%)	9 (36.00%)	7 (28.00%)	3 (12.00%)	1 (4.00%)

14. How often did you make use of the TA office hours?

~

Question Type: Multiple Choice

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Every week (NA)	Every other week (NA)	Once per assignment (NA)	Rarely (NA)	Never (NA)
25	0 (0.00%)	9 (36.00%)	8 (32.00%)	7 (28.00%)	1 (4.00%)

Results for SEAS, 4000-level courses

Total	Every week (NA)	Every other week (NA)	Once per assignment (NA)	Rarely (NA)	Never (NA)
25	0 (0.00%)	9 (36.00%)	8 (32.00%)	7 (28.00%)	1 (4.00%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

15. Any specific comments about the TAs you would like to share?

~

Question Type: Short Answer

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Individual Answers
19	*See below for Individual Results*

All TAs weren't really able to address the problems to the apps. XCode dependent nonsense (especially package management) they particularly were not useful.

Graham was amazing in office hours

Inconsistent grading across TAs. One in particular was a notoriously known horrible grader while the others were known to be more lenient. Rude during office hours and even honest about the fact that some of the work we spend a lot of time on and submit isn't even checked thoroughly.

They were helpful when they could get to you. So many people needed help and the TAs were often at a loss at times. It seemed they could really only help 2 groups in the time they allotted.

3/4 are helpful and understanding. 1, who graded our app, is lazy and out for blood.

No

n/a

Jeremy and Mike were particularly helpful.

There were a few instances of TAs not showing up to scheduled office hours, as well as TAs rescheduling office hours with very little notice. Grading also differed a lot between TAs, sometimes by as much as a letter grade. I also had many experiences where a milestone would have 1-5 points off without explanation, and when I went to office hours the TA would realize that the points were taken off erroneously. I understand this happening once or twice, but it happened to my group and multiple others I saw for multiple milestones.

Mike is the best

Matthew was great. He seemed very knowledgeable on the material and like he wanted to help. Mike was also great. He got grades back pretty quickly and was able to clear up any confusion quickly. I didn't interact with the other two TAs much.

Matthew's da bomb.com. Super nice, super helpful.

They weren't too helpful on iOS

Didn't interact with them much. Seems like they didn't always read our instructions for how to test the app. Grading was always a bit subjective.

Was didn't know much about iOS.

I actually never went to TA office hour for technical support but I did go there a lot. There are too many regrading. Even if both my partners and I tested the app several times, it still went wrong for TA. I am not saying that TAs were not doing their jobs but it gets really annoying to find time to go to office hour during the entire semester.. I hope TA could be more careful...

They were all very nice when it came to questions

Often we would receive a message in the grading that said to come to office hours to demo our app for points. This happened on several occasions despite leaving instructions in the write-up on how to operate the app. I was glad for the opportunity to receive points, but it presents a clear need for just having a demo period for ease of grading and insurance of grades.

The TAs were very helpful and a great asset to the course.

16. What other topics do you wish we had time to cover or which topics did we cover that you wish we could have covered more deeply?

~

Question Type: Short Answer

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Individual Answers
22	*See below for Individual Results*

Heroku and Swift + XCode

If the web services section is to be included in future iterations of the course, I would have liked to see it more developed and in-depth. It would have been more appropriate to focus it more exclusively on mobile development as well.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

I really wish we did end up doing more web service stuff. I know the class is being split, but I wasn't aware of that when I signed up.

NodeJS but I supposed that's in the other class now

I wish we had gone into web services in more depth. For the web services assignment, I was very confused as to what was expected.

Probably security. It would have been cool to go over specific design techniques and maybe talk to a company about how they go through the design process -- I know WillowTree was supposed to do this, and they touched on it a little, but not much. A lot of the hard parts about building an app are more "soft skills" and how to understand the user's needs and what they want out of the app -- incorporating that more into the class and the project would have been cool. Mobile app design is a much harder skill to teach, but tends to be more valuable to know. I would be interested in knowing how people who are very experienced in mobile app development develop their skills in crafting an app experience (not just in coding it up). It would also have been cool to hear examples of apps from different industries -- health tech apps are very different from financial apps, and so on. Getting a more representational sample of the industry, either through a talk or through guest lectures, would be really cool.

Nothing comes to mind.

More about actual iOS work in Storyboard (constraitsssssss).

web services

I wish we had better lectures in iOS but I figure this is only due to the fact that it is the first semester iOS has been taught.

N/A

SOAP

Analytics

None that come to mind.

n/a

Design an app together as a class in-class

Web services making your own API

Mobile device hardware

Web services.

None

Web services are very important for most apps today and I felt that they deserved more time.

Game scenes, memory management, debugging tools, actually creating unit tests. All of these should have been required in the final project.

17. To what degree do you agree with this statement: the team size from the project was appropriate (please elaborate in your class comments).

~

Question Type: Likert

~

contributed by Sherriff, Mark (mss2x)

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	3.96	1.02	9 (36.00%)	9 (36.00%)	4 (16.00%)	3 (12.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	3.96	1.02	9 (36.00%)	9 (36.00%)	4 (16.00%)	3 (12.00%)	0 (0.00%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.16	0.75	8 (32.00%)	14 (56.00%)	2 (8.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
1831	4.32	0.76	831 (45.39%)	786 (42.93%)	134 (7.32%)	38 (2.08%)	13 (0.71%)	29 (1.58%)

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.16	0.90	11 (44.00%)	8 (32.00%)	5 (20.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2014	4.18	0.97	882 (43.79%)	696 (34.56%)	206 (10.23%)	95 (4.72%)	46 (2.28%)	89 (4.42%)

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.24	0.60	8 (32.00%)	15 (60.00%)	2 (8.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
1838	4.26	0.83	798 (43.42%)	810 (44.07%)	128 (6.96%)	73 (3.97%)	18 (0.98%)	11 (0.60%)

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.52	0.59	14 (56.00%)	10 (40.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
1838	4.10	0.94	644 (35.04%)	676 (36.78%)	213 (11.59%)	90 (4.90%)	27 (1.47%)	188 (10.23%)

22. The textbook increased my understanding of the material.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	3.00	0.00	0 (0.00%)	0 (0.00%)	2 (8.00%)	0 (0.00%)	0 (0.00%)	23 (92.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
1836	3.68	1.11	251 (13.67%)	308 (16.78%)	240 (13.07%)	86 (4.68%)	44 (2.40%)	907 (49.40%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

23. The course material was well organized and developed.

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Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.12	0.74	7 (29.17%)	14 (58.33%)	2 (8.33%)	1 (4.17%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2001	4.01	1.01	696 (34.78%)	800 (39.98%)	244 (12.19%)	138 (6.90%)	52 (2.60%)	71 (3.55%)

24. The instructor was knowledgeable about the subject matter.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.12	0.90	9 (37.50%)	11 (45.83%)	2 (8.33%)	2 (8.33%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2010	4.53	0.68	1217 (60.55%)	654 (32.54%)	89 (4.43%)	29 (1.44%)	6 (0.30%)	15 (0.75%)

25. The instructor was well prepared for class.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.24	0.72	10 (40.00%)	11 (44.00%)	4 (16.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2007	4.31	0.82	956 (47.63%)	756 (37.67%)	175 (8.72%)	53 (2.64%)	20 (1.00%)	47 (2.34%)

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.12	0.74	7 (29.17%)	14 (58.33%)	2 (8.33%)	1 (4.17%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
1827	4.05	0.92	611 (33.44%)	778 (42.58%)	256 (14.01%)	91 (4.98%)	30 (1.64%)	61 (3.34%)

27. The grading policy was fair.

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	3.46	1.22	4 (16.67%)	11 (45.83%)	3 (12.50%)	4 (16.67%)	2 (8.33%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2003	4.07	0.98	762 (38.04%)	762 (38.04%)	248 (12.38%)	130 (6.49%)	38 (1.90%)	63 (3.15%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

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

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Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.28	0.74	10 (40.00%)	13 (52.00%)	1 (4.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2004	4.30	0.88	973 (48.55%)	735 (36.68%)	156 (7.78%)	73 (3.64%)	29 (1.45%)	38 (1.90%)

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

~

Question Type: Likert

~

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
25	4.60	0.50	15 (60.00%)	10 (40.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
2003	4.19	0.89	804 (40.14%)	805 (40.19%)	214 (10.68%)	64 (3.20%)	34 (1.70%)	82 (4.09%)

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

~

Question Type: Multiple Choice

~

contributed by Office of the Provost

Results for CS-4720-001

Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
25	1 (4.00%)	6 (24.00%)	14 (56.00%)	2 (8.00%)	2 (8.00%)

Results for SEAS, 4000-level courses

Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
1839	113 (6.14%)	650 (35.35%)	766 (41.65%)	238 (12.94%)	72 (3.92%)

31. I learned a great deal in this course.

~

Question Type: Likert

~

contributed by Office of the Provost

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.24	0.78	10 (40.00%)	12 (48.00%)	2 (8.00%)	1 (4.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1832	4.14	0.90	727 (39.68%)	781 (42.63%)	216 (11.79%)	77 (4.20%)	31 (1.69%)

32. Overall, this was a worthwhile course.

~

Question Type: Likert

~

contributed by Office of the Provost

Results for CS-4720-001

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.08	0.83	7 (29.17%)	14 (58.33%)	1 (4.17%)	2 (8.33%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1835	4.14	0.96	768 (41.85%)	728 (39.67%)	201 (10.95%)	97 (5.29%)	41 (2.23%)

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~

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

~

Question Type: Likert

~

contributed by Office of the Provost

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.38	0.58	10 (41.67%)	13 (54.17%)	1 (4.17%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2005	4.29	0.76	856 (42.69%)	944 (47.08%)	148 (7.38%)	41 (2.04%)	16 (0.80%)

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

~

Question Type: Likert

~

contributed by Office of the Provost

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.32	0.56	9 (36.00%)	15 (60.00%)	1 (4.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2004	4.36	0.82	1050 (52.40%)	718 (35.83%)	168 (8.38%)	47 (2.35%)	21 (1.05%)

35. Overall, the instructor was an effective teacher.

~

Question Type: Likert

~

contributed by Office of the Provost

Results for CS-4720-001, Sherriff, Mark

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
25	4.20	0.65	8 (32.00%)	14 (56.00%)	3 (12.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 4000-level courses

Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
2013	4.21	0.93	929 (46.15%)	745 (37.01%)	221 (10.98%)	78 (3.87%)	40 (1.99%)

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

~

Question Type: Short Answer

~

contributed by Office of the Provost

Results for CS-4720-001

Total	Individual Answers
16	*See below for Individual Results*

None.

I think that 2 people for team is an ideal size. One person would be overwhelmed with the amount of work. More than two people would have necessitated higher standards for the app and more time spent on it, above what is appropriate for a 3 credit elective.

I'm not really sure how this course could be taught better. I attended every class and felt like they were good but not like I could have learned it all from the comfort of my own bed. Professor Sherriff is extremely engaging and a wonderful lecturer; however, a lot of this material is things that you kinda just have to figure out on your own or just try out. I appreciated Prof. Sherriff's enthusiasm and knowledge on this material and his availability also. While I never missed a class, he did record the podcasts which was helpful to go back and listen to (except for the whole "have to wait forever to get to a specific minute in the recording," as mentioned previously). I also wish he had addressed partner issues more. I personally did not enjoy working with my partner but it was hard to switch in the middle of the semester and it was rough. I think he should take the partner evaluations more seriously. Finally, I think the grading was, at times harsh, I would receive a low A (high A-) for something but receive comments like "Great job!" and that was unsettling at times. a 94 or 93 sounds high but it also deducts around a percent from your overall grade. But I think that deals more with the TAs than the professor. Thanks for a great semester!

Instuctor would occasionally seem annoyed when asked for clarification and would take the absences of other students out on those attending lecture, but over all interesting course.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	Very few of the lectures were useful. Off the top of my head: Android storage, security, wireframing, accessibility, usability laws were useful. The rest were just 20 minute reviews of the reading / whatever the slides had / Android docs or Apple docs. Compressing the Android app components into two lectures is probably useful. I think a split between theory and application would be helpful. I feel we went over application too much in lectures. I liked having the resources,of course, but it also made lectures which were just read-through of the slides unhelpful. Finally, I really wished we had covered HTML5 and CSS3 and Javascript, as they are major players in the mobile space regarding hybrid apps. Facebook React and Ionic are particularly strong. I was a bit annoyed by the subjective grading and the general milestone system which did not afford room to get ahead in order to take a lighter week in the future. The class could really benefit from a lab session. I think Mon/Wed lectures would be sufficient, then a Fri lab where we could work on our projects and get help, and we could also demo and discuss milestones instead of hoping for TAs to figure it out on their own. Thanks for a great semester! It would've been nice to have more in-class participation stuff. Maybe make a few classes into workdays, or maybe when we cover a certain topic, have a little mini-assignment that we work on in class. That could be a good way to bring lecture material and implementation together, use some class time, and encourage more active students. I understand that this is the first iteration of this course, however I feel as though Professor Sherriff could have pushed the TAs a bit more to grade projects on-time and to give better feedback on grading. Professor Sherriff also seemed very frustrated with the lack of participation in lecture, but often this was due to him budgeting time for questions on a topic that the class understood without additional discussion. I believe many of these issues will be worked out in future versions of the course, however the issues with TAs regarding the projects were frustrating throughout the course. I liked my partner for the projects however I believe working alone should be allowed. Before taking the course, I knew what app I wanted to create and how I wanted to create it and I was fortunate enough that I ended up with a partner who was on board with my idea but that could have not been the case. I believe the grading for the first exam was unfair. The questions asked were short and rather open-ended yet the rubric for the exam was specific in what responses were expected to receive full credit. Also, before the exam the instructor made it seem as though brevity in answering the questions was preferred and rewarded but when the grades were released, the max-score example responses were all long-winded. I took a hit on the exam because I kept my answers concise even though I have a pretty good understanding of the topics taught in the course. I find it odd that I probably would've done much better if I produced longer answers to each question that included information that isn't even necessarily specific to the questions asked. Overall a good class. Android was done well, but iOS can be improved. The size of project teams was good, and I think overall what was expected for them was pretty fair. I'm glad Sherriff posted lecture recordings and was also understanding if we missed multiple classes, given that this is the semester that many of us are interviewing for jobs Test grading seems unfair and arbitrary. It's strange to require "discussion" for the types of questions that were asked. Way too subjective for a CS course. Project was okay, iOS was pretty bad though. Really good class. It's nice to actually learn something in school that will be used in the real world. I had done Android development before and it was nice to experience how horrible iOS development is. Sherriff is as cool as ever and I do enjoy his lecture style as well as his, relatively excellent, site. I do have a problem with how a lousy partner can completely ruin your semester and I am a bit bitter about the inconsistent grading among TAs. My TA would grade ridiculously harshly, and when I get it regraded by another, they would just wonder why we were penalized so much. Was expecting to quite easily get an A in this course but, alas... -_- Also, the Game Design class had a lot of cool aspects such as the XP system that really should have carried over to this class because it was so good. Professor Sherriff should definitely gameify this class as well. Also, we've got to do something about iOS. Having to spend nights in Rice 340 is a pain. All in all, though, I liked this class. Definitely a worthwhile elective. Two people on one project works pretty well. As a whole, the course was worthwhile. I found the content to be very appealing and it was interesting to learn both Android and iOS, an experience I hope is kept in the future with this course. While I appreciated the content, I did not enjoy the lectures as much as I expected. It seemed as though the lectures would take a while to start and once we were discussing the topics, I felt as though the lecture was directly read from the slides. Because of this, I felt like a student is not required to attend class in order to pass the class if it weren't for the attendance surveys. In the cases where I did miss class for interviews or whatever other reason, I found that listening to the podcasts was very frustrating because the lecture wouldn't start until about ~12 minutes into the podcast. It would be great if the podcasts were perhaps in a different format so that it was easier to forward and rewind. I had a bad experience doing this through the Collab site so it would be useful if we could download the media from collab and listen to it on our computer via a program. As for the grading, I was dissatisfied. Although I was fine with my grade in the course, my concern was rather on the way grades were handled. For the first midterm there was basically a no regrade policy. For some of the milestones, there were unnecessary points taken off and the grading was inconsistent across TAs. I can let you know that the grading was so inconsistent that several students admitted targeting one specific TA to have him grade the milestones by the end of the semester because a few of the others were a toss up. I know it was said that the grading was done through all TAs but in reality, it seemed as though your grade was drastically dependent on the TA who graded it. I was extremely upset with the was the final was handled and noticed a lot of my peers got the same grade as I which made me assume it was an estimate before I even read the email. The way it was handled made no sense to me and I didn't feel it was fair to have students have to reach out to you to get a grade they deserved in the first place. All in all, the course content is useful and for that I recommend it to several students. I just wasn't impressed with the way things were handled in the course. Nonetheless, thank you for the semester.

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~
	This isn't exactly a helpful comment so I'm sorry for this, but I thought I'd just throw out my opinion that I wasn't very fond of the two-person group dynamic. With only having one device and (for my group at least) one obviously superior computer, it led to one of us doing most of the work since it was way more convenient that way. I'm not sure how that could be improved however, besides maybe getting a device for each person but that seems unlikely. Anyways, there just seemed to be too many factors that could contribute to one person doing most of the work.