#### CS 4971-001 Capstone Practicum II - Spring 2017

ENGR (18270)

INSTRUCTORS: Bloomfield, Aaron S. (asb2t)

Respondents: 48 / Enrollment: 91

#### Summary: CS 4971-001 Capstone Practicum II - Spring 2017 (18270)

#### **Overall Course Rating**

CS-4971-001 Mean 4.38 CS-4971-001 Std Dev 0.74 CS-4971-001 Response Count 240

SEAS, 4000-level courses Mean 4.16 SEAS, 4000-level courses Std Dev 0.94 SEAS, 4000-level courses Response Count 10874

#### **Overall Instructor Rating**

INSTRUCTOR: Bloomfield, Aaron S. Mean 4.63 Std Dev 0.58 Response Count 336

SEAS, 4000-level courses Mean 4.35 SEAS, 4000-level courses Std Dev 0.90 SEAS, 4000-level courses Response Count 15864

#### ~ QUESTIONS AND DETAILS ~

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

#### ~ ANSWER MATRICES ~

Results for CS-4971-001												
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)				
48	4.52	0.55	25 (52.08%)	20 (41.67%)	1 (2.08%)	0 (0.00%)	0 (0.00%)	2 (4.17%)				

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)		
2177	4.32	0.84	1063 (48.83%)	840 (38.59%)	164 (7.53%)	66 (3.03%)	26 (1.19%)	18 (0.83%)		

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001, Bloomfield, Aaron S.											
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
	48	4.52	0.59	25 (52.08%)	17 (35.42%)	2 (4.17%)	0 (0.00%)	0 (0.00%)	4 (8.33%)		

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)	
	2274	4.27	1.00	1158 (50.92%)	691 (30.39%)	166 (7.30%)	114 (5.01%)	61 (2.68%)	84 (3.69%)	

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001										
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	
	48	4.33	0.69	21 (43.75%)	23 (47.92%)	3 (6.25%)	1 (2.08%)	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)	
	2177	4.27	0.88	1007 (46.26%)	911 (41.85%)	140 (6.43%)	74 (3.40%)	44 (2.02%)	1 (0.05%)	

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~										
4. The homework assignments helped	Results for	CS-4971-0	01								
me learn the subject matter.  Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
contributed by Dean of the School of Engineering and Applied Science	48	4.32	0.88	18 (37.50%)	11 (22.92%)	3 (6.25%)	2 (4.17%)	0 (0.00%)	14 (29.17%)		
	Results for	SEAS, 400	0-level cour	rses							
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
	2177	4.18	0.92	847 (38.91%)	740 (33.99%)	227 (10.43%)	78 (3.58%)	36 (1.65%)	249 (11.44%)		
5. The textbook increased my	Results for	CS-4971-0	01								
understanding of the material.  Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
contributed by Dean of the School of Engineering and Applied Science	48	4.33	1.03	4 (8.33%)	0 (0.00%)	2 (4.17%)	0 (0.00%)	0 (0.00%)	42 (87.50%)		
	Results for	SEAS, 400	0-level cour	rses							
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
	2169	3.80	1.11	371 (17.10%)	346 (15.95%)	269 (12.40%)	87 (4.01%)	49 (2.26%)	1047 (48.27%)		
6. The course material was well	Results for	CS-4971-0	01, Bloomfi	eld, Aaron S	<b>)</b> .						
organized and developed.  Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
contributed by Dean of the School of Engineering and Applied Science	48	4.67	0.52	33 (68.75%)	14 (29.17%)	1 (2.08%)	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)		
	2259	4.12	1.02	958 (42.41%)	785 (34.75%)	243 (10.76%)	140 (6.20%)	60 (2.66%)	73 (3.23%)		
7. The instructor was knowledgeable	Results for	CS-4971-0	01, Bloomfi	eld, Aaron S	S						
about the subject matter.  Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
contributed by Dean of the School of Engineering and Applied Science	48	4.79	0.46	38 (79.17%)	8 (16.67%)	1 (2.08%)	0 (0.00%)	0 (0.00%)	1 (2.08%)		
	Results for	SEAS, 400	0-level cour	ses							
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
	2271	4.58	0.73	1528 (67.28%)	570 (25.10%)	103 (4.54%)	31 (1.37%)	22 (0.97%)	17 (0.75%)		
8. The instructor was well prepared for	Results for	CS-4971-0	01, Bloomfi	eld, Aaron S	S.						
class. Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
contributed by Dean of the School of Engineering and Applied Science	48	4.75	0.48	37 (77.08%)	10 (20.83%)	1 (2.08%)	0 (0.00%)	0 (0.00%)	0 (0.00%)		
	Results for SEAS, 4000-level courses										
	Total	Mean	Std Dev	Strongly Agree	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree	Not Applicable		

0.85

1270 692 (55.97%) (30.50%) 166 62 (7.32%) (2.73%)

32 (1.41%) 47 (2.07%)

4.40

2269

#### ~ QUESTIONS AND DETAILS ~

#### ~ ANSWER MATRICES ~

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001											
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)			
48	4.35	0.81	25 (52.08%)	17 (35.42%)	4 (8.33%)	2 (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)	
2174	4.07	0.98	811 (37.30%)	857 (39.42%)	261 (12.01%)	129 (5.93%)	47 (2.16%)	69 (3.17%)	

#### 10. The grading policy was fair.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001, Bloomfield, Aaron S.										
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	
	48	4.42	0.74	26 (54.17%)	17 (35.42%)	4 (8.33%)	1 (2.08%)	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)		
2268	4.32	0.87	1138 (50.18%)	787 (34.70%)	183 (8.07%)	74 (3.26%)	33 (1.46%)	53 (2.34%)		

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001, Bloomfield, Aaron S.											
	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)		
	48	4.61	0.54	29 (60.42%)	16 (33.33%)	1 (2.08%)	0 (0.00%)	0 (0.00%)	2 (4.17%)		

Results for	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)
2261	4.43	0.81	1279 (56.57%)	733 (32.42%)	126 (5.57%)	54 (2.39%)	28 (1.24%)	41 (1.81%)

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-4971-001, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
48	4.63	0.61	32 (66.67%)	11 (22.92%)	3 (6.25%)	0 (0.00%)	0 (0.00%)	2 (4.17%)

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)
2262	4.30	0.91	1124 (49.69%)	741 (32.76%)	192 (8.49%)	65 (2.87%)	48 (2.12%)	92 (4.07%)

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

Question Type: Multiple Choice

contributed by Office of the Provost

Results for CS-4971-001						
Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)	
48	1 (2.08%)	12 (25.00%)	20 (41.67%)	12 (25.00%)	3 (6.25%)	

Results for SEA	S, 4000-level cours	ses			
Total	Less than 1	1 - 3	4 - 6	7 - 9	10 or more
	(NA)	(NA)	(NA)	(NA)	(NA)
2180	98	773	879	304	126
	(4.50%)	(35.46%)	(40.32%)	(13.94%)	(5.78%)

~ QUESTIONS AND DETAILS ~				~ ANSWER	MATRICES ~			
14. I learned a great deal in this course.	Results for	CS-4971-001						
Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
contributed by Office of the Provost	48	4.35	0.67	22 (45.83%)	21 (43.75%)	5 (10.42%)	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)
	2168	4.20	0.95	988 (45.57%)	820 (37.82%)	205 (9.46%)	106 (4.89%)	49 (2.26%)
15. Overall, this was a worthwhile	Results for	CS-4971-001						
course. ~ Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
contributed by Office of the Provost	48	4.48	0.65	26 (54.17%)	20 (41.67%)	1 (2.08%)	1 (2.08%)	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)
	2172	4.20	1.01	1056 (48.62%)	738 (33.98%)	198 (9.12%)	117 (5.39%)	63 (2.90%)
16. The course's goals and requirements	Results for	CS-4971-001	, Bloomfield,	Aaron S.				
were defined and adhered to by the instructor.	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Question Type: Likert	48	4.67	0.48	32 (66.67%)	16 (33.33%)	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)
	2262	4.34	0.83	1137 (50.27%)	870 (38.46%)	160 (7.07%)	68 (3.01%)	27 (1.19%)
17. The instructor was approachable	Results for	CS-4971-001	, Bloomfield, a	Aaron S.				
and made himself/herself available to students outside the classroom.	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Question Type: Likert  contributed by Office of the Provost	48	4.40	0.79	26 (54.17%)	17 (35.42%)	3 (6.25%)	2 (4.17%)	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)
	2266	4.43	0.81	1318 (58.16%)	691 (30.49%)	188 (8.30%)	46 (2.03%)	23 (1.02%)
18. Overall, the instructor was an	Results for	CS-4971-001	, Bloomfield,	Aaron S.				
effective teacher.  —  Question Type: Likert	Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
contributed by Office of the Provost	48	4.65	0.53	32 (66.67%)	15 (31.25%)	1 (2.08%)	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)
	2273	4.32	0.95	1258 (55.35%)	690 (30.36%)	182 (8.01%)	85 (3.74%)	58 (2.55%)

19. Please	make	any	overall	comments
-				

#### ~ ANSWER MATRICES ~

### or observations about this course:

~ QUESTIONS AND DETAILS ~

Question Type: Short Answer

Results for CS-4	971-001
Total	Individual Answers
22	See below for Individual Results

This is a great course. Very well developed, and puts students in a real world setting that allows them to learn while giving back.

One of the most useful courses I've ever taken at UVA. I wish more people had taken the same interest in our year-long project.

Professor Bloomfield was excellent for this capstone requirement course!

Professor Bloomfield is really knowledgeable and ensures that everything we learn is relevant/applicable to the real-world development process. This was a good experience building a product for a customer.

Loved the course, a great capstone.

Professor Bloomfield is an excellent professor and really cares about his students. I know our group had an issue with potential sexism, and Professor Bloomfield was extremely validating and helpful. Overall, despite having some difficulties with our customer, I thought this was an extremely worthwhile course. HOWEVER, I WISH PROFESSOR BLOOMFIELD HAD EMPHASIZED THE TUTORIALS SECTION OF THE GITHUB REPO. Also sometimes it was difficult tracking information down on a lot of different sites (the SLP site, collab, his github site) so links between them would've been kinda helpful. OH, also less lectures (because a decent number of them got dry in the middle); honestly just putting up the lecture slides is what you need. Then, groups can use the time for just meeting with each other. Besides that, I got no beef.

Capstone is the best course for people who want to work in industry. There is really no substitute for working on a living codebase that you can get in undergrad.

Incredibly organized for such a large class - successful in mimicking an agile-esque iterative design process that we may encounter in the 'real world'.

This class is absolutely necessary as it helps explore how real development works, albeit in a rather safe environment. The major change I would implement is that people should have ~100% code coverage throughout development rather than at the end. I find writing tests alongside my code makes what I write infinitely better. Also as someone that wrote many tests for other's code that was un-testable it would have helped to ensure better quality and less work for those that pull more than their share of weight.

Much of my issues with this course were specific to the particular project I received. I recommend changing the first few iteration requirements to put a bigger emphasis on planning and delay the production til later.

Enjoyed the class, lectures were as fun as could be expected. Customer kinda sucked but that's beyond the control of Bloomfield

I was really glad that I took this course because it taught me a lot of valuable skills and gave me an experience where I got to apply my skills to help others. Professor Bloomfield was a great teacher in this course and he was always prepared. The only constructive criticism I have is that I wish he was easier to reach. While I understand he is a busy person, it would have been helpful to have more ways to contact him other than seeing him after class.

The SLP course is a worthwhile experience for fourth-year CS majors. It is the closest classroom experience to developing software in the real world, and I learned/improved both technical and soft skills. Professor Bloomfield was an excellent instructor and facilitator.

I enjoyed working on the year-long group project. It gives us a chance to apply our knowledge to real software development for an actual customer.

I really enjoyed this course and learned a lot about the entire software development cycle. Professor Bloomfield always organized and helpful to students.

Excellent class, hope that this reaches a wider scope so that more nonprofits can benefit from undergraduate student development

I feel like the time allocated to TA meetings can be used more efficiently and effectively.

Capstone Practicum was one of the most worthwhile courses I've taken at UVA. Professor Bloomfield has structured the class perfectly and building software for non-profits was a great learning experience.

Bloomfield runs a tight shift in hosting a Capstone class for ~90 people. The class is very effective at what it's supposed to do, and I appreciate the effort that Bloomfield puts into the course for us and the non-profits.

Very rewarding and excellent course. I recommend anyone take it if they can during their time at UVa (if they are a CS major of course(.

# ~ ANSWER MATRICES ~ The idea behind this course is awesome, and it's a great way to finish one's CS education (especially for those going into industry). One of the biggest challenges barring outside factors (customers, etc.) is the lack of leadership within teams. Contrary to course instructions, it would be helpful to give project leads some kind of authority regarding development. Our work often lacked direction; designated leadership would've mitigated that. Enforcing better management practices from all group members would also have been helpful. There were many things I disliked about this class. The thousands of deliverables were frustrating. The development of the project itself was okay, but frequently stressful. Unit tests, especially QUnit tests, were the absolute worst. On the contrary, I met amazing teammates and enjoyed Professor Bloomfield's awesome lectures. I am pretty neutral on recommending this class to others.