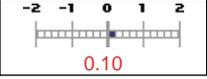
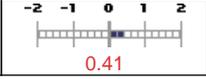


CS 2150-103 Program & Data Representation - Spring 2016

ENGR (17474)

INSTRUCTORS: Bloomfield, Aaron S. (asb2t)

Respondents: 25 / Enrollment: 44

Summary: CS 2150-103 Program & Data Representation - Spring 2016 (17474)	
Overall Course Rating CS-2150-103 Mean 4.15 CS-2150-103 Std Dev 1.10 CS-2150-103 Response Count 119 Difference from Category Mean, Expressed in Category Standard Deviations 	Overall Instructor Rating INSTRUCTOR: Bloomfield, Aaron S. Mean 4.60 Std Dev 0.69 Response Count 164 Difference from Category Mean, Expressed in Category Standard Deviations 
SEAS, 2000-level courses Mean 4.05 SEAS, 2000-level courses Std Dev 2.00 SEAS, 2000-level courses Response Count 16344	SEAS, 2000-level courses Mean 4.24 SEAS, 2000-level courses Std Dev 0.89 SEAS, 2000-level courses Response Count 23150

~ QUESTIONS AND DETAILS ~	~ ANSWER MATRICES ~																																																						
<p>1. The course addressed technically rigorous subject matter consistent with the course objectives.</p> <p style="text-align: center;">Question Type: Likert</p> <p style="text-align: center;"><i>contributed by Dean of the School of Engineering and Applied Science</i></p>	<table border="1"> <thead> <tr> <th colspan="9">Results for CS-2150-103</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>4.74</td> <td>0.45</td> <td>17 (70.83%)</td> <td>6 (25.00%)</td> <td>0 (0.00%)</td> <td>0 (0.00%)</td> <td>0 (0.00%)</td> <td>1 (4.17%)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="9">Results for SEAS, 2000-level courses</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>3272</td> <td>4.38</td> <td>0.72</td> <td>1590 (48.59%)</td> <td>1389 (42.45%)</td> <td>213 (6.51%)</td> <td>38 (1.16%)</td> <td>23 (0.70%)</td> <td>19 (0.58%)</td> </tr> </tbody> </table>	Results for CS-2150-103									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	24	4.74	0.45	17 (70.83%)	6 (25.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (4.17%)	Results for SEAS, 2000-level courses									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	3272	4.38	0.72	1590 (48.59%)	1389 (42.45%)	213 (6.51%)	38 (1.16%)	23 (0.70%)	19 (0.58%)
Results for CS-2150-103																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
24	4.74	0.45	17 (70.83%)	6 (25.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (4.17%)																																															
Results for SEAS, 2000-level courses																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
3272	4.38	0.72	1590 (48.59%)	1389 (42.45%)	213 (6.51%)	38 (1.16%)	23 (0.70%)	19 (0.58%)																																															
<p>2. The instructor used methods other than/in addition to traditional lectures (for example, active learning, in-class problems, collaborative learning, in-class discussion) effectively in this course.</p> <p style="text-align: center;">Question Type: Likert</p> <p style="text-align: center;"><i>contributed by Dean of the School of Engineering and Applied Science</i></p>	<table border="1"> <thead> <tr> <th colspan="9">Results for CS-2150-103, Bloomfield, Aaron S.</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>23</td> <td>4.33</td> <td>0.97</td> <td>11 (47.83%)</td> <td>8 (34.78%)</td> <td>1 (4.35%)</td> <td>0 (0.00%)</td> <td>1 (4.35%)</td> <td>2 (8.70%)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="9">Results for SEAS, 2000-level courses</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>3312</td> <td>4.06</td> <td>1.01</td> <td>1289 (38.92%)</td> <td>1237 (37.35%)</td> <td>411 (12.41%)</td> <td>213 (6.43%)</td> <td>83 (2.51%)</td> <td>79 (2.39%)</td> </tr> </tbody> </table>	Results for CS-2150-103, Bloomfield, Aaron S.									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	23	4.33	0.97	11 (47.83%)	8 (34.78%)	1 (4.35%)	0 (0.00%)	1 (4.35%)	2 (8.70%)	Results for SEAS, 2000-level courses									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	3312	4.06	1.01	1289 (38.92%)	1237 (37.35%)	411 (12.41%)	213 (6.43%)	83 (2.51%)	79 (2.39%)
Results for CS-2150-103, Bloomfield, Aaron S.																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
23	4.33	0.97	11 (47.83%)	8 (34.78%)	1 (4.35%)	0 (0.00%)	1 (4.35%)	2 (8.70%)																																															
Results for SEAS, 2000-level courses																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
3312	4.06	1.01	1289 (38.92%)	1237 (37.35%)	411 (12.41%)	213 (6.43%)	83 (2.51%)	79 (2.39%)																																															
<p>3. There was a reasonable level of effort expected for the credit hours received.</p> <p style="text-align: center;">Question Type: Likert</p> <p style="text-align: center;"><i>contributed by Dean of the School of Engineering and Applied Science</i></p>	<table border="1"> <thead> <tr> <th colspan="9">Results for CS-2150-103</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>3.43</td> <td>1.44</td> <td>8 (33.33%)</td> <td>4 (16.67%)</td> <td>3 (12.50%)</td> <td>6 (25.00%)</td> <td>2 (8.33%)</td> <td>1 (4.17%)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="9">Results for SEAS, 2000-level courses</th> </tr> <tr> <th>Total</th> <th>Mean</th> <th>Std Dev</th> <th>Strongly Agree (5)</th> <th>Agree (4)</th> <th>Neutral (3)</th> <th>Disagree (2)</th> <th>Strongly Disagree (1)</th> <th>Not Applicable (NA)</th> </tr> </thead> <tbody> <tr> <td>3267</td> <td>4.09</td> <td>1.00</td> <td>1294 (39.61%)</td> <td>1392 (42.61%)</td> <td>265 (8.11%)</td> <td>204 (6.24%)</td> <td>104 (3.18%)</td> <td>8 (0.24%)</td> </tr> </tbody> </table>	Results for CS-2150-103									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	24	3.43	1.44	8 (33.33%)	4 (16.67%)	3 (12.50%)	6 (25.00%)	2 (8.33%)	1 (4.17%)	Results for SEAS, 2000-level courses									Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)	3267	4.09	1.00	1294 (39.61%)	1392 (42.61%)	265 (8.11%)	204 (6.24%)	104 (3.18%)	8 (0.24%)
Results for CS-2150-103																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
24	3.43	1.44	8 (33.33%)	4 (16.67%)	3 (12.50%)	6 (25.00%)	2 (8.33%)	1 (4.17%)																																															
Results for SEAS, 2000-level courses																																																							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)																																															
3267	4.09	1.00	1294 (39.61%)	1392 (42.61%)	265 (8.11%)	204 (6.24%)	104 (3.18%)	8 (0.24%)																																															

~ QUESTIONS AND DETAILS ~

~ ANSWER MATRICES ~

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

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.78	0.42	18 (75.00%)	5 (20.83%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (4.17%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3265	4.17	0.91	1286 (39.39%)	1278 (39.14%)	318 (9.74%)	136 (4.17%)	54 (1.65%)	193 (5.91%)

5. The textbook increased my understanding of the material.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
23	3.22	1.30	2 (8.70%)	1 (4.35%)	4 (17.39%)	1 (4.35%)	1 (4.35%)	14 (60.87%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3268	3.55	1.15	487 (14.90%)	718 (21.97%)	548 (16.77%)	245 (7.50%)	138 (4.22%)	1132 (34.64%)

6. The course material was well organized and developed.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
23	4.73	0.55	17 (73.91%)	4 (17.39%)	1 (4.35%)	0 (0.00%)	0 (0.00%)	1 (4.35%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3310	4.03	1.01	1205 (36.40%)	1358 (41.03%)	379 (11.45%)	231 (6.98%)	89 (2.69%)	48 (1.45%)

7. The instructor was knowledgeable about the subject matter.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.87	0.34	20 (83.33%)	3 (12.50%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (4.17%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3310	4.55	0.68	2032 (61.39%)	1025 (30.97%)	133 (4.02%)	30 (0.91%)	21 (0.63%)	69 (2.08%)

8. The instructor was well prepared for class.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
23	4.82	0.50	19 (82.61%)	2 (8.70%)	1 (4.35%)	0 (0.00%)	0 (0.00%)	1 (4.35%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3305	4.35	0.83	1673 (50.62%)	1190 (36.01%)	257 (7.78%)	84 (2.54%)	41 (1.24%)	60 (1.82%)

~ 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-2150-103								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.00	0.85	7 (29.17%)	10 (41.67%)	5 (20.83%)	1 (4.17%)	0 (0.00%)	1 (4.17%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3272	3.85	1.05	854 (26.10%)	1198 (36.61%)	490 (14.98%)	235 (7.18%)	104 (3.18%)	391 (11.95%)

10. The grading policy was fair.

Question Type: Likert

contributed by Dean of the School of Engineering and Applied Science

Results for CS-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.35	0.65	10 (41.67%)	11 (45.83%)	2 (8.33%)	0 (0.00%)	0 (0.00%)	1 (4.17%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3311	4.12	0.90	1224 (36.97%)	1466 (44.28%)	377 (11.39%)	158 (4.77%)	49 (1.48%)	37 (1.12%)

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-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
23	4.59	0.73	16 (69.57%)	3 (13.04%)	3 (13.04%)	0 (0.00%)	0 (0.00%)	1 (4.35%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3303	4.36	0.78	1597 (48.35%)	1328 (40.21%)	199 (6.02%)	75 (2.27%)	29 (0.88%)	75 (2.27%)

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-2150-103, Bloomfield, Aaron S.								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
24	4.52	0.79	15 (62.50%)	6 (25.00%)	1 (4.17%)	1 (4.17%)	0 (0.00%)	1 (4.17%)

Results for SEAS, 2000-level courses								
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable (NA)
3299	4.23	0.87	1417 (42.95%)	1290 (39.10%)	334 (10.12%)	119 (3.61%)	40 (1.21%)	99 (3.00%)

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-2150-103					
Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
24	0 (0.00%)	1 (4.17%)	6 (25.00%)	7 (29.17%)	10 (41.67%)

Results for SEAS, 2000-level courses					
Total	Less than 1 (NA)	1 - 3 (NA)	4 - 6 (NA)	7 - 9 (NA)	10 or more (NA)
3272	237 (7.24%)	1150 (35.15%)	1191 (36.40%)	413 (12.62%)	281 (8.59%)

~ QUESTIONS AND DETAILS ~

~ ANSWER MATRICES ~

14. I learned a great deal in this course.

Question Type: Likert
 ~
 contributed by Office of the Provost

Results for CS-2150-103							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.71	0.46	17 (70.83%)	7 (29.17%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 2000-level courses							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3261	4.19	0.89	1379 (42.29%)	1349 (41.37%)	352 (10.79%)	134 (4.11%)	47 (1.44%)

15. Overall, this was a worthwhile course.

Question Type: Likert
 ~
 contributed by Office of the Provost

Results for CS-2150-103							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.62	0.49	15 (62.50%)	9 (37.50%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 2000-level courses							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3257	4.12	0.97	1341 (41.17%)	1271 (39.02%)	403 (12.37%)	169 (5.19%)	73 (2.24%)

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

Question Type: Likert
 ~
 contributed by Office of the Provost

Results for CS-2150-103, Bloomfield, Aaron S.							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.62	0.65	17 (70.83%)	5 (20.83%)	2 (8.33%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 2000-level courses							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3300	4.29	0.78	1444 (43.76%)	1504 (45.58%)	248 (7.52%)	73 (2.21%)	31 (0.94%)

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

Question Type: Likert
 ~
 contributed by Office of the Provost

Results for CS-2150-103, Bloomfield, Aaron S.							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
23	4.52	0.67	14 (60.87%)	7 (30.43%)	2 (8.70%)	0 (0.00%)	0 (0.00%)

Results for SEAS, 2000-level courses							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3303	4.28	0.81	1512 (45.78%)	1345 (40.72%)	336 (10.17%)	84 (2.54%)	26 (0.79%)

18. Overall, the instructor was an effective teacher.

Question Type: Likert
 ~
 contributed by Office of the Provost

Results for CS-2150-103, Bloomfield, Aaron S.							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
24	4.54	0.78	16 (66.67%)	6 (25.00%)	1 (4.17%)	1 (4.17%)	0 (0.00%)

Results for SEAS, 2000-level courses							
Total	Mean	Std Dev	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
3317	4.18	0.96	1481 (44.65%)	1257 (37.90%)	348 (10.49%)	148 (4.46%)	83 (2.50%)

~ QUESTIONS AND DETAILS ~

~ ANSWER MATRICES ~

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

~
Question Type: Short Answer

~
contributed by Office of the Provost

Results for CS-2150-103	
Total	Individual Answers
11	See below for Individual Results

Similar to CS lecture, this is a good way to learn a lot of real world CS skills. you are left on your own a lot, which is okay, but sometimes I think it is unnecessary and there are at times lacking instruction.

Since this review is for the labs I will comment on those. I feel like the in-labs were frequently too long to be done in the lab period but the TA's were very helpful. I liked that we used linux because it has already helped me with job interviews

The lab sections were a good way to both learn and practice the material from the lectures.

Again way too much time a week for a 3 credit. Should be worth 6 or more honestly.

Best class I have taken at UVA. I feel like 2150 stretched my brain and challenged me in a good way. I loved the difficult labs and the satisfaction I got finishing them all on my own. Bloomfield has done an AMAZING job developing this material and the slides.

Great Class

I left many comments in my other evaluation of the course. TL;dr this course plus the lab meant that it should really be considered a 4 credit class.

TA's/instructor very approachable and helpful outside of class. Sometimes, felt like lectures went by too fast.

Great course. Very hard but equally rewarding

The class was very intense but also worth it.

The TA's in lab were quite helpful, and I found that if I stayed in the lab for the whole time, I could complete just about any in lab. The TA's were very helpful both in lab and at office hours.