Virginia Tech
Fall 2020 VT Student Perceptions of Teaching (SPOT)

Course: ECE_4424_92192_202009: Machine Learning-ECE_4424_92192_202009
Instructor: Ming Jin *
Response Rate: 17/35 (48.57 %)

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1 - Please indicate the extent to which you agree or disagree with each of the following statements:

1A - The instructor was well prepared.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	4	23.53%		5.18 (Question)
Agree	(5)	6	35.29%		5.22 (College)
Strongly agree	(6)	7	41.18%		5.13 (Department)

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.18	0.81	5.00	25393	5.22	1.02	5.00	2640	5.13	1.14	5.00

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1 - Please indicate the extent to which you agree or disagree with each of the following statements:

1B - The instructor presented the subject matter clearly.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	1	5.88%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	4	23.53%		5.06 (Question)
Agree	(5)	4	23.53%		5.03 (College)
Strongly agree	(6)	8	47.06%		4.93 (Department)

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.06	1.14	5.00	25245	5.03	1.17	5.00	2631	4.93	1.25	5.00

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1 - Please indicate the extent to which you agree or disagree with each of the following statements:

1C - The instructor provided feedback intended to improve my course performance.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		5.35 (Question)
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		4.92 (College)
Somewhat agree	(4)	4	23.53%		4.83 (Department)
Agree	(5)	3	17.65%		
Strongly agree	(6)	10	58.82%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.35	0.86	6.00	25255	4.92	1.26	5.00	2631	4.83	1.35	5.00

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1 - Please indicate the extent to which you agree or disagree with each of the following statements:

1D - The instructor fostered an atmosphere of mutual respect.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	3	17.65%		
Agree	(5)	2	11.76%		
Strongly agree	(6)	12	70.59%		Question 5.53 College 5.29 Department 5.30

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.53	0.80	6.00	25216	5.29	1.02	6.00	2627	5.30	1.05	6.00

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1 - Please indicate the extent to which you agree or disagree with each of the following statements:

1E - Overall, the instructor's teaching was effective.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	4	23.53%		
Agree	(5)	5	29.41%		
Strongly agree	(6)	8	47.06%		Question 5.24 College 4.99 Department 4.93

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.24	0.83	5.00	25112	4.99	1.22	5.00	2620	4.93	1.28	5.00

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2 - 2A - What did the instructor do that most helped in your learning?

Ming Jin

Response Rate	13/35 (37.14%)

- taught
- Did examples in jupyter notebooks.
- Lectures were well formatted and he communicated very clearly - thank you.
- He was kind and fun, which helped me to be excited for class each week. He understood that events outside of Virginia Tech may make it harder for some students to learn, and gave consideration to that.
- Very good lectures.
- Prof. Jin's lectures are extremely useful and well presented. He is also always open to questions.
- Record and post lectures.
- Without a doubt, Dr. Jin is the best professor at Virginia Tech.
- Lecture notes are clear and consistent.
- homeworks are too hard
- The in class quizzes were good, and the python demos gave me a better idea of how to implement it, rather than just seeing the mathematical aspect of the concepts.
- Cared about students and our understanding
- Dr. Jin was very knowledgeable about the subject and presented it in a manner that made it easier to understand. While machine learning is certainly a difficult topic, Dr. Jin made it manageable.

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3 - Please indicate the extent to which you agree or disagree with each of the following statements:

3A - I have a deeper understanding of the subject matter as a result of this course.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		5.29 / 5.10 / 5.05
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	4	23.53%		
Agree	(5)	4	23.53%		
Strongly agree	(6)	9	52.94%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.29	0.85	6.00	20050	5.10	1.06	5.00	2633	5.05	1.10	5.00

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3 - Please indicate the extent to which you agree or disagree with each of the following statements:

3B - My interest in the subject matter was stimulated by this course.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	1	6.25%		5.13 / 4.84 / 4.77
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	3	18.75%		
Agree	(5)	4	25.00%		
Strongly agree	(6)	8	50.00%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	5.13	1.15	5.50	19933	4.84	1.31	5.00	2618	4.77	1.35	5.00

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4 - 4A - What could you have done to be a better learner?

Response Rate	11/35 (31.43%)

- nothing
- NA
- I could have paid attention more in class.
- I could have started the homework assignments earlier.
- Study more. Be more attentive during virtual lectures.
- To ask more questions, and possibly dig deeper into the different subjects.
- Gain a better understanding on deep learning.
- I should have paid closer attention to lectures, and been sure to rewatch lectures that I missed or couldn't put my full attention toward. I also should have started the homework assignments earlier.
- Taken better notes.
- Participated in class more
- I could have paid more attention in lectures. Often I found myself having to rewatch lectures at a slower pace to catch up on everything, and thus around halfway through the semester I was barely paying attention to lectures as I knew I would have to double back anyway. A defeatist attitude I should have corrected earlier.

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5 - 5A - Please add any additional comments regarding the course and/or instructor here:

Ming Jin

Response Rate	8/35 (22.86%)

• Good professor, but not the best at explaining details other than math. Also, the whiteboard was often hard to read online.

• I think the in-class quizzes were really stressful. I didn't do well on these and was always disappointed when this happened. I think for me I need some time to digest the material before being quizzed on it. I've had other professors give daily quizzes on lecture days where they were due on canvas by the end of the day, and I think this is a much better model for me personally to foster the best learning experience.

• :thumbs_up:

• Very good job.

• Prof. Jin continuously updated the course based on students' feedback, which is really helpful.

• could get around to grading assignments faster

• Very knowledgeable, with an apparent desire to share his passion for machine learning topics.

• Dr. Jin's flexibility regarding due dates was greatly appreciated. His adaptability made completing the course assignments interesting, instead of just rushing to meet a deadline.

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6 - Please indicate the extent to which you agree or disagree with each of the following statements:

I improved my ability to problem solve.

Response Option	Weight	Frequency	Percent
Strongly disagree	(1)	0	0.00%
Disagree	(2)	0	0.00%
Somewhat disagree	(3)	0	0.00%
Somewhat agree	(4)	5	29.41%
Agree	(5)	5	29.41%
Strongly agree	(6)	7	41.18%

Means: Question 5.12, College 5.03, Department 5.01

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.12	0.86	5.00	20019	5.03	1.05	5.00	2627	5.01	1.08	5.00

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6 - Please indicate the extent to which you agree or disagree with each of the following statements:

The textbook or course readings made a valuable contribution to my learning.

Response Option	Weight	Frequency	Percent
Strongly disagree	(1)	0	0.00%
Disagree	(2)	1	5.88%
Somewhat disagree	(3)	1	5.88%
Somewhat agree	(4)	6	35.29%
Agree	(5)	3	17.65%
Strongly agree	(6)	6	35.29%

Means: Question 4.71, College 4.54, Department 4.48

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	4.71	1.21	5.00	19865	4.54	1.41	5.00	2615	4.48	1.44	5.00

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6 - Please indicate the extent to which you agree or disagree with each of the following statements:

The objectives of the course were clearly explained.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		5.24 / 5.08 / 4.98
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	3	17.65%		
Agree	(5)	7	41.18%		
Strongly agree	(6)	7	41.18%		Question / College / Department

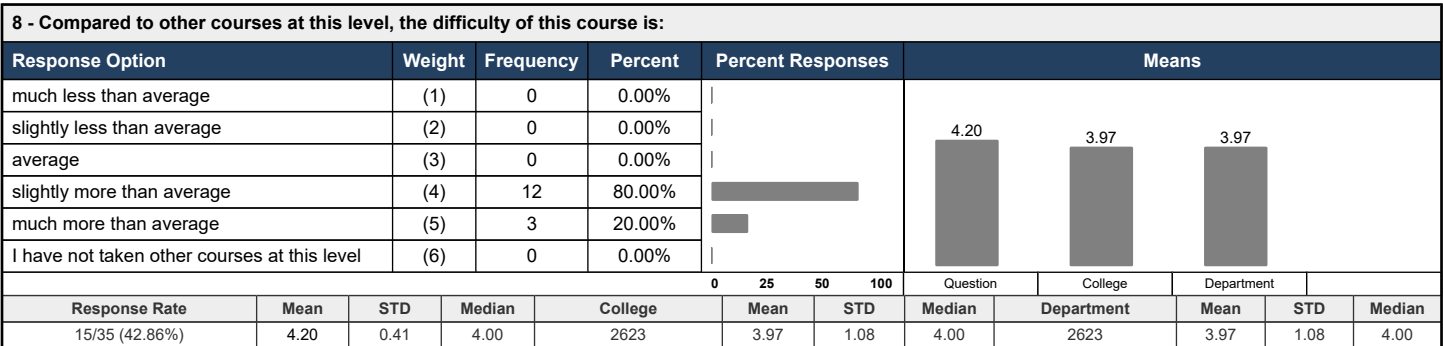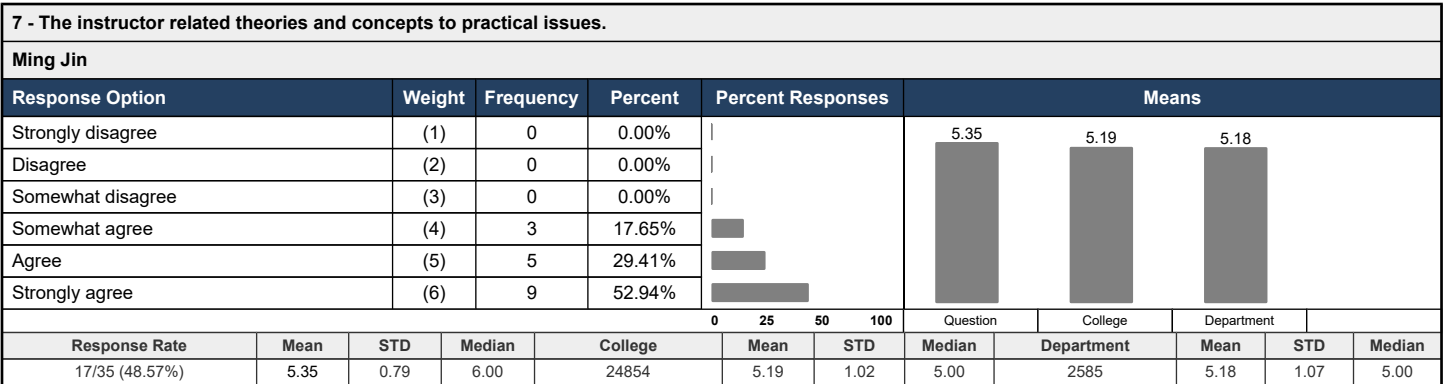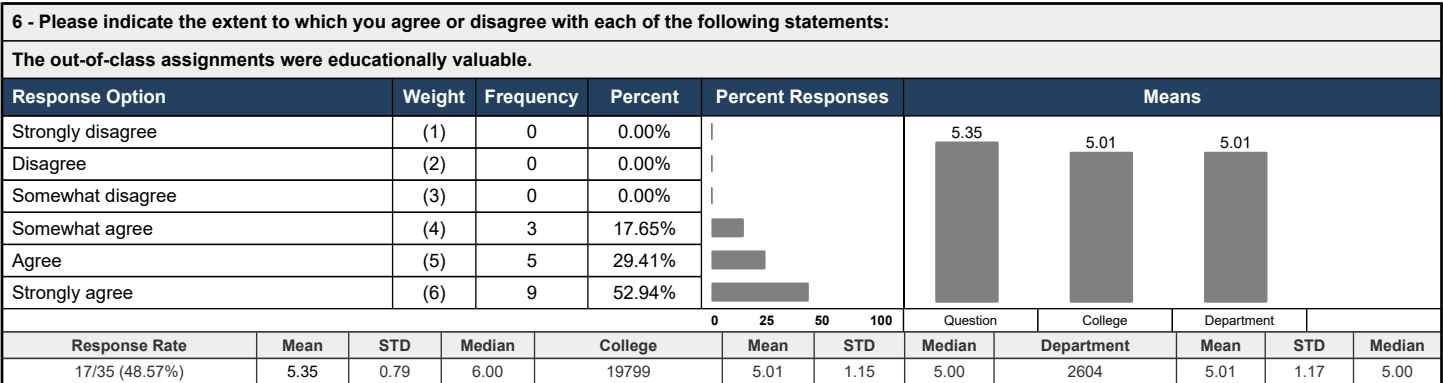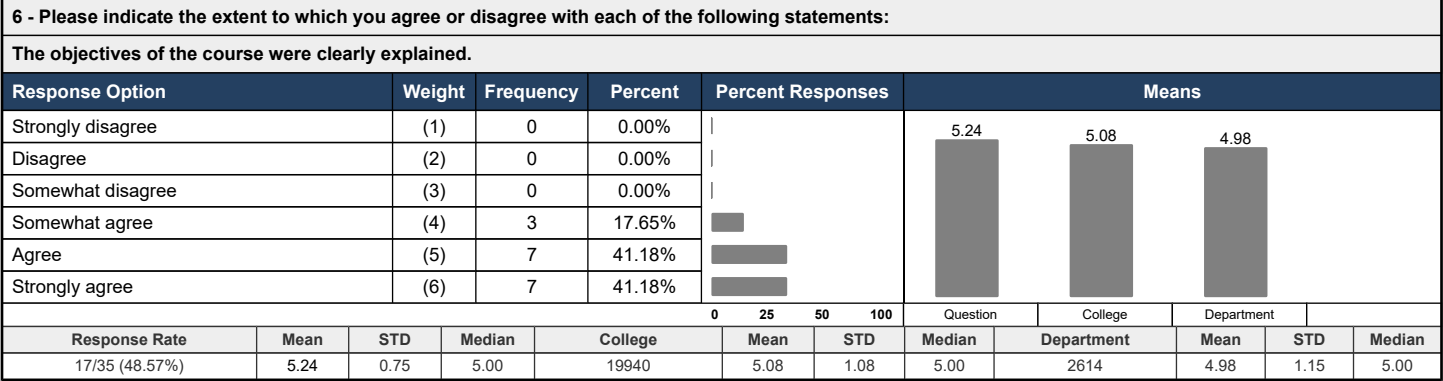| Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.24	0.75	5.00	19940	5.08	1.08	5.00	2614	4.98	1.15	5.00

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6 - Please indicate the extent to which you agree or disagree with each of the following statements:

The out-of-class assignments were educationally valuable.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		5.35 / 5.01 / 5.01
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	3	17.65%		
Agree	(5)	5	29.41%		
Strongly agree	(6)	9	52.94%		Question / College / Department

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.35	0.79	6.00	19799	5.01	1.15	5.00	2604	5.01	1.17	5.00

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7 - The instructor related theories and concepts to practical issues.

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		5.35 / 5.19 / 5.18
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	3	17.65%		
Agree	(5)	5	29.41%		
Strongly agree	(6)	9	52.94%		Question / College / Department

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	5.35	0.79	6.00	24854	5.19	1.02	5.00	2585	5.18	1.07	5.00

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8 - Compared to other courses at this level, the difficulty of this course is:

Response Option	Weight	Frequency	Percent	Percent Responses	Means
much less than average	(1)	0	0.00%		
slightly less than average	(2)	0	0.00%		4.20 / 3.97 / 3.97
average	(3)	0	0.00%		
slightly more than average	(4)	12	80.00%		
much more than average	(5)	3	20.00%		
I have not taken other courses at this level	(6)	0	0.00%		Question / College / Department

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
15/35 (42.86%)	4.20	0.41	4.00	2623	3.97	1.08	4.00	2623	3.97	1.08	4.00

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9 - The grade I expect in this course is:

Response Option	Weight	Frequency	Percent	Percent Responses	Means
not applicable	(1)	1	6.25%		
pass	(2)	2	12.50%		
F	(3)	0	0.00%		
D	(4)	0	0.00%		
C	(5)	2	12.50%		
B	(6)	4	25.00%		
A	(7)	7	43.75%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	5.50	2.03	6.00	2617	6.16	1.11	6.00	2617	6.16	1.11	6.00

10 - Approximately how many hours per week outside of class do you spend on homework, reading, and projects for this course?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
0-2	(1)	0	0.00%		
3-5	(2)	5	29.41%		
6-9	(3)	10	58.82%		
10-14	(4)	2	11.76%		
15 or more	(5)	0	0.00%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
17/35 (48.57%)	2.82	0.64	3.00	2627	3.10	1.07	3.00	2627	3.10	1.07	3.00

11 - At the end of this course, how do I rate my ability to:

Analyze and contrast board classes of machine learning algorithms (supervised vs. unsupervised vs. semi-supervised)

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Poor	(1)	0	0.00%		
Fair	(2)	2	12.50%		
Good	(3)	8	50.00%		
Excellent	(4)	6	37.50%		
N/A	(0)	0	0.00%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	3.25	0.68	3.00	41	3.23	0.80	3.00	41	3.23	0.80	3.00

11 - At the end of this course, how do I rate my ability to:

Describe and apply fundamental concepts of learning from data (maximum likelihood estimation, maximum a posteriori, overfitting vs underfitting, regularization, cross-validation)

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Poor	(1)	0	0.00%		
Fair	(2)	3	18.75%		
Good	(3)	8	50.00%		
Excellent	(4)	5	31.25%		
N/A	(0)	0	0.00%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	3.13	0.72	3.00	41	3.05	0.75	3.00	41	3.05	0.75	3.00

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11 - At the end of this course, how do I rate my ability to:

Explain and program supervised learning algorithms for regression (e.g. least squares via pseudo-inverse)

Response Option	Weight	Frequency	Percent
Poor	(1)	0	0.00%
Fair	(2)	4	25.00%
Good	(3)	9	56.25%
Excellent	(4)	3	18.75%
N/A	(0)	0	0.00%

Means: Question 2.94, College 2.78, Department 2.78

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	2.94	0.68	3.00	41	2.78	0.89	3.00	41	2.78	0.89	3.00

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11 - At the end of this course, how do I rate my ability to:

Explain and program supervised learning algorithms for classification (e.g. logistic regression via gradient descent, support vector machines via Quadratic Programming)

Response Option	Weight	Frequency	Percent
Poor	(1)	0	0.00%
Fair	(2)	4	26.67%
Good	(3)	7	46.67%
Excellent	(4)	4	26.67%
N/A	(0)	0	0.00%

Means: Question 3.00, College 2.72, Department 2.72

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
15/35 (42.86%)	3.00	0.76	3.00	40	2.72	0.89	3.00	40	2.72	0.89	3.00

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11 - At the end of this course, how do I rate my ability to:

Describe and program unsupervised learning algorithms for clustering (e.g. kmeans)

Response Option	Weight	Frequency	Percent
Poor	(1)	0	0.00%
Fair	(2)	6	37.50%
Good	(3)	6	37.50%
Excellent	(4)	4	25.00%
N/A	(0)	0	0.00%

Means: Question 2.88, College 2.73, Department 2.73

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	2.88	0.81	3.00	41	2.73	0.93	3.00	41	2.73	0.93	3.00

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11 - At the end of this course, how do I rate my ability to:

Design and implement a technical project, and apply developed techniques to real-world datasets (images, text, robotics, etc.)

Response Option	Weight	Frequency	Percent
Poor	(1)	0	0.00%
Fair	(2)	3	18.75%
Good	(3)	10	62.50%
Excellent	(4)	3	18.75%
N/A	(0)	0	0.00%

Means: Question 3.00, College 3.00, Department 3.00

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
16/35 (45.71%)	3.00	0.63	3.00	41	3.00	0.75	3.00	41	3.00	0.75	3.00