Virginia Tech
Fall 2022 VT Student Perceptions of Teaching (SPOT)

Course: ME_4584_87342_202209: Robotics Laboratory-ME_4584_87342_202209
Instructor: Dylan Patrick Losey *
Response Rate: 21/24 (87.50 %)

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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.

Dylan Patrick Losey

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)	1	4.76%		5.81 / 5.25 / 5.11
Agree	(5)	2	9.52%		
Strongly agree	(6)	18	85.71%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.81	0.51	6.00	24710	5.25	1.06	6.00	2402	5.11	1.16	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.

Dylan Patrick Losey

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)	1	4.76%		5.71 / 5.07 / 4.84
Agree	(5)	4	19.05%		
Strongly agree	(6)	16	76.19%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.71	0.56	6.00	24533	5.07	1.20	5.00	2388	4.84	1.38	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.

Dylan Patrick Losey

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	1	4.76%		
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	2	9.52%		5.38 / 5.01 / 4.74
Agree	(5)	4	19.05%		
Strongly agree	(6)	14	66.67%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.38	1.20	6.00	24526	5.01	1.25	5.00	2385	4.74	1.40	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.

Dylan Patrick Losey

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		5.81 (Question), 5.36 (College), 5.18 (Department)
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	1	4.76%		
Agree	(5)	2	9.52%		
Strongly agree	(6)	18	85.71%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.81	0.51	6.00	24481	5.36	1.00	6.00	2383	5.18	1.13	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.

Dylan Patrick Losey

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		5.76 (Question), 5.05 (College), 4.81 (Department)
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	1	4.76%		
Agree	(5)	3	14.29%		
Strongly agree	(6)	17	80.95%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.76	0.54	6.00	24389	5.05	1.24	5.00	2372	4.81	1.41	5.00

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

Dylan Patrick Losey

Response Rate	13/24 (54.17%)

- Having a whole team of TAs present allowed us to ask questions throughout the lab and ensure that we were understanding small steps well. We also were able to form teams by choice - it was great to work with friends with a similar understanding of course concepts so that the lab was fun and fair.

- The instructions were well organized and it was very helpful to have the setup on each of the lab documents.

- Dr. Losey provides practice problems that allow us to practice what we learn from the class.

- N/A

- Labs were fun and relevant to the current course material

- Let us into the lab early for the labs that took longer towards the end of the semester, TAs were very knowledgeable and able to help find problems

- See robotics spot survey

- The labs gave us an opportunity to apply what we had learned in class and interact with a real robot.

- All the slide decks were concise and easy to follow even if I missed class. Lots of practice problems with given solutions were great to help with homework and test prep

- Having videos at almost every start of the lecture to help students understand what the materials of the lecture were about. We did not have to try to figure out what these materials would help us or what their applications are in the real world would be.

- Explained the theory behind the labs clearly. Also the GTA's were very helpful and were knowledgeable on the subject matter and common issues with the lab equipment.

- His in class examples and questions

- I thought that these labs were really well thought out. For me, hands on learning is the best kind of learning. I liked how the labs were very in sync with the lecture.

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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%		5.67 / 5.14 / 4.99
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	1	4.76%		
Agree	(5)	5	23.81%		
Strongly agree	(6)	15	71.43%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.67	0.58	6.00	21442	5.14	1.08	5.00	2066	4.99	1.19	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%		5.57 / 4.90 / 4.72
Disagree	(2)	0	0.00%		
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	2	9.52%		
Agree	(5)	5	23.81%		
Strongly agree	(6)	14	66.67%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.57	0.68	6.00	21326	4.90	1.31	5.00	2057	4.72	1.41	5.00

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

Response Rate	10/24 (41.67%)

• I sometimes found the lab material confusing and allowed a team member to work through a question rather than learning it myself. I would contribute more/ primarily on other questions, however, so the labs did feel fair.

• N/A

• I should have spent more time immediately after the class to deepen the material we learn during the class.

• Better lab prep before the actual time slot. I figured this out about halfway through the semester once I got a poor grade on a lab.

• None

• Worked more on the assignments before the day of the lab

• See robotics spot survey

• I could have prepared for the labs ahead of time.

• Gone to the lab earlier at the beginning of the semester to get a bigger head start and made the time constraint less of an issue so I could have focused on the material more than the time.

• I could have prepared some of the code before the lab

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Response Rate: 21/24 (87.50 %)

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

Dylan Patrick Losey

Response Rate	6/24 (25%)

• Some of the labs were barely finished in the provided time. Increasing the lab time by 15-20 minutes would have been helpful.

• It's kind of unfair to have the lab room open way before the lab time is actually started because students who have class right before get there right on time and even then just have to join some random group and its super crowded and they're so much more behind than the other students who get to the lab like an hour before it even starts.

• None

• Lab was quite interesting, and it was invigorating to use the knowledge we had gained from lecture in a physical sense. The only problem I had with it was the implementation of matlab code in the simulink models, often requiring us to write the code for the functions on the fly. This is difficult and time consuming, as we should be spending the lab time implementing and analyzing the effects that the code has on the robot, not writing it the entire time. I often found myself falling behind the other groups in the lab as we spent the majority of each lab debugging each script we had to write, and we were often the last to leave. Simply have the code that is already given to us in lecture pre-written for the labs, and it would be much more interesting

• Great teacher! Looking forward to human robot interaction

• The labs were fun and very interesting but definitely challenging at times. Overall, I would not change the labs.

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6 - 6A - How would you rate the physical environment in which you took this class based upon your ability to see, hear, concentrate, and participate?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Very Bad	(1)	0	0.00%		
Bad	(2)	0	0.00%		5.10 5.20 5.12
Poor	(3)	1	4.76%		
Fair	(4)	6	28.57%		
Good	(5)	4	19.05%		
Very Good	(6)	10	47.62%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.10	1.00	5.00	21272	5.20	0.93	5.00	2051	5.12	1.02	5.00

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7 - 7A - Please add any comments about the physical environment here:

Response Rate	9/24 (37.5%)

• Sometimes the lab benches were crowded and it was hard to move around. Also, the laptops were incredibly slow and frustrating.

• The lab space was small and made it difficult to focus at times.

• The lab space was kind of small for the amount of students in there at once.

• Computers were very slow at times

• A bit cramped and the computers are very old, but it didn't affect learning that much

• The computer was too too too tooo tooo too slow to run the program

• N/A

• The computers in the lab were a major issue. They were very slow and made troubleshooting and iterative work that was required for the lab difficult because they were slow. Also the room we did the lab in was small and cramped for the number of stations required for the lab.

• The lab room was very crowded. It was difficult to find table space to work on the lab.

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8 - 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	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		
Disagree	(2)	0	0.00%		5.38 5.08 5.02
Somewhat disagree	(3)	0	0.00%		
Somewhat agree	(4)	2	9.52%		
Agree	(5)	9	42.86%		
Strongly agree	(6)	10	47.62%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.38	0.67	5.00	21365	5.08	1.04	5.00	2055	5.02	1.09	5.00

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8 - 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	Percent Responses	Means
Strongly disagree	(1)	1	4.76%		4.81
Disagree	(2)	1	4.76%		4.63
Somewhat disagree	(3)	1	4.76%		4.50
Somewhat agree	(4)	2	9.52%		
Agree	(5)	9	42.86%		
Strongly agree	(6)	7	33.33%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	4.81	1.36	5.00	21251	4.63	1.41	5.00	2049	4.50	1.43	5.00

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8 - 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%		5.52
Disagree	(2)	0	0.00%		5.11
Somewhat disagree	(3)	0	0.00%		4.93
Somewhat agree	(4)	1	4.76%		
Agree	(5)	8	38.10%		
Strongly agree	(6)	12	57.14%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.52	0.60	6.00	21306	5.11	1.11	5.00	2043	4.93	1.23	5.00

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8 - 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%		5.19
Disagree	(2)	1	4.76%		5.03
Somewhat disagree	(3)	0	0.00%		4.84
Somewhat agree	(4)	2	9.52%		
Agree	(5)	9	42.86%		
Strongly agree	(6)	9	42.86%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.19	0.98	5.00	21178	5.03	1.18	5.00	2039	4.84	1.30	5.00

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

Dylan Patrick Losey

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly disagree	(1)	0	0.00%		5.45
Disagree	(2)	1	5.00%		5.25
Somewhat disagree	(3)	0	0.00%		5.12
Somewhat agree	(4)	2	10.00%		
Agree	(5)	3	15.00%		
Strongly agree	(6)	14	70.00%		

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
20/24 (83.33%)	5.45	1.05	6.00	24126	5.25	1.01	6.00	2346	5.12	1.14	5.00

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

Program the robot's forward kinematics, inverse kinematics, and Jacobian.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Poor	(1)	0	0.00%		
Fair	(2)	0	0.00%		
Good	(3)	5	23.81%		
Excellent	(4)	16	76.19%		
N/A	(0)	0	0.00%		

Means: Question 3.76, College 3.79, Department 3.79

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	3.76	0.44	4.00	39	3.79	0.41	4.00	39	3.79	0.41	4.00

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

Interact with the robot arm and measure it's joint space and workspace; compare the robot's measured position and velocity to the positions and velocities predicted by the robot's kinematics.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Poor	(1)	0	0.00%		
Fair	(2)	0	0.00%		
Good	(3)	6	28.57%		
Excellent	(4)	15	71.43%		
N/A	(0)	0	0.00%		

Means: Question 3.71, College 3.71, Department 3.71

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	3.71	0.46	4.00	39	3.71	0.46	4.00	39	3.71	0.46	4.00

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

Control the robot arm to track a desired trajectory in joint space and in end-effector space.

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Poor	(1)	0	0.00%		
Fair	(2)	1	4.76%		
Good	(3)	6	28.57%		
Excellent	(4)	14	66.67%		
N/A	(0)	0	0.00%		

Means: Question 3.62, College 3.63, Department 3.63

Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	3.62	0.59	4.00	39	3.63	0.59	4.00	39	3.63	0.59	4.00