

FALL 2016 - Student Evaluation of Instruction Results

MCHE201-001 (23840.20172)

Dear Joshua E Vaughan:

The attached report contains SEI results for: MCHE201-001 (23840.20172)

The evaluation and results are divided into the following question groups:

- Student reported demographic information
- "Thinking about the overall course listed above, please complete the following questions:"
- "Thinking about the instructor listed above, please complete the following questions:" ** Please note, the question text for this section did not print on the report.
- "Please rate the usefulness in this course the following instructional activities."
- "Please rate the usefulness in this course the following activities and resources."
- The Profile displays the responses of this survey in a graphical presentation.
- A compiled list of all open-ended comments submitted for this course.

For each question, the number of students(n) who responded, the average or mean(av), the median(md), and standard deviation(dev) are displayed.

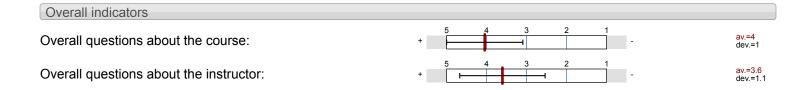
If you have any questions, please contact Melissa Lewis at courseevaluation@louisiana.edu or 482-6863.

Ellen D. Cook, Ed.D., CPA, CGMA Assistant Vice President Academic Affairs, Academic Resources

Joshua E Vaughan

FALL 2016 MCHE201-001 No. of responses = 54 Response Rate: 78.3%







Relative Frequencies of answers Std. Dev. Mean Median Question text Right pole

Scale

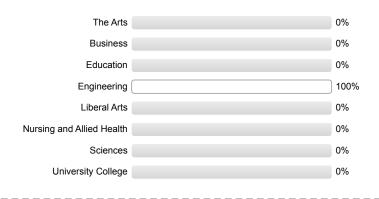
n=No. of responses av.=Mean md=Median dev.=Std. Dev. ab.=Abstention

n=54

n=51

Verify the <u>course</u> and <u>instructor</u> information before starting this survey. Once you submit, you <u>cannot</u> remove or edit your comments.

What is the college of your major?



Histogram

What is your classification?

 Freshman
 0%

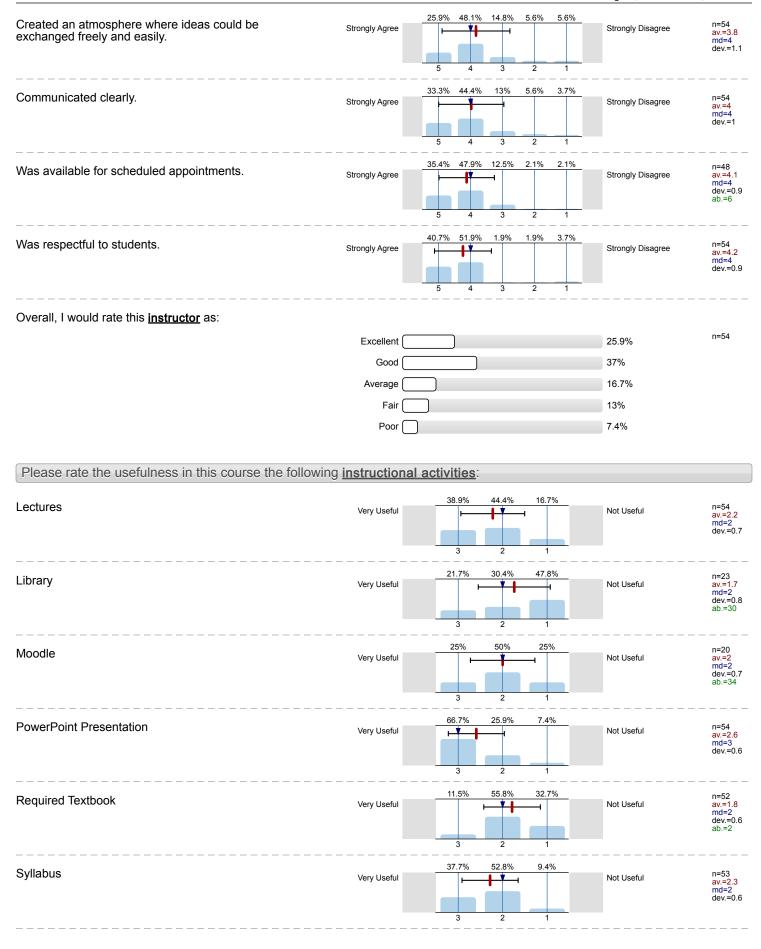
 Sophomore
 3.9%

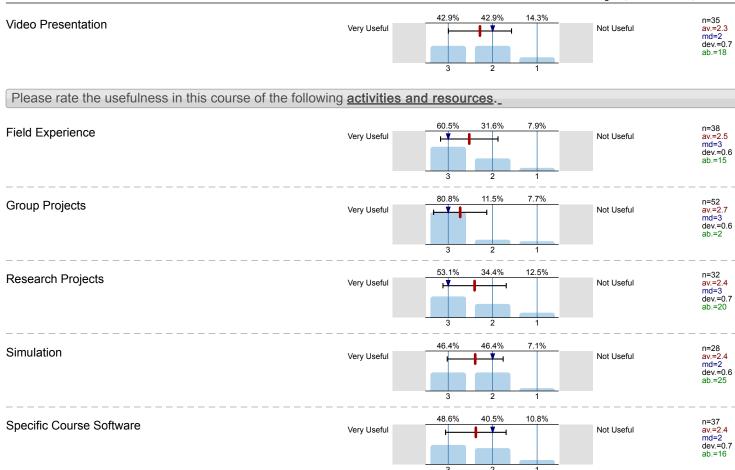
 Junior
 78.4%

 Senior
 17.6%

 Graduate School
 0%

Thinking about the **overall course** listed above, please complete the following questions: 9.3% The course learning outcomes and objectives were n=54 av.=4.1 md=4 dev.=0.9 Strongly Disagree Strongly Agree made clear at the beginning of the course. n=54 av.=3.8 md=4 dev.=1.1 Sufficient instructions on assignments, projects, and/or Strongly Agree Strongly Disagree exams were clearly communicated. 46.3% 13% 31.5% n=54 av.=4 md=4 Assignments, projects, and exams were relevant to the Strongly Agree Strongly Disagree course learning outcomes and objectives. 5 n=54 av.=3.8 md=4 The format/design of this course was conducive to Strongly Agree Strongly Disagree learning. dev.=1.1 55.6% 42.6% n=54 av.=4.5 md=5 This course was challenging. Strongly Agree Strongly Disagree dev.=0.6 Overall, I would rate this course as: n=54 Excellent 27.8% 42.6% Good Average 11.1% 11.1% Fair Poor 7.4% 13% Made appropriate use of illustrations, demonstrations, n=54 av.=4.1 md=4 dev.=1 Strongly Disagree Strongly Agree examples, and/or required materials. 50% 11.1% 11.1% Explained subject matter in a way that I could n=54 av.=3.9 md=4 Strongly Agree Strongly Disagree understand. 9.3% 27.8% 48.1% Provided **prompt** feedback on completed projects, assignments, and tests. n=54 av.=2 md=2 Strongly Agree Strongly Disagree dev.=1.2 18.5% n=54 av.=2.8 md=2.5 Provided **helpful** feedback on completed projects, Strongly Agree Strongly Disagree assignments, and tests.





Very Useful

Very Useful

30%

44%

62%

8%

12%

Not Useful

Not Useful

Student Presentation

Studio Projects

n=50 av.=2.5 md=3 dev.=0.6 ab.=4

n=25 av.=2.3 md=2 dev.=0.7 ab.=27

Profile

Subunit: (MCHE) - Mechanical Engineering

Name of the instructor:

Name of the course: (Name of the survey)

Joshua E Vaughan MCHE201-001 (23840.20172)

Comparative line: College of Engineering - FALL 2016

Values used in the profile line: Mean

Thinking about the <u>overall course</u> listed above, please complete the following questions:

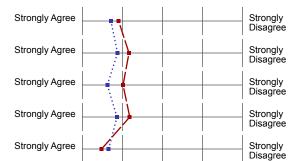
The course learning outcomes and objectives were made clear at the beginning of the course.

Sufficient instructions on assignments, projects, and/or exams were clearly communicated.

Assignments, projects, and exams were relevant to the course learning outcomes and objectives.

The format/design of this course was conducive to learning.

This course was challenging.



n=54 av.=4.1 md=4.0 dev.=0.9
n=1939 av.=4.3 md=4.0 dev.=0.9
n=54 av.=3.8 md=4.0 dev.=1.1
n=1935 av.=4.1 md=4.0 dev.=1.1
n=54 av.=4.0 md=4.0 dev.=1.0
n=1933 av.=4.4 md=5.0 dev.=0.8
n=54 av.=3.8 md=4.0 dev.=1.1
n=1938 av.=4.1 md=4.0 dev.=1.1
n=54 av.=4.5 md=5.0 dev.=0.6
n=1926 av.=4.3 md=5.0 dev.=0.6

Made appropriate use of illustrations, demonstrations, examples, and/or required materials.

Explained subject matter in a way that I could understand.

Provided <u>prompt</u> feedback on completed projects, assignments, and tests.

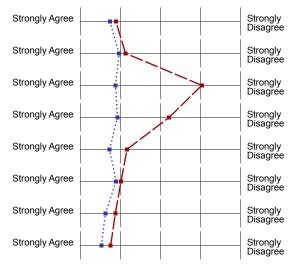
Provided <u>helpful</u> feedback on completed projects, assignments, and tests.

Created an atmosphere where ideas could be exchanged freely and easily.

Communicated clearly.

Was available for scheduled appointments.

Was respectful to students.



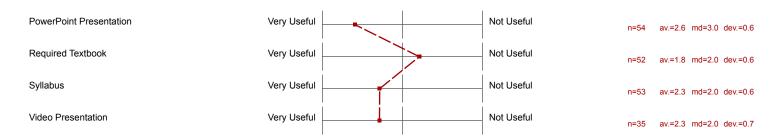
n=54 av.=4.1 md=4.0 dev.=1.0
n=1926 av.=4.3 md=5.0 dev.=1.0
n=54 av.=3.9 md=4.0 dev.=1.0
n=54 av.=2.0 md=2.0 dev.=1.1
n=54 av.=2.1 md=4.0 dev.=1.1
n=54 av.=4.1 md=4.0 dev.=1.1
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n=54 av.=4.3 md=4.0 dev.=1.1
n=54 av.=4.1 md=4.0 dev.=1.1
n=48 av.=4.1 md=4.0 dev.=1.1
n=48 av.=4.1 md=4.0 dev.=0.9
n=1929 av.=4.5 md=4.0 dev.=0.9
n=1929 av.=4.5 md=4.0 dev.=0.9
n=1929 av.=4.5 md=4.0 dev.=0.9

Please rate the usefulness in this course the following instructional activities:

 Lectures
 Very Useful
 Not Useful
 n=54
 av.=2.2
 md=2.0
 dev.=0.7

 Library
 Very Useful
 Not Useful
 n=23
 av.=1.7
 md=2.0
 dev.=0.8

 Moodle
 Very Useful
 Not Useful
 n=20
 av.=2.0
 md=2.0
 dev.=0.7



Please rate the usefulness in this course of the following activities and resources.

Field Experience	Very Useful	Not Useful	n=38 av.=2.5 md=3.0 dev.=0.6
Group Projects	Very Useful	Not Useful	n=52 av.=2.7 md=3.0 dev.=0.6
Research Projects	Very Useful	Not Useful	n=32 av.=2.4 md=3.0 dev.=0.7
Simulation	Very Useful	Not Useful	n=28 av.=2.4 md=2.0 dev.=0.6
Specific Course Software	Very Useful	Not Useful	n=37 av.=2.4 md=2.0 dev.=0.7
Student Presentation	Very Useful	Not Useful	n=50 av.=2.5 md=3.0 dev.=0.6
Studio Projects	Very Useful	Not Useful	n=25 av.=2.3 md=2.0 dev.=0.7

Profile

Subunit: (MCHE) - Mechanical Engineering

Name of the instructor: Joshua E Vaughan

Name of the course: MCHE201-001 (23840.20172) (Name of the survey)

Comparative line: College of Engineering - FALL 2016

Overall questions about the course:

Overall questions about the instructor:



av.=4.0 dev.=1.0 av.=4.3 dev.=1.0

7.=3.6 dev.=1.1 7.=4.2 dev.=1.0

Comments Report

Thinking about the overall course listed above, please complete the following questions:

Please provide any comments about the course in the space below, including ways to improve instruction.

- Added more relevant code lessons to building a robot would be more beneficial. It was very hard not ever looking at code and have an assignment to turn on an LED light to constructing and intricate code to get motors to run and sensors to read.
- Different Teacher. The majority of the assignment were due at the same time followed by periods of inactivity not only was this not conducive to learning it made time management for this class straining. Many assignments were pointless and time consuming. This was further emphasized when the teacher did not bother grading the assignments in a timely matter. The assignments that were not graded in an reasonable amount of time showed a lack professionalism.(Which is 5% of the grade for students) For students to who needed to improve on their assignments they were not given proper feedback other than general statements to the class. If students do not know what they are doing wrong how are they expected to fit with in the absurdly strict criteria of this teacher.
- Dr. Vaughan has a lot going on in his life. And he expects a lot out of his students. Haha. I think that is what he wants, and or is what he is hired to do. I really can not tell.
- Give more reliable equipment to students
- Going into this course I knew it would be tough from what I have heard from students who have taken it before. What they didn't tell me is how much I would enjoy this course. It was the most time consuming yet most rewarding class I have taken so far in my college career. You get to work with people just like you would in the real world and you get a taste of the design process. I found the projects given were very well thought out and I quite enjoyed them. The only improvement I can think of to make the class better would be to somehow provided a bigger workshop or lab area for the students or maybe a place to hold the final competition for the course. This semester we were forced to compete in an unfinished building with a dirt floor. That is probably my only complaint.
- Have the class start on the robot reported earlier (make them due earlier) so they are actually using them and making them after they built the robot.
- I feel like Dr. Vaughan, Expects us to know how to write code and how to use solid works when we have never been exposed to it before.
- I found this course to be overall very informative and an excellent platform for learning. Dr Vaughan does an outstanding job with his lectures, always delivering clear thoughts in a well articulated manner. The course was challenging and rewarding. The only negative that I have, aside from slow grading on reports, was the 3rd mini project. Although it was a great project and interesting, it provided too much work when paired with the final project and also seemed to be slightly thrown in randomly. Without it, the course flows in a somewhat linear fashion, building upon past assignments. I would recommend moving this project to the beginning of the course as this would maintain that linear progression, or simply eliminate it since I feel there is enough course work to drive home the points of the course.
- I think it would be better if we had more time to work on the final project. Maybe skip the Arliss project to allow more time for the final project. Definitely need more classes with programming. This class expects a lot of work. Too many papers and presentations.
- I think more assignmentso focused on programming would have made the students more prepared for the final project. Also lectures of programming were rushed and not thoroughly covered.
- If projects were graded on time and we had more time to complete assignments this class would be perfect. In my opinion you should talk out one of the mini projects and throw in a small homework assignment that way we could have more time to build our robots during the final project.
- Overall the class was pretty good. It's only the fourth semester under this format, so they are still working on it. I would suggest working on the schedule and the groups. Don't feel the time i had with group was enough to provide the best we could. Random groups were ok for first presentation and in class work at the beginning, but truly feel that for later projects working in a group of my choosing would have helped me be more productive. More time on the final project would have been better to, overlapping projects and groups were harder to work with. having that final group together sooner would have helped produce final presentation.
- Overall, i learned much more than expected and the experience from this class is the best I've had out of any class at UL. The hands-on approach is extremely beneficial to learning and i wish we could have done more with the mechatronics kit and maybe some more robotic designs. The group project approach is both beneficial and harmful depending on who you are grouped with. This class took more time than any other class i have ever taken but it was well worth it. I think the grading in the class can be a little harsh especially if your robot does not preform as well as the other robots.
- The class was extremely time consuming because many of us do not have the tools to complete the projects efficiently and quickly. It would help if we had a room with lots of tools and extra supplies to use during class time so we could have the stuff needed and not have to buy it all. It would also help groups who live far from school from meeting inconveniently 4-5 times a week at a location that doesn't really suit everyone in the group.
- The course can be improved by focusing many more class periods to design, construction, and coding of the final projects. Currently these class periods are being used for lectures that can be put up online as an info-graphical resource. By adding more dedicated times for application learning, you cut down on student frustration, and enhance application of skills in the areas of design and construction of a product.

It should also be noted that this design course would benefit heavily from access to a lab. To be an adequate engineering program, it isn't necessary. But, allowing students access to a wider range of materials, space, and tools, will justify holding the entire class to a higher standard of quality; thus improving ULL products.

- The course is structured very poor. It is very unorganized.
- The material learned in this class was very informative and will be useful in various aspects and fields. MCHE-201 gave very descriptive design tools and a design process that is useful in determining how to design something, how to present it, report it, showcase it, and execute it. Tips on presentations and reports were extremely valuable and useful. Dr. Vaughan's lectures were obviously well-prepared for, and easy to understand. I feel if this course had some type of pre-requisite for Solid Works and computer programming, it would make the class better in terms of student performance. In class examples dealt with simple ideas like turning an LED light or reading a pushbutton, then all of a sudden the final project is an autonomous robot that moves, uses motors, and IR sensor, and requires reports and presentations for. I understand this is Mechanical Engineering and this is not an easy major, and I do not expect it to be, but learning how to computer program and generate figures is not quick learning. It takes ample time and effort, which again is expected, but on top of building a robot, other classes, and work or sports, it normally causes a decrease in other class performances because of the required amount of new material. This class could have been made better also by having a better lab to work in while building the robot. It's a great final project that pieces everything together, but there are a lot of student from out of town that don't have access to power tools and materials. Overall this was one of my favorite classes at UL so far; Dr. Vaughan is a professor that will not just provide you the answer, but instead try to point you in the right direction of obtaining it.
- The material was very interesting, however, the information could have been delivered better.
- This course should require less amount of work. The professor doesn't have the time to get grades back, so for the students to be required to do the amount of work assigned, we should get feedback to be capable of progressing in the course.
- This course was very challenging. One of the most challenging parts was time management. This course required a lot of time compared to other classes. The class was very interesting and fun.
- This course, to me, was too much work for a 3 credit course. I would recommend only having 1 or 2 mini projects at the beginning of this course, then proceeding with the final project. The final project involved constructing a robot from scratch, and I think with more time to perform this I would have learned much more, been able to improve my robot more, and most of all I would have had more fun with this project. Overall, I have learned more in this class than almost any other class I have taken here at UL.
- We are given little instructions, no knowledge, no feedback, and no equipment or broken equipment and expected to success in this class. The course is way to much work for only 3 credit hours. I was taking 18 credit hours and this one class was equal to how much work I had in my other 15 credit hours combined.

Please provide any comments about the instructor in the space below, including ways to improve instruction.

- Dr Vaughan was an excellent professor who is up to date with technology and uses it to the benefit of his students. Apart from the slow grading, in which I'm sure there was an excellent reason for, there is nothing anyone should have an issue with as far as his professorship goes.
- Dr. Vaughan could have presented the material better, as well as been more efficient with his time. Instead of waisting several weeks giving long lectures which most of the students didn't understand he could have just made videos and made us watch them. If he did that, he could have been teaching us the coding and programming, which was the toughest and probably most technically useful part of the course. The design tools he presented were supposed to help us, but they seemed only to confuse us more. When we'd ask him questions, he never gave a straight answer and told us to google it; this does not make me feel like my money for tuition is being put to use. He did do a better job of answering our questions towards the end of the course.

He also did not give us feedback in a timely manner. Out of the 4 or 5 presentations we did in the first half of the semester, he barely returned the first presentation 6-8 weeks after we turned it in. The student must do the work and the teacher must do the work; I felt like Dr. Vaughan did not completely hold up his end of the bargain. He didn't appear to perform to the same standards he expected from his students.

Dr. Vaughan also compared his class to Hibbeler's class a few times throughout the semester, which is weird. If he wants to be compared to Hibbeler, he's got a lot of work to do.

With that said, I can understand and appreciate what Vaughan is trying to get us to do. However he could do a better job leading by example and presenting the material in a way that would benefit us. Dr. Vaughan is not a bad guy, there's just a lot of room for improvement.

- Dr. Vaughan has a habit of speaking down to students in the class and this is not conductive to learning. We get that we don't know what your teaching us but that's why you're there is to teach it to us.
- Dr. Vaughan has a lot going on in his life. And he expects a lot out of his students. Haha. I think that is what he wants, and or is what he is hired to do. I really can not tell.
- Dr. Vaughan might catch a bad wrap sometimes, but I thought it was a great instructor. He has provided an atmosphere where students are challenged to think of solutions and go through a design process just like in the real world. I find that most other teachers simply feed you information and you just take a exam to test your knowledge. In this class, Dr. Vaughan simulates real problems you might encounter

in your career. The infamous Final Project he assigns to students on the back half of the semester was the most rewarding experience I have had in college. Don't get me wrong, it took up a lot of my time, but it was a nice change to be able to see all the hard work your putting into something progress before your eyes. When you put that much time into something and you see it succeed, it is very rewarding. And through the whole process Dr. Vaughan does his best to help guide you and answer questions you undoubtedly will have. It gives a completely fair workload, despite what some might say, as long as you actually stay up with the work and not wait till the deadline to start. My only complaint is feedback on assignments. I understand it takes time to review so many assignments and give helpful feedback, but it would be helpful to receive it in a more timely manner. Dr. Vaughan was awesome. Keep up the good work and thanks for a great semester!

- Dr. Vaughan was a very professional and fun professor. Lectures were informative, but I would recommend covering coding a lot more than we did. Also, the lecture we discussed patents was one of my favorites. Not only because of the interesting videos but because the topic was interesting as well and It was very easy to pay attention to.
- Good instructor, but vary vague with help or answers to students questions. Offered little help to a solution. Expected students to either know the answer to their own question or figure it out on their own.
- His grading is a little slow and we are constantly turning in reports and presentations every week but we don't have feedback from the previous reports, and we will make the same mistakes and get the same points deducted from our future reports. Dr Vaughn is very professional and respectful, he is a great person and is helpful if you gather the courage to ask him a question. He makes you think about what you need to do and hints without flat-out giving you an answer, it helps you understand your problem better.
- I think there was too much work put on this instructors back because it always seemed like he was working hard on everything but nothing ever seemed to get back to us. I would get emails at 2 and 3 in the morning from the instructor as he was working to get us what we needed, but we never seemed to actually get the work back.
- If he had gotten evaluations of assignments back sooner the course would have been much better.
- Joshua Vaughn is doing everything he can to foster thinking power in these engineering students. The course is designed so that we can perform under our own power, and that framing will cause Vaughn to receive many negative comments here. I believe that the class teaches a fundamental lesson to many of the students, and it is CLEAR both who rise to the challenges encountered, and who get by riding the wake of the former.

Vaughn can benefit from learning to present the answers to questions posed in class in a more direct fashion, otherwise, the class does what it is designed to do and that is all that matters.

- Only reason why Dr. Vaughn didn't get an excellent is the lack of returned assignments. There has been very little feedback.
- Prompt report and presentation feedback is important for success in a class that is solely based on reports and presentations. We received feedback on our first report, that was due in September, at the beginning of November and nothing on the four other reports written throughout the semester. This makes it is incredibly difficult for one to know what steps they need to take to improve on his/her report writing and impossible to know ones standing in the class.
- Terrible at answering question to help with understanding. He taught the class as if we were experienced at designing instead of teaching as if we are just learning. We did not get graded material back in time to even evaluate how we are doing in the class.
- The feedback on reports and presentations were due to the fact of being involved with ARLISS and ROBOTX at UL. Not only this but building the track for our final project, so while this was upsetting, it's understandable.
- The instructor was very clear on his expectations. I feel that he did a great job at teaching this classes. The only improvement that would greatly help the students is the time period in which he returned the grades. It was hard to make changes when I didn't know what I did wrong.
- The majority of this class time was spent by the teacher talking about how great his achievements were and made claims about the "real world of engineering." Which he had no real experience in and has not even taken the FE or PE exam for engineers. This teacher's misfitting clothing and pompous dictatorial attitude resembles that of Kim Jong Un and is a constant reminder to students of what America stands against. At least Donald and Hilary's suits fit them. The creative design tool "House of Quality" was claimed to be incredibly useful and common among high paid engineers. Most Real-Engineers (some millionaires and CEOs) when asked about the "House of Quality" expressed massive amounts of disdain or blissful ignorance of this impractical design tool. The excel design tool template that was provided for students did not work and when this teacher was asked for advice on how to use it he responded "Google is your friend." If Google offered a degree in Engineering I would have paid googled the \$1200. This teacher could be very good if he listened to his students adjusted the course and spent more time on a few select projects rather than multiple assignments. The spaghetti tower was a useful challenge allowing student to practice writing instructions. The dissection assignment was interesting and gave students insight into design for practical everyday products. The final Robo X competition was enjoyable. However, if more time was allowed for the competition students would be able to design much more creative and possibly useful designs. Also they should be forced to battle each other at the end of the competition. Why spend so much money on football when robot fighting is way more entertaining.
- The website that Dr. Vaughan used for this class was awesome. He posted that days lecture audio and power point to the website so I was able to review as I needed. He also provide plenty of resources so that some of the class work was easier.
- This is the worse teacher I have had at UL. He really does not care about the students. He gave very little details on what was expected and how to do things. If you asked him a question of what was expected he would say to look at the hand out. If it wasn't on the handed and you asked him he would say he will think about it and get back with you. He would never get back with you answer the question even if you asked again. If you had a question on how to do something he would say to google it and if you did would google said he would mark it wrong. He makes the class way to much work for the credit hours. He also never gives back assignments so we don't have the

feedback we need to not make the same mistake again. It is almost the end of the semester and we have 80% of our work turned in a we have gotten only one paper which is 10% graded and given back. The other 70% we do not even know a grade on. He keeps telling us we are make the same mistakes but doesn't tell us what so we keep making them. His no feedback makes the course even more work and harder to pass which is why nobody gets an A.

- Vaughan is a good professor. The problem with this course is that it is incredibly time intensive. The projects take days to prepare, and with the weight of other courses, it becomes overwhelming. I think maybe pushing this course up one semester will help many students out when talking about the time that this course requires.
- When you have a class that is based upon reports, it is expected to give grades on the reports so students can change and improve their work as the semester progresses. It is the end of semester and we have literally only received one graded report back. He also emailed us multiple times saying the reports are graded and we should expect them shortly; yet again, never received any reports.

Please rate the usefulness in this course the following instructional activities:

Please list any other instructional activities used in this course. Indicate each activity as: Very Useful, Somewhat Useful, or Not Useful.

- Audio recording of the lecture very useful Personal class website - very useful
- Audio: Very Useful

Links to Supplemental Materials: Very Useful

- Course Website: Very Useful
- Course website, very useful
- Crawlab was used instead of moodle
- Dr. Vaughan used his own website to post needed information the students would need. It was the most useful tool for this course in my opinion.
- HIs outlines where extremely helpfull
- Teacher made website Somewhat Useful
- The Class Website is a mass of information and is way better than if he were to use moodle. He also records his lectures and posts them on the website with the powerpoints.
- The lectures were only supposed to take up 50 minutes of the beginning of class but instead took up to 3 hours. At the end of the lecture it was really hard to care about the Loads of useless information that was presented to students. More time should be spent on actually learning and practicing the tools and devices given to the students. Also the book was not bad it is a shame it was not actually used for the course
- The litany of links to relevant work on his website, and the github was extremely helpful in this class.

Please rate the usefulness in this course of the following activities and resources.

Please list any other activities and resources used in this course. Indicate each as: Very Useful, Somewhat Useful, or Not Useful.

- Group projects only really allowed for students to plagiarize the work of their team getting credit for tasks they did not take part in. The software that was introduced in class is useful software and easy to use more time should have been spent practicing using the software. Student presentations required a paper, a power point, and a video. Even though students were able to accomplished these tasks. Many of these tasks overlapped with other assignments and required students to multitask for one class.
- I also think it was very unprofessional that our final project was held in the parking garage. We working timeless amount of nights and hours on the robots; yet, it seems he couldn't take the time to make sure something was booked to host the event. It made the engineering department as well as UL look very poorly and unorganized. I was embarrassed to invite my family and friends. I wish I had more positive opinions to rate this class but this class definitely needs to be restructured as well as rethought of as a sophomore level mechanical engineering class.
- It was hard to complete some projects because of lack of resources. As college students, it is hard to have access to different tools. A tool shop for students would be helpful for this course.
- Really feel that having the groups and all presentations lead up to the final could really benefit the final contest, could really produce so awesome projects for the contest.
- The group projects as I have explained in the other section were my favorite part of this course. I love working with people and solving real life problems which is exactly what they did. Very useful in portraying the design process.

- The group projects help for me as a student to work with people of different temperaments, talents, and convictions and since we cannot pick our groups, its realistically similar to the real world job environment. The Amount of presentations and projects are a little harsh but looking back at it now, it wasn't too bad.
- This course requires mainly group work. A new group is assigned for each project that is given. It is a team building course, but to have to recoordinate schedules with a different group every two weeks in unbelievably difficult. A suggestion to help this, would to be assigned one or two different groups throughout the semester. Even letting students choose their own groups would be an option, due to the fact that some assigned groups have one student that does all the work while the others get their grade.