

Final Course Evaluation Results

Dear Math 293 Summer Students ;

On the first day of class, I mentioned that I received a grant from the Dean of Undergraduate Engineering to introduce three teaching methods to Math 293: (i) Maple TA pre-class assignments, (ii) the Hyper-Interactive Teaching Tool (the clicker), and (iii) weekly quiz corrections. I need your feedback in order to complete my research on the effectiveness of these three teaching methods. Please take 10-15 minutes to complete my course evaluation for Math 293.

With great appreciation,

Professor Morrison

Math 293 Final Course Evaluation

1. On average, how many hours per week did you spend on this course, including attending class, doing homework, maple TA assignments, reviewing notes and any other course related work?

17.4 hrs \pm 5.9

2. What grade do you expect to earn in this course?

A, 17% A-, 33.3% B+, 27.8% B, 17% B-, 5.6%

3. Please indicate your agreement with each of the following statements.

Stongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

I always attended class.	3.6 \pm 0.6
I was always prepared for class.	3.1 \pm 0.5
When I attend class, I was actively engaged.	3.1 \pm 0.8
I stayed up-to-date on course work.	3.6 \pm 0.5
I sought help when I needed it.	3.3 \pm 0.5

4. If you sought help, what people or resources did you use?

Professor, friends and the internet were the most common responses.

5. Please indicate your agreement with each of the following statements.

Stongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

I learned useful terminology.	3.5 ± 0.5
I learned a variety of solution methods.	3.6 ± 0.5
I learned fundamental principles of DEQs.	3.7 ± 0.5
I learned to apply course material, (problem solving, critical thinking).	3.4 ± 0.5
I learned to be resourceful.	3.0 ± 0.6
I gained a greater appreciation for this field of study.	3.4 ± 0.5
I understood how different parts of the course fit together.	3.5 ± 0.5

6. Please feel free to write any comments you have related to your learning in the course.

I learned best through lecture.

It was engaging and mentally stimulating.

Clickers were a good idea since it kept me awake.

I was a big fan of the clickers and Maple TA.

The use of the technology in this course enhanced my learning b/c it complemented the topics.

I feel that the continuous learning (Maple TA and hmwk) was good, though sometimes I needed more time to fully digest the applications.

7. Rate the performance level of your instructor on each of the following teaching procedures or behaviors.

Stongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

Displayed an interest in student's learning	3.8 ± 0.4
Provided a clear explanation of the course requirements	3.6 ± 0.6
Provided a clear explanation of the learning objectives or goals of the course	3.6 ± 0.5
Provided feedback that helped students to improve their performance	3.6 ± 0.5
Scheduled course work (class activities, quizzes, homework) in ways that helped and encouraged students to stay up-to-date in their coursework	3.8 ± 0.5
Demonstrated the importance and significance of the subject matter	3.6 ± 0.5
Used examples to illustrate concepts	3.7 ± 0.6
Explained subject matter of the course	3.9 ± 0.3
Designed quizzes that covered the important concepts of the course	3.9 ± 0.3
Designed maple TA assignments that covered the relevant concepts of the course	3.6 ± 0.6
Designed clicker questions that covered the relevant concepts of the course	3.9 ± 0.3
Showed respect for all students	3.9 ± 0.3

8. Overall, how would you rate this instructor's teaching? 5.7 ± 0.5

- (6) Excellent
- (5) Very Good
- (4) Good
- (3) Fair
- (2) Poor
- (1) Very Poor

9. Rate each of the following resources or activities in terms of their **usefulness** to your learning in this course.

Not at All (1) Somewhat (2) Very (3) Extremely (4)

Teaching Assistant: First Half	1.8 ± 0.9
Teaching Assistant: Second Half	1.6 ± 0.8
Textbook	2.2 ± 0.8
Maple TA Assignments	2.5 ± 0.6
Clicker Questions	3.0 ± 0.6
Homework Assignments	3.4 ± 0.7
Quiz Corrections	3.1 ± 0.9
Lectures	3.9 ± 0.3
Class Discussions	2.6 ± 0.7
Computer Workshop	2.4 ± 1.0
Matlab Simulations	2.1 ± 0.8
Blackboard	2.9 ± 1.0

10. The difficulty level of the course was: 2.2 ± 0.5

- (4) Very Easy
- (3) Somewhat Easy
- (2) Somewhat Difficult
- (1) Very Difficult

11. The pace at which the instructor covered the material during the course was: 2.1 ± 0.3

- (4) Very Slow
- (3) Somewhat Slow
- (2) Somewhat Fast
- (1) Very Fast

12. How would you rate the overall quality of this course? 3.8 ± 0.4

- (4) Excellent
- (3) Good
- (2) Fair
- (1) Poor

13. Please indicate your agreement with each of the following statements.

Stongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

I was more likely to attend lectures because of the clicker.	2.1 ± 0.9
I believe that I was more actively engaged in class lectures because of the clicker.	2.9 ± 0.7
Finding out the correct answer promptly was important to me.	3.2 ± 0.7
Understanding how my classmates answered questions is important to me.	2.9 ± 0.5
I believe that the corresponding discussion with my adjacent classmates was valuable.	2.9 ± 0.8
I believe that the corresponding discussion with the professor was valuable.	3.6 ± 0.5
I believe that the use of polling systems in this course has enhanced a sense of community with fellow classmates.	2.5 ± 0.9
I believe that the use of polling systems in this course has enhanced my learning of the course material.	2.7 ± 1.1
I believe that the Maple TA assignments helped me prepare appropriately for class.	3.1 ± 0.6
I believe that the quiz corrections I completed in this course enhanced my learning of the course material.	3.4 ± 0.7

14. Please feel free to write any comments regarding the materials, activities, difficulty or pace of the course.

I feel as though this is my first cornell course in which the professor clarified concepts explained within the textbook as opposed to the textbook deciphering the professor's notes.

It seemed like there were a lot of Maple TA assignments, but the clickers were useful (when they worked); I believe the clickers were useful and enriching but it did not influence my attendance in class.

I think the course moved at a good pace for the difficulty until the end. A little more time in FS would have been nice; The Friday quizzes made me do better in the course, since it forced me to constantly study. It was a good pace, but we could have learned a bit more.

I did not like the textbook. I appreciated the instructor's emphasis on NOT the grade, but on the importance of the material. She replied quickly to emails. Overall, the course was much better taught than Math191/192 b/c there was more interaction.

It was a challenging class. The material was the most interesting I have learned so far. Test corrections have helped me learn the most from the material.

I really liked the way this course was taught. Even though it's actually a pretty hard course, the instructor really did a good job explaining all the concepts and using appropriate examples to help us understand the material, even though this sometimes lead to wordy notes.

The pace of the course was good, enough time to teach a topic well but not exhaust it. I wish we had more time so that we could cover more topics! The quizzes were essential for me staying connected and proficient in the material. Also, the Maple TA assignments provided a great motivation to prepare for class. The structure and format of this course were outstanding, certainly one of the best math classes I have ever taken!

The problem is taking DEQs every single day without any chance of breathing. This course shouldn't be taught in the summer. If the professor wasn't as enthusiastic as Prof Morrison, the course would have been unbearable.

I feel that the supplemental learning tools were useful in keeping me engaged in the class, which quickly isolated gaps in my learning. This was important to me since I often think I understand a concept, but generally my first thought can be wrong.

The value of the clicker questions is definitely in finding out the answer immediately and discussing why the answer is correct. It is particularly valuable to have a follow-up question for any given question. Credited quiz corrections is a wonderful idea. They provided me the necessary incentive to re-visit and reconsider my answers, as well as an opportunity to demonstrate and be rewarded for effort and desire to do well, which is always more than welcome.

This was one of the most organized and engaging classes I have ever taken. The use of technology really allowed the students to become active learners. The Maple TA assignments always ensured that I would in some capacity be prepared for class. The clicker questions allowed me to gauge my own mastery of the material and helped the professor more readily assess what the class was and wasn't understanding.