

The lowest average response scores, were those pertaining to the students themselves. In this case, question 2, 4, 5 had scores of 4.53, 4.40, and 4.40 respectively. Question 4 is “I actively participated in class discussions,” which along with question 5, “I attended scheduled office hours if I had questions about the course materials,” both being equal in value, tied for the lowest response score. What I deduce from this is that the students had opportunities, but may have not felt compelled to fully take advantage of them. Modern IBL learning is still new to many students and they are in the process of making adjustments to this new style. Students who tend to be more reserved take a bit more time to adjust to an active learning style. One thing I am working on is calibrating the groups and making sure to mix them up with new partners so that they can get exposure to working with students at differing levels. Question 2 states “I was academically prepared to handle the material.” This particular question had the third lowest response score at 4.53. Nonetheless, calculus is a difficult subject and I aim to challenge my students regardless of their background.

I found this course to be an overwhelming success as witnessed by the response averages and student comments. Considering the amount of IBL used in this course as well as the extensive lab work, I think I have found a new standard for teaching my calculus courses.

2.2.2 Math 345A Fall 2012

Math 345* A,B Differential Equations I, II The theory of first-and second-order ordinary differential equations including their series solutions, introduction to Laplace Transforms with applications, including the solutions of differential equations, systems of ordinary linear differential equations, introduction to Fourier Series and integrals with applications, difference equations, partial differential equations with applications, introduction to the boundary and initial value problems and their applications. Also other selected topics in ordinary and partial differential equations depending on the particular emphases of the students in the class. Prerequisite: 242. Two semesters, 3 credits each.

I have taken differential equations courses at both the undergraduate and graduate level and have taught several different courses on differential equations at UCLA and UCI. This is the first time teaching this course at Whittier. The main goal for this course is two fold: 1. understand the qualitative theory of differential equations and 2. the intimate connections between the theory with both the associated computations and resulting applications. In short, without the theoretical understanding, one could not begin to look into applications. With this in mind, I tailored the course around this principle. I also utilized a Modified Moore Method for this course. Active learning was a good component of the class time, but given the amount of material to be covered in a short span, I would mix lecture with student in class work that consisted of active learning exercises. Grading was based on Active Learning (15%), HW (25%) (due every 2 weeks), a take home midterm exam (25%), and an in class final exam (35%). The active learning component consisted of in class exercises and a class presentation. For the in class student presentation, both the student giving the presentation was graded on knowledge, ability to explain the material to the class coherently, and ability to

Table 2: Math 345A, Fall 2012, 10 Students

Evaluation Questions	Average Response
I. Student Self-Evaluation	
1. I attended class regularly.	4.90
2. I was academically prepared to handle the material.	4.70
3. I came prepared for each class session (i.e. have read all course readings and completed assignments).	4.60
4. I actively participated in class discussions.	4.50
5. I attended scheduled office hours if I had questions about the course materials.	4.22
6. I tried to relate course material to other things I know and/or study.	4.80
7. I worked to my full potential in this course.	4.60
8. I was satisfied with my performance in this course.	4.50
9. I had a strong desire to take this course.	4.50
II. Course	
10. This course had clear goals and objectives.	5.00
11. This course was academically challenging.	5.00
12. This course offered useful learning tools.	4.90
13. This course had grading criteria that were clearly identified.	4.80
14. This course improved my understanding of the material.	4.90
15. This course increased my interest in the subject matter.	4.80
16. Overall, I would recommend this course to others.	4.80
III. Professor	
17. The professor used class time effectively and demonstrated preparation for class.	5.00
18. The professor's teaching style and/or enthusiasm for the material strengthened my interest in the subject matter.	5.00
19. The professor was able to explain complicated ideas.	5.00
20. The professor challenged students to think critically and/or imaginatively about the course material.	5.00
21. The professor provided clear and timely feedback.	4.30
22. The professor encouraged meaningful class discussions.	4.90
23. The professor was receptive to differing views.	4.89
24. The professor was available for help outside of class.	4.70
25. Overall, I would recommend this professor to others.	5.00

answer questions from the class. During the presentations, the class was also graded on their ability to ask insightful questions and to find any mistakes from the presenter.

From the student comments, they seemed to really enjoy the class. In fact, they wanted more active learning. If I teach this course again, I think I would have more group and board work to satisfy this request. Perhaps up the amount of student presentations to 3 total and adjust the class format to consist of 25% lecture and 75% in class exercise work. Overall, the class was an overwhelming success. I do like having the take home midterm with 50% back. I had some comments from my colleagues that the 345A students were working diligently for many many hours on both the take home midterm and the subsequent re-do. The whole point was to get them working hard and thinking about mathematics. Simple things like this particular style of exam for upper division students seemed to work well.

In Table 2, the course evaluation scores are displayed. Seven of the questions pertaining to the course and professor had an average response of 5 out of a possible 5. In particular, from question 20: “The professor challenged students to think critically and/or imaginatively about the course material,” I obtained a 5/5 average response score. My key goal was to get them to think on this level and to not only internalize the methodology of differential equations, but to think of real world applications. One particular math major ended up doing her senior thesis on modeling zombie populations using DE’s which was inspired from a class active learning exercise based on this very topic. One of the lowest response scores was for question 21: “The professor provided clear and timely feedback.” The score for this was 4.3/5. One possible explanation of this can be attributed to how the homework was due every two weeks. This in turn would take another 1-1.5 weeks to grade resulting in a 3-3.5 week full turnaround from assignment listed to full grade. One solution, which I will implement in the future, would have 2 installments per assignment, each due on a weekly basis. Another alternative would be to simply switch to a weekly HW format.

2.2.3 Math 079 Spring 2013

MATH 079 Quantitative Reasoning is a course that is generally taken by students not majoring in science or mathematics in order to fulfill the COM1 Liberal Education requirement. In the Spring 2013 semester I taught two sections of MATH 079. The course catalog description follows:

Math 079 Quantitative Reasoning This course is designed to help students develop their ability to create, analyze, and communicate quantitative and scientific arguments. It will emphasize critical thinking and problem-solving skills while also giving students practice in computation and symbolic manipulation. Topics to be covered include elementary linear equations, polynomial modeling, working with and understanding graphs and graphical presentations, and elementary probability and statistics. These topics will be presented in the context of applications and models from various disciplines. (Not open to those who have had 81, 85, 139A, or 141A. Does not satisfy the prerequisite for MATH 81 or 85 or PSYC 314.) Prerequisite: 74 or 76, or sufficient score on Math Placement Exam. One semester, 3 credits.