

# ANNUAL FACULTY REVIEW, 2014

Faculty Member's Statement

Doug Bullock

Department of Mathematics

---

## TEACHING

### Course Load

Spring 14:	Math 170-001, Calc I	4 credits	40 enrolled
Fall 14:	Math 170-001, Calc I	4 credits	32 enrolled
Fall 14:	Math 170-014, Calc I	4 credits	25 enrolled

### Issues from 2013 Evaluations and Proposed Actions for 2014

The only significant concern from 2013 was that the active learning structure I use in Math 170 was not as well received by my Fall class I would have liked. Some potential contributing factors were identified — none of which was the course structure itself.

The proposed response was to leave the course structure as is, but attempt to mitigate or avoid the factors identified as likely causes of dissatisfaction in that one semester.

### Actions Taken in 2014 and Observed Results

In 2014 it was possible to avoid all of those factors. All 2014 Calculus classes were well received and successful.

### Recap and Review of 2014 Evaluations

Full results are linked in Digital Measures. A summary of numerical results, including comparisons to Math 170, all MATH, and all COAS benchmarks, is available on the next page. Response rates in both courses were over 80%, so this is fairly robust data.

<b>Spring 2014</b>	<b>Math 170</b>		<b>n = 33 of 40 (83%)</b>		
<b>Question</b>	<b>Max</b>	<b>My score</b>	<b>M170</b>	<b>MATH</b>	<b>COAS</b>
Prepared	5	4.88	4.6	4.4	4.5
Fostered learning	5	4.76	4.4	4.2	4.4
Clear assessment plan	5	4.70	4.3	4.2	4.3
Clear objectives	5	4.73	4.4	4.2	4.4
Class organization	4	3.97	3.6	3.4	
Effective use of time	4	3.85	3.5	3.4	
Clear presentation	4	3.73	3.4	3.2	
Student questions	4	3.48	3.5	3.4	
Critical thinking	4	3.94	3.7	3.5	
Grading system	4	3.91	3.6	3.5	
Feedback	4	3.70	3.3	3.0	
Homework returned	4	3.45	3.6	3.4	
Fairness	4	3.76	3.6	3.5	
Classroom atmosphere	4	3.76	3.5	3.3	
Assignments	4	3.76	3.5	3.3	

<b>Fall 2014</b>	<b>Math 170</b>		<b>n = 49 of 55 (89%)</b>		
<b>Question</b>	<b>Max</b>	<b>My score</b>	<b>M170</b>	<b>MATH</b>	<b>COAS</b>
Prepared	5	4.59	4.3	4.3	4.4
Fostered learning	5	4.39	4.1	4.1	4.3
Clear assessment plan	5	4.33	4.1	4.1	4.2
Clear objectives	5	4.33	4.2	4.2	4.3
Class organization	4	3.71	3.5	3.3	
Effective use of time	4	3.69	3.3	3.3	
Clear presentation	4	3.29	3.1	3.1	
Student questions	4	3.59	3.4	3.4	
Critical thinking	4	3.86	3.5	3.4	
Grading system	4	3.88	3.6	3.5	
Feedback	4	3.49	3.2	3.0	
Homework returned	4	3.65	3.6	3.4	
Fairness	4	3.69	3.5	3.5	
Classroom atmosphere	4	3.61	3.3	3.2	
Assignments	4	3.60	3.3	3.2	

Numerical scores are, I think, very good. I see nothing to comment on or respond to. There was extensive and illuminating commentary in the long answer sections. Two consistent themes emerged from the collected responses.

1. Students were strongly aware of the active learning structure. Many students were able to articulate specific benefits. In contrast to previous semesters, comments in favor of active learning considerably outweighed statements that expressed a preference for direct instruction.
2. However, many students suggested adjustments that could make the active learning process more successful. By far the most common suggestion was for direct answers to questions posed by students already engaged in an active problem.

This is astute. It is clear that:

- My response in such situations is nearly always to redirect the student back into a line of inquiry that could lead to their own knowledge creation.
- This is frustrating for students, so direct answers would provide a more satisfying experience.

What is less clear is whether direct answers would deliver more learning. While it is generally accepted — even by students, in this evaluation cycle — that the inquiry approach leads to deeper learning, I suspect there are also lost opportunities when the frustration level is too high or occurs too frequently.

### **Proposed Actions for 2015**

- The ideal response to the 2014 evaluation information is to revise the course structure and course materials so that the inquiry process proceeds successfully via facilitation, rather than direct instruction. Since I will not teach Math 170 in 2015, this will be addressed in ongoing work with the team of instructors who have adopted this course design.

- I will teach Math 175 instead, beginning the transition of Math 175 into an active learning course. Since there is no possibility of having a polished inquiry structure in place for 2015 I will have to be aware of the need for direct instruction and, when it arises, be more willing to provide it.
- It is clear that this process of review and response to evaluation data must occur on a semester-to-semester basis, and more immediately after evaluation data are available. I will begin every semester reviews at the conclusion of the Spring 2015 term.