

ANNUAL FACULTY REVIEW, 2009

Faculty Member's Statement

Doug Bullock

Department of Mathematics

TEACHING

Course Load

Spring 09: Math 170, Calculus I

Fall 09: Math 175, Calculus II

Issues from 2008 Evaluations

1. Slight problems with out of class availability.
2. Slight problems with course structure and preparedness.

Solutions Proposed in 2008 Statement

1. Structure my schedule to include some posted office hours.
2. Limit myself to teaching courses that I can deliver with minimal demands for preparation. Further reduce my time commitment by team teaching.

Actions Taken During 2009

1. Included one weekly office hour in my schedule. Also did more to encourage students to see me by appointment.
2. Taught only Calc I and Calc II. Team taught both courses with Billy Hudson, who shared much of the exam writing and some other course preparation chores.

Results Observed After 2009

1. Significantly fewer comments about lack of availability. Office visits by appointment are up somewhat. However, the numerical score for “Available out of class” remains the lowest of my evaluation scores and is only slightly improved from 2008 to 2009. I expect that this is the best I can hope for given the time constraints imposed by being chair.
2. No comments about lack of structure or preparedness. Numerical score significantly improved, from 1.63 to about 1.15 (averaged across all of 2009).

Review of 2009 Written Evaluations

I have evaluations from both semesters. There are only two issues that were prominent enough to consider as thematic concerns. In the spring course several students said that exams were quite difficult, and that homework was not weighted highly enough.

I concur with the first. During the spring class I observed that I was not gathering useful information from the harder problems on my exams. Time pressure appeared to keep even the stronger students from demonstrating their skills on the more complex problems, which then showed up in my grade distributions as fewer than expected A's and more than expected B's. This led to the decision to give 100 minute exams in the fall. Both complaints disappeared from my fall evaluations.

The second point is one that I am unlikely to adjust at this time. The weighting of homework should (1) incentivize completing assignments, (2) allow students to accumulate points in a format that is probably easier than an exam points, (3) not overly incentivize external assistance on graded assignments. I believe that my current policy of weighting homework equal to one exam is appropriate. I also suspect that this complaint was somewhat tied to the perception of difficult exams. Both complaints disappeared when I shifted to a longer exam format.

Review of 2009 Numerical Evaluations

Spring 09, Calculus I

Question	Respondents	Average
1. Organized and prepared	31	1.19
2. Clarity of expression	31	1.16
3. Encourages critical thinking	31	1.06
4. Respect for questions	31	1.16
5. Available out of class	31	1.61
6. Clear objectives	31	1.16
7. Value of homework	31	1.32

Fall 09, Calculus II

Question	Respondents	Average
1. Organized and prepared	26	1.12
2. Clarity of expression	26	1.19
3. Encourages critical thinking	26	1.31
4. Respect for questions	26	1.12
5. Available out of class	26	1.62
6. Clear objectives	26	1.23
7. Value of homework	26	1.31

I am quite happy with these numbers, particularly the rebound on item 1 from 2008 to 2009. Item 5 remains lower than the others. As remarked above, I do not believe that in my current position I can influence this much.

Proposed Actions in 2010

1. I made one mid-year change based on spring evaluations: lengthened exams. This seems to have successfully addressed the concerns raised in the spring. I have no further changes planned for 2010 that are direct responses to information from 2009 evaluations.
2. I plan to change my homework grading policy somewhat. Limitations on my time mean that I can only grade a tiny amount of student work each week. I suspect that some students respond by working only on this, neglecting the majority of the assigned (but ungraded) homework. In the fall of 2010 I intend to require students to turn in all homework

problems and have a student grader award a score for the number of problems attempted and/or completed. I will continue to grade a minimal amount of work myself.

RESEARCH/CREATIVE ACTIVITY

Research on the effects of using ALEKS has stalled except for the formality of extending the IRB protocol. However, the project is not abandoned and has received some external funding as part of a large NSF grant to support retention in STEM fields.

The three papers mentioned in last year's statement have each moved up one notch in the pipeline. The accepted paper was published in a peer reviewed proceedings. Both submitted papers were accepted for publication, also in peer reviewed proceedings. I presented both of these papers at the 2009 ASEE annual conference.

Grants

- *Idaho Science Talent Expansion Program*, **D. Bullock**, J. Callahan, J. Guarino, S. Shadle, D. Wilkins. Funded by NSF. Total award \$1,000,000.

Publications

- J. Callahan, S.Y. Chyung, J. Guild, W. Clement, J. Guarino, **D. Bullock**, C. Schrader, *Enhancing Precalculus Curricula with E-Learning: Implementation and Assessment*, ASEE Annual Conference & Expo, Pittsburgh, PA AC 2008-1703 (2008).

Articles Accepted for Publication

- **D. Bullock**, J. Callahan, A. Alhgren, C. Schrader, Y. Ban, *The Implementation of an Online Mathematics Placement Exam and its Effects on Student Success in Precalculus and Calculus*, ASEE Annual Conference & Expo, Austin, TX AC 2009-1783 (2009).

- J. Callahan, S.Y. Chyung, J. Guild, K. Bridges, **D. Bullock**, C. Schrader, *Improving Students' Learning in Precalculus with E-Learning Activities and through Analyses of Student Learning Styles and Motivational Characteristics*, ASEE Annual Conference & Expo, Austin, TX AC 2009-1783 (2009).

Conference Presentations

- **D. Bullock**, J. Callahan, A. Alhgren, C. Schrader, Y. Ban, *The Implementation of an Online Mathematics Placement Exam and its Effects on Student Success in Precalculus and Calculus*, ASEE Annual Conference & Expo, Austin, TX AC 2009-1783 (2009).
- J. Callahan, S.Y. Chyung, J. Guild, K. Bridges, **D. Bullock**, C. Schrader, *Improving Students' Learning in Precalculus with E-Learning Activities and through Analyses of Student Learning Styles and Motivational Characteristics*, ASEE Annual Conference & Expo, Austin, TX AC 2009-1783 (2009).

PROFESSIONALLY-RELATED SERVICE

- Referee for *Pacific Journal of Mathematics*.
- Science Competition Day (scoring only, no committee work).
- Chair, Math Department.