

Motivating Students and Increasing Success Using Student Contracts

George Woodbury
College of the Sequoias
Visalia, CA
georgew@cos.edu

My Grading Policy

- MML Homework 8.3% (1 per Section)
- MML Quizzes 8.3% (2 per Chapter)
- Pencil & Paper Exams 50% (1 per Chapter)
- Final Exam 33.3%

My Contract With My Students

- Any student who meets the following criteria will have the option of completing a final cumulative assignment instead of taking the final exam. In such a situation, the student will keep the grade that they had before the final.

Criteria for Contract

- Perfect scores on all MyMathLab homework assignments
- MyMathLab quiz average of at least 80%
- No more than 2 absences
- Exam average of at least 70%

Contract Grading

- MML Homework: 12.5%
- MML Quizzes: 12.5%
- Pencil/Paper Exams: 75%

Grading

	No Contract	With Contract
MML HW	8.3%	12.5%
MML Quizzes	8.3%	12.5%
Exams	50%	75%
Final Exam	33.3%	X

MyMathLab Homework

- Homework is assigned for each section we cover.
- Students are allowed to work each problem until they get it correct.
- There is a deadline for each assignment.

MyMathLab Quizzes

- There are two quizzes – one for the first half of the chapter and a second for the second half of the chapter.
- Students get two attempts at each quiz.
- Highest score of the two attempts count.

Pencil & Paper Exams

- Students take an exam at the end of each chapter that we cover.

So, How'd It Go?

- Starting Population: 54 Students
- Retention: 49 Students (90.7%)
- Success (A - C) : 37 Students (68.5%)

A Little Perspective

	Fall 2007 My Class With Contract	Spring 2007 My Classes No Contract	Fall 2007 Campus Wide
Pass	68.5%	49.4%	48.3%
Fail	22.2%	36.5%	33.8%
Drop	9.3%	14.1%	17.9%
Retention	90.7%	85.9%	82.1%

Comparison To Prior Semester Test Averages

Average	Fall '07 With Contract	Spring '07 No Contract
A	35%	12%
B	39%	21%
C	12%	36%
D	8%	9%
F	6%	22%

Comparison To Prior Semester

Success Rate, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	83%	74%
Test 2 – Radicals	79%	55%
Test 3 – Quadratic	80%	62%
Test 4 – Functions	76%	61%
Test 5 – Exp./Logs	71%	36%
Test 6 – Conics	94%	92%

Comparison To Prior Semester

Percentage of A's, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	44%	30%
Test 2 – Radicals	42%	20%
Test 3 – Quadratic	35%	24%
Test 4 – Functions	41%	21%
Test 5 – Exp./Logs	33%	12%
Test 6 – Conics	92%	76%

Comparison To Prior Semester

Mean Score, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	83.0	77.6
Test 2 – Radicals	79.6	67.6
Test 3 – Quadratic	79.7	73.8
Test 4 – Functions	81.0	71.8
Test 5 – Exp./Logs	75.0	58.3
Test 6 – Conics	93.1	88.5

Comparison To Prior Semester

Median Score, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	86	80.5
Test 2 – Radicals	84.5	75
Test 3 – Quadratic	87	75.5
Test 4 – Functions	85	76
Test 5 – Exp./Logs	85	66
Test 6 – Conics	99	96.5

Comparison To Prior Semester

Homework Average (Semester)

Fall 2007 With Contract	Spring 2007 No Contract
93.5%	80.7%

Benefits

- Students remediate themselves.
- Students learn proper notation.
- Students form bonds with classmates.
- Students work ahead.

Benefits

- Students put in an enormous amount of time and effort.
- The average time spent on homework and quizzes per student:
 - Test 1: 6 hours, 46 minutes
 - Test 2: 8 hours, 20 minutes
 - Test 3: 10 hours, 40 minutes
 - Test 4: 12 hours, 37 minutes

Benefits

- Students learn where their “issues” are and ask for help.
- Students do their homework the way we want them to – they want to make sure they understand before it’s time for the quiz.

So, How Do Students Feel About This Approach?

- They like it – they really like it!
- I gave a survey to 50 students in attendance late in the semester.

How Much Time/Effort Compared To Last Math Class?

Much Less	1
Slightly Less	2
Same	9
Slightly More	15
Much More	23

Has The Grading Policy Affected Your Time/Effort Devoted To This Class?

Not At All	2
	0
Somewhat	6
	8
A Lot	34

How Much Has Using MyMathLab Increased Your Understanding?

Not At All	0
	1
Somewhat	16
	8
A Lot	25

How Has Your Performance On Exams Been As You Expected?

Much Worse	4
Slightly Lower	6
Same	13
Slightly Higher	15
Much Higher	12

If You Were To Take The Final Exam, What Grade Would You Expect?

A	6
B	22
C	19
D	2
F	1

Changes In Semester 2 (Spring 2008)

- 2 Intermediate Algebra Classes
- Minimum Test Average: 80%
- SLO Checkpoint Quizzes: 90% Average
- SLO End-of-Course Assessment: 75%

Semester 2 (Spring 2008)

- 22 out of 72 Students Met Original Criteria
- 17 Passed SLO End-of-Course Assessment and Skipped Final
- 3 Passed SLO End-of-Course Assessment and Took Final (90%, 84%, 76%)
- 2 Failed SLO End-of-Course Assessment and Took Final (71%, 54%)

Semester 2 (Spring 2008)

- Starting Population: 85 Students
- Retention: 87.1% (Sem. 1: 90.7%)
- Success (A - C) : 56.9% (Sem. 1: 68.5%)

Semester 1 vs. Semester 2

	Fall 2007 (Semester 1)	Spring 2008 (Semester 2)
Pass	68.5%	56.9%
Fail	22.2%	30.2%
Drop	9.3%	12.9%
Retention	90.7%	87.1%

Comparison To Prior Semester

Homework Average

Fall 2007 (Semester 1)	Spring 2008 (Semester 2)
93.5%	85%

Changes In Semester 3 (Fall 2009)

- 2 Intermediate Algebra Classes
- Minimum Score on Final Exam to Pass Course: 70%
- Minimum Score Drops by 2% For the Following:
 - MML HW: 100%
 - MML Quizzes: 85%
 - SLO Checkpoint Quizzes: 85%
 - Minimum Test Average: 80%
 - (* 2% bonus for all 4 – Minimum Score 60%)

Questions or Comments?

George Woodbury

georgew@cos.edu

<http://georgewoodbury.com>