Memo (revised 1/27/09)

To: Math Faculty and Administrators
From: Dr. Ellen O’Connell
Re: Fall exam results
Date: January, 2010

I have completed all the analyses for the final exam results for the past Fall 2009. Please consider the following as you read the results:

1) **How did your section fare compared to the other sections at the same level? How did your section compare to the average of all students who took that exam?**

2) **Are you engaging in grade inflation?** How does your average grade assigned compare to the performance of your class? Each of these categories is ranked on the attached tables. Ranking for each should be similar.

3) **Review the most frequently missed questions. Are these topics which you covered in detail?** Perhaps your students need additional time/assignment on these topics.

4) **Of particular concern for me this semester is the low number of student taking the exam in some sections.** Please review your completion rates relative to the initial enrollment. If your rate is below 50%, you should absolutely consider some new strategies for student success. This is going to be our objective for this academic year.

This past Fall 2009, 1455 students were tested in our arithmetic/algebra skill building courses of 045, 055, 085, 096, 110, 111, and 122. In Fall 2008, 1360 students were tested. This now gives us a measure of student competency, and helps significantly as we try to assess our strengths and weaknesses. Results are below. Please note the increases in student retention! As the number of students completing a class increases, there is a tendency for the average score to drop slightly because it is no longer just the survival of the fittest. This now gives us a new charge to maintain/increase retention efforts while improving success and competency. In most cases, the average score also rose. Good Work!!!
MAT 045
428 students (Great! 26% increase !!)
(339 in Fall 2008, 332 Fall 2007, 254 Fall 2006, 260 Fall 2005)
Average raw score Fall 2009 – 38.2 (Nice increase and significant too.)
Average raw score Fall 2008 – 36.6
Average raw score Fall 2007 – 36.8
Average raw score Fall 2006 – 36.3
Average raw score Fall 2005 – 36.0

MAT 055
480 students  (Terrific increase for this class – 24%)
(387 in Fall 2008, 362 Fall 2007, 406 Fall 2006, 388 Fall 2005)
Average raw score Fall 2009 – 36.9  (Steady is good considering the increase in numbers taking the test)
Average raw score Fall 2008 – 36.8
Average raw score Fall 2007 – 36.9
Average raw score Fall 2006 – 36.4
Average raw score Fall 2005 – 35.9

MAT 085
299 students
(307 in Fall 2008, 237 Fall 2007, 250 Fall 2006, 198 Fall 2005)
Average raw score Fall 2009 – 35.1 (Back on track)
Average raw score Fall 2008 – 33.3
Average raw score Fall 2007 – 36.9
Average raw score Fall 2006 – 36.3
Average raw score Fall 2005 – 34.6

MAT 110
125 students (Slight decline)
(140 fall 2008, 117 Fall 2007, 109 Fall 2006, 97 Fall 2005)
Average raw score Fall 2009 – 36.2 (Down slightly from our all time high)
Average raw score Fall 2008 – 37.5
Average raw score Fall 2007 – 35.1
Average Raw score Fall 2006 - 33.3
Average Raw score Fall 2005 - 35.9

MAT 111
77 students
123 students in Fall 2008
48 students in the Spring 2008
Average raw score Fall 2009 – 33.7 (Super increase in achievement!!)
Average raw score Fall 2008 - 29.8
MAT 122
46 students
52 students in Fall 2008
Average raw score Fall 2008 – 38.7 (Slight (good) increase)
Average raw score Fall 2008 – 37.6

Excellent work!! I am sure we were helped by an increase in enrollment too, however, that was not 26%. I am very happy to see the number of MAT 045 students completing the course has continued to remain comparable to the higher number of Fall 2007. Previously, the number of students taking MAT 045 had been in decline. We will continue to focus on completion and retention. Retention and success is the action plan of our department. There was over a one-and-a-half point increase in the overall average raw score. The score and completion rates indicates that incorporation of MyMathLab has helped improve both retention and success. Last Fall was not a fluke result. One notable achievement was the high average score of one of the online sections.

MAT 055 also showed a slight increase in raw score. However, there was a 24% increase in the number of students taking the final exam. There is often a drop in score as the volume of students increases. The raw score held nicely. Also, it was great to see one of the online sections had the highest average. Nice work.

We had a 3% drop in the numbers of students taking the MAT 085 exam. However, this exam had a terrific increase - this is a wonderful result. That has to be our target for the upcoming year. We need both retention and success. We are now structuring our classes to utilize every asset of MyMathLab to ensure student success and competency in these classes. Good job!

The MAT 110 exam showed an OK semester. There was a slight decline from our all time high. We need to keep our focus on success, retention and completion.

This was the second Fall for the departmental final exams in both MAT 111 and MAT 122. The results in MAT 111, one of our more challenging courses for students, improved significantly. However, student number decreased from last Fall in MAT 111 and this helps account for the higher scores. Now our objective is retention and completion. Enrollment was also unexplainably down in MAT 111.

The MAT 122 students had a good score for the second Fall semester for this final exam. This is a small but important course enrollment of career students.

Attached you will find a copy of the results for each section. I have listed below the most frequently missed questions for each exam. All questions listed were missed by at least 50% of the students taking the exam. If you are teaching one of these sections in the upcoming semester, please make note of those topics that presented the most difficulty for students.
MAT 045 in order of “most frequently missed”.

#35 Percent word problem
#36 Percent word problem

Much better than previous semesters

MAT 055 in order of “most frequently missed”.

#27 Zero exponents
#25 Point-slope equation of a line
#35 Divisions of polynomials
#33 Square of a binomial
#18 X-intercept of a line
#21 Slope of a vertical line

MAT 085 in order of “most frequently missed”.

#43 Removing an imaginary number from the denominator
#35 Simplifying and adding unlike radicals
#21 Solving for a variable in a multivariable formula

If you are teaching a MAT 085 class this semester, please pay special attention to these topics.

MAT 110 in order of “most frequently missed”.

#37 Log equations
#43 Equation of a parabola
#45 Equation of an ellipse
#50 Graph a system of inequalities

Over half the students missed the above questions. If you are teaching MAT 110, be sure this is one of you concentrations in the course. I am concerned that some classes are rushing through this material. Pacing is extremely important.

MAT 111 in order of “most frequently missed”. The ones listed were missed by at least two-thirds of the students.

#43 Simplifying trig expressions
#44 Complete a trig identity
#19 Synthetic division
#46 Solve a trig equation
#24 Log equation
#34 Equation of a hyperbola
It is obvious that the Trig is presenting the greatest problem here. We really need to pay more attention to these topic and be sure that there is sufficient time allocated for the trig in MAT 111.

**MAT 122 in order of “most frequently missed”**.

- #25 Rounding accuracy
- #37 Scientific notation
- #19 Converting to percent
- #46 Convert radians to degrees
- #44 Volume of a figure
- #34 Solve a linear equation

Let’s try to reduce these numbers. I appreciate all the efforts of our faculty! I do think that our policy for an “A” or “B” only with 35 minimum has been very effective. **Right now, a student needs 30 or better on the final exam to get a “C” grade or better. Remind your students of this policy.**

Use this assessment opportunity to seek ways to improve your own teaching. I hope you have a good semester.

**REMEMBER TO FOCUS ON RETENTION AND STUDENTS’ SUCCESS**