

## Math Departmental Meeting / March 23, 2017

Meeting time: 10:30am – 12:45 pm

People Present: Talwinder Chetra, Chris Noffsinger, Erika Noffsinger, Mukta Sharma, John Sterverson, and John Thoo

### Discussion on Multiple Measures:

- Talwinder brought in a flyer with how the CSU's are determining college readiness.
- CSU's look at the following to see if students are ready to be placed into college level Math and English courses.
  - o Looking at ACT / SAT score
  - o What math courses the student took
    - If students took a AP Calculus or AP Statistic course they can automatically enroll in a college level course
    - If student took an approved math course their entire senior year and passed it with a C or higher they could enroll in an appropriate college level math course.
- Discussion on how the math department wants to see happen with placing students into the appropriate classes.
  - o We all agreed that if a student took the appropriate math courses through high school, took math their senior year and passed it with a C or higher that the student should be allowed to enroll in the appropriate college level course without taking the placement exam. This is only if they are coming directly into Yuba College the year after high school graduation.
  - o We all agreed that we need to decide how to measure where students should be placed if they took some time off between high school and college or are a re-entry student. Should these students have to take the placement exam? Should they be able to place into a certain level math course given what courses they took, grades.

they got? Should how long they been away from math determine where they should be placed?

- Talwinder said that he would look into how the CSU's are placing students coming in with 1 year off school and will inform us on what they do.

#### Discussion on Student Learning Outcomes:

- We went over the SLO questions and results from Fall 2016 for math 111, math 50, and math 52. For each SLO question we:
  - o We discussed the results.
  - o We discussed if the question was an appropriate level for that course.
  - o Did the question fit the SLO criteria that we want our students to know coming out of a particular course.
  - o We discussed if putting the SLO question on the final is appropriate or should we be assessing our SLO during a test or quiz during the semester.
  - o Hand out SLO questions at the beginning of the semester and have individual instructors put in a test or quiz instead of the final
  - o We talked about the actions we wanted to take if the results were not satisfactory and what we wanted to do if we got the results we were looking for. We decided if we got the results we wanted that we would communicate that the outcome was met and to continue to spend the time they are spending on that topic if their students satisfactorily met the criteria. If a particular instructor sees that their students didn't make the criteria that they need to emphasize that topic more in their class.

- Results for Math 111 SLO questions:

- Simplifying a polynomial – question  $(2x^3 - 3x^2 + 2x - 1) - (5x^3 - 4x^2 + 2)$ 
  - Approximately 58% satisfied the SLO
  - We all thought this was an appropriate question and our Math 111 students should be able to do this leaving Math 111.
  - Students problem – ignoring the distributive property of the negative sign.
  - Plan of action, Suggestions to improve the result:
    - Have students rewrite the second polynomial as the sum of the opposite instead of as a subtraction problem.
    - Spend a little more time on sign change with adding polynomials.
    - Email Math 111 instructors and let them know that they need to stress and maybe spend more time on subtraction of polynomials.
- Solve  $5x - 13 = -3x + 11$ 
  - Approximately 81% satisfied this SLO question
  - We think this an appropriate math 111 question.
  - We were pleased with the results
  - Let math 111 instructors know that this SLO result was satisfied but if their results didn't meet satisfaction to look at spending more time on this topic.
- Simplify  $(-2x^3y^{-2})^2$ 
  - Approximately \_\_\_\_\_ satisfied this SLO question
  - Plan of action \_\_\_\_\_

- Results for Math 50 SLO questions:
  - Simplify  $(-xy^2)^{-1}/(2x^3y^{-1})$ 
    - Approximately 43% satisfied this SLO question.
    - Why such low results:
      - Is this question too hard for Math 50?
      - Was the grading scale a problem for this problem?
        - We all agreed that the students would have difficulty with the negative coefficient and the negative exponent, just missing this piece would make the student get at most a 2 out of 3 points.
      - Should we be using multiple questions for one Student Learning Outcome?
      - Maybe the students would of done better on this problem if it was in a chapter test versus the final.
        - Should we try putting the same question on a chapter test/quiz and the final and see if there is any difference in these results?
    - Plan of action: Use a little simpler problem if we are going to use this type of problem on the final versus a chapter test/ quiz. We will send the results to everyone to view.
  - Word Problem SLO question:
    - Results: approximately 70 % satisfied this SLO question
    - We were all pleased with this result. We know that our students usually have difficulty solving application problems.
    - We think it helps that students spend a whole chapter concentrating on different types of word problems in our math 50 class.
    - Plan of Action: Keep doing what we are doing
  - Long Division SLO question
    - Results: \_\_\_\_\_
    - Plan of Action: \_\_\_\_\_

- Results for Math 52 SLO questions:

- Perform the following operation and simplify the rational expression

$$\frac{2x-12}{12x} \cdot \frac{4x}{x^2-2x-24}$$

- Results: Approximately 80 % satisfactory satisfied this SLO question.
  - We were pleased with the result
  - We thought that this one didn't have very complicated factoring and this is why our students could have done so well on this problem.
- Performing operations with radicals.  $\sqrt{6x}(\sqrt{3x} + \sqrt{6})$ 
    - Approximately 77% satisfied this SLO
    - We were pleased with this result
  - Property of Logarithms:  $7\log_5 x + 3\log_5 y - 2\log_5 6$ 
    - Approximately 58% satisfied this SLO result
    - Why so low?
      - This problem was isolated from other log and exponential types of problems
      - Someone commented on the result analysis that they have a problem with being able to get to logs in this course.
        - The whole department thinks this is an issue.
          - We need to make sure that everyone is spending enough time on exponentials and logs because they are very important in sub-sequential courses.
          - Maybe instructors need to cover this material sooner in the course, so this is not a problem.
    - Action: We cut out conic sections, except for vertical parabolas, in math 52 starting Fall 2017, this should give more time to concentrate on logs and exponentials.

### Program Student Learning Outcomes:

- Math 111, 50 and 52 have been revised. These revised courses will start in Fall of 2017. We will need to reassess these courses.
- We are okay and pleased with the data for the upper level courses.
- We need to put together program SLOs this year. We decided to go back and pull data from 4 semesters ago. Talwinder will send John the excel sheets and John will go into Trac-dat and pull and compose the data for us.

### Miscellaneous Topics:

- Chris is going to bring the following to the senate:
  - o YC jumps on board and try to be part of the pilot schools to try WASC instead of SLOs. This is something that all of the California Community Colleges will be doing down the line.
  - o Getting support for the offline 500 building on Yuba College campus to become a math building.
- Distance education for math courses is not very effective.
- If they make it mandatory in all online courses for students to take exams online versus onsite, should the math department discontinue all online math courses? We agreed that this is not good for math and that we should get rid of all online math courses.