**SLO Course Analysis Form**

The focus today is on Assessment Results and How to improve our courses. Looking at the Annual Program Update, which we recently had to submit as a department, we had to answer some tough questions about our SLO assessments. These questions were phrased in the exact language that the ACCJC uses when we need to report our SLO work as a college. Their focus now is on change. What are we changing, based on our assessment results? What kinds of changes do we require from our institutions, based on our assessment results? Today we are meeting to reflect on what we can do to improve our courses and what kinds of changes should we be making. This form is to help lead that discussion and document our efforts.

Any suggestions on how to improve this discussion are welcome (please email Kathy).

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| What course are you looking at? | Math 201 |
| Number of faculty participating in dialog? | # of Full-time Instructors: 3 # of Part-time Instructors: 4 |
| Which SLO(s) are you focusing on? (Many courses only looked at one SLO last semester. If you did more, then choose what you think will be most interesting and/or what you think is most important or look at all results, if there is time) | SLO #1: Graphs – Interpret and create graphs.SLO #4: Rational Equations – Translate and solve application problems involving rational equations.  |
| **Assessment Results:**Summarize the results from the department for fall 2014What student’s needs/issues were revealed as a result?Are there areas where student performance is outstanding?Areas where student performance can be improved? | For both SLO#1 and SLO#2, 57% of the participating students successfully met the standards for the SLO.Instructors felt that there is a need to provide students with a clearer idea of a structured assessment process, so that when doing the SLO question on a test/quiz students behave in a way that is more conducive to our efforts in gathering useful data for assessing our teaching approaches.N/AClearly graphing continues to be an area where our Math 201 students (and/or our teaching approaches) fail to live up to expectation. In addition, the topic of rational equations poses another challenge toward the end of the semester. |
| **Next Steps In the Classroom to Improve Student Learning:**How might student performance be improved?Go through the list and highlight what items faculty felt would help them address the needs and issues that were revealed by the assessment. | * Provide students with a sample question as an assignment, along with the rubric to be used, so that they have a clearer idea as to what to expect. This way, students have more incentive to attempt the real SLO question, making it possible to gather more useful data for pinpointing the part our students have difficulty with.
* The above need should also be addressed at the departmental level in SLO assessment planning. Specifically, SLO questions and rubrics to be used for a semester should be designed before the end of the previous semester so that all instructors are able to take them into account in their lesson planning.
* [Specific to SLO#1] Re-enforcing the concepts and techniques of graphing in various contexts throughout the semester, rather than limiting graphing to Chapter 3.
* Instructors should be reminded of the need for a spiral approach where old material from earlier chapters continues to appear on tests/exams throughout the semester.
* [Specific to SLO#4] Instructors should be reminded of the need to avoid rushing through Chapter 6 (Rational Expressions and Equations) at the very end of the semester. This is a topic that takes time for student to internalize.
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| **Next Steps in the Department to Improve Student Learning**Go through the list and highlight what items faculty felt would help them address the needs and issues that were revealed by the SLO assessment. | * Create Study Groups or other tutor or faculty led discussions that target specific issues in specific courses.
* Systematically train our tutors in tutoring application problems.
* Create Math Department Dropbox to facilitate and encourage sharing of teaching material such as handouts, worksheets, class activities, and, in general, best practices.
* Possibly create a 1-unit or 0.5-unit helper workshop course, which assists more efficiently those students in our algebra classes who only need to brush up specific parts of their arithmetic skills to help them succeed in their algebra classes.
* Coordinate with other departments (most importantly, the Chemistry Department) that offer courses with Math 201 or Math 203 as prerequisites to ensure that the way we teach Math 201 and Math 203 does equip our students with the practical skills needed to handle the realistic problem solving situations encountered in those courses. For example, when it comes to graphing (SLO #1), our students have to be trained to feel comfortable with the more realistic setting where the two axes have very different scales and carry units of measure, as is commonly seen in a science class. As another example, we have to invest more time in helping students understand the concept of significant figures and the computation rules related to it.
* Consider creating mandatory lab assignments for all our algebra classes. (Related to the previous bullet point, such lab assignments provide more opportunities for students to immerse themselves in small projects that resemble more realistic problem solving situations expected in science classes.)
* SLO questions and rubrics to be used for a specific semester should be designed before the end of the previous semester so that all instructors are able to take them into account in their lesson planning.
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| **Priorities to Improve Student Learning**List the top 3-5 things that faculty think would MOST improve student learning | 1. Improve the tutoring service our tutors provide (especially in the area of application problems in algebra) by giving them regular, on-the-job, math-specific tutor training.
2. Create Math Department Dropbox to facilitate and encourage sharing of teaching material such as handouts, worksheets, class activities, and, in general, best practices.
3. Ensure that SLO questions and rubrics to be used for a specific semester are designed before the end of the previous semester so that all instructors are able to take them into account in their lesson planning.
4. Coordinate with other departments (most importantly, the Chemistry Department) to ensure that the way we teach Math 201 and Math 203 does equip our students with the practical skills needed to handle the realistic problem solving situations encountered in those courses.
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| **Implementation/Timeline**How should we implement these improvements? Give deadlines for what should be done by when. | All items above to be implemented in 2015-16 academic year, with item 1 (math-specific regular tutor training) contingent on availability of funding. |