Mathematics Placement

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Outline

Entry-level Math Initiative: http://sums.okstate.edu

- ALEKS Placement
  - Use in instruction
  - Effects on enrollment
  - Logistics
  - Learning modules

- Course information
  - Pilot sections
  - 1483 vs. 1513
  - Revisions to existing courses

- Mathematics Learning Success Center news
Placement using ALEKS vs. ACT-math

Determining remediation: ALEKS changed remediation status for 13% of students (versus ACT-math).

- 22% with ACT-math below 19 placed into OSU math.
- 12% of ACT-math ≥ 19 did not place into OSU math.

58% placed into a course higher than College Algebra.

We think ALEKS is better for placement.
- Timing is better.
- Material is more directly applicable.
- Gives us more information: subscores.
- Students can self-remediate and retest more easily and cheaply.
Using ALEKS in our classes

Coordinators received ALEKS subscore data for each section in multisection courses.

Planned review days and portions of the rest of the course with this data in mind.

**Example:** Debate in 2144 (Calculus I) over first week of semester:

- No precalculus review
- Review of trigonometry
- Review of exponentials and logs: students weakest in this area by far, so we did this.

Using these data to monitor sections that look especially weak or strong on paper.
Effects on enrollment

Significant changes from previous falls:

- Substantial drops in 1483, 1493, 1513, 1715
- Enormous increase in 1613
  - Many would have been in Precalculus but have good algebra skills.
  - Some would have been in Calculus I but would have struggled with trig portions.
- Increase in 2144, but cause unclear (higher overall enrollment? placement?)

77% of new freshmen took ALEKS or had prior college math credit.
Logistical issues

Placement went smoothly. Thanks to advisors for your work!

A few minor glitches:

▶ Proctoring: Student must have $\text{ACT-math} \geq 19$ (or equivalent $\text{SAT-math}$) to avoid proctoring.

▶ Using HS classes to fulfill prerequisites

▶ Summer transfer credit

The Department of Mathematics accommodated every student who came to us in the Nonrestrictive Drop/Add period and got them into the class for which they were qualified.
ALEKS learning modules

ALEKS learning modules are a great resource.

► Free access for six weeks, starting on date of first use
► Great individualized tutorials for improving placement: median increase of 13 points even when removing very large improvements
► Very helpful for review (e.g., weak on trig but qualified for 2144: use the modules to brush up)
► We will tutor students for free in the MLSC, both before classes and during the semester!

**Student testimonial**: Went from 24 to 78 on ALEKS after spending a couple hours a day in the MLSC with tutors!
Math 2144 pilot

We have two pilot sections of Math 2144 this fall.

- Focus is active student engagement during class
- Based on new research and proven programs, adapted for OSU
- Meets MWF for 75 min. instead of four days, 50 min.
- Significantly decreased lecturing, more group work
- Some other sections are moving in this direction, including one honors section.
- Four pilot sections in the spring (MWF 8:00, MWF 2:30)
Math 1583 pilot

New course: Applied Geometry and Trigonometry

- Meets needs of students who need some geometry and trigonometry but not the precalculus portions of 1613
- Arose from discussions with Horticulture and Landscape Architecture
- Designed for students not calculus-bound
- Hands-on projects, like computing height of steeple on Library
- Natural sequel to 1483 or 1513, more in style of 1483
- Pilot section limited to 20 students this spring (details soon)
1483 vs. 1513

1483 (Math Functions) vs. 1513 (College Algebra):

▶ Both are appropriate for a student’s first college math class.

▶ 1483 emphasizes mathematical models of realistic situations using technology, focusing on rates of change.

▶ 1513 emphasizes algebraic concepts necessary for more advanced courses and applications in some areas.

▶ If your discipline requires a lot of algebraic manipulation, 1513 may be better. If not, 1483 is likely a good substitute.

We would love to talk with your units about your mathematical needs and what class(es) fill them.
Other course revisions

Math 1715 (Precalculus)
▶ Split large lecture into two smaller lectures
▶ Greater emphasis on active participation during class
▶ Some syllabus changes based on ALEKS data

Math 2103 (Elementary Calculus)
▶ Name change to Business Calculus, reflecting that 90+\% of students are in a business discipline
▶ Prerequisite change (effective immediately): Grade of C or better in one of 1483 or 1513 or 1715, or 50 on ALEKS.
▶ Working on streamlining transition from 1483 to 2103, making 2103 a more conceptual course with less emphasis on computation
Mathematics Learning Success Center (MLSC)

This fall: Usual fourth floor CLB location plus Calculus I and II tutoring in the Library. Dr. Elena Pavelescu took over as Director.

Late March?: New facility on the fifth floor of the Edmon Low Library will be ready.

Goal: Integrate MLSC with classroom instruction

▷ Reviews of important prerequisite material just prior to using it in a course

▷ Scheduled problem and study sessions for particular courses

▷ Small-group tutoring for struggling students
Summary

- ALEKS had significant effects on fall enrollments; we think students are placed better now.
- The Department of Mathematics is working on several projects designed to increase student engagement and success in classes.
- We would like to talk with your units to understand your needs and design math courses that best meet them.
- The new MLSC will open up many opportunities for expanded help for students integrated with classroom instruction.

My contact information:

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