

# Retention and Student Math Skills

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# Math Advising and Placement Efforts

- Math Advising Office
- Math Placement Test
- Math Prerequisite Acceptability Time Limit (MPATL)
- Math 0920 Math Skills Review
- Online Math Refresher Materials
- Online Math Tutoring using Smartboard Technology and Tutoring Center

# Math Advising Office

- Academic Advisor: Linda Skabelund
- E-mail:  
[Linda.Skabelund@usu.edu](mailto:Linda.Skabelund@usu.edu)
- Phone: 797-0268
- Location: Lund 301c
- Hours: 8:00-3:30
- Web page:  
<http://www.math.usu.edu/>

Click on the Undergraduate link in the navigation bar

# Math Advising Office

- Coordinates the Math Placement Test including peer advisors and proctors.
- Places students in mathematics and statistics courses.
- Receives and delivers applications for graduation
- Assigns advisors to department majors
- Performs extension work with school districts and SOAR folks.

# Peer Advisor Interviewing a Student



# Math Placement Test

- Accuplacer is used as a gateway exam for all students.
- Students take one or two tests as part of the advisement/placement process.
- Students are interviewed prior to taking the test to determine a starting point.
- Accuplacer scores are integrated with the curriculum in Math 0900, Math 1010, Math 1050, and Math 1060.

# Math Placement Test Session

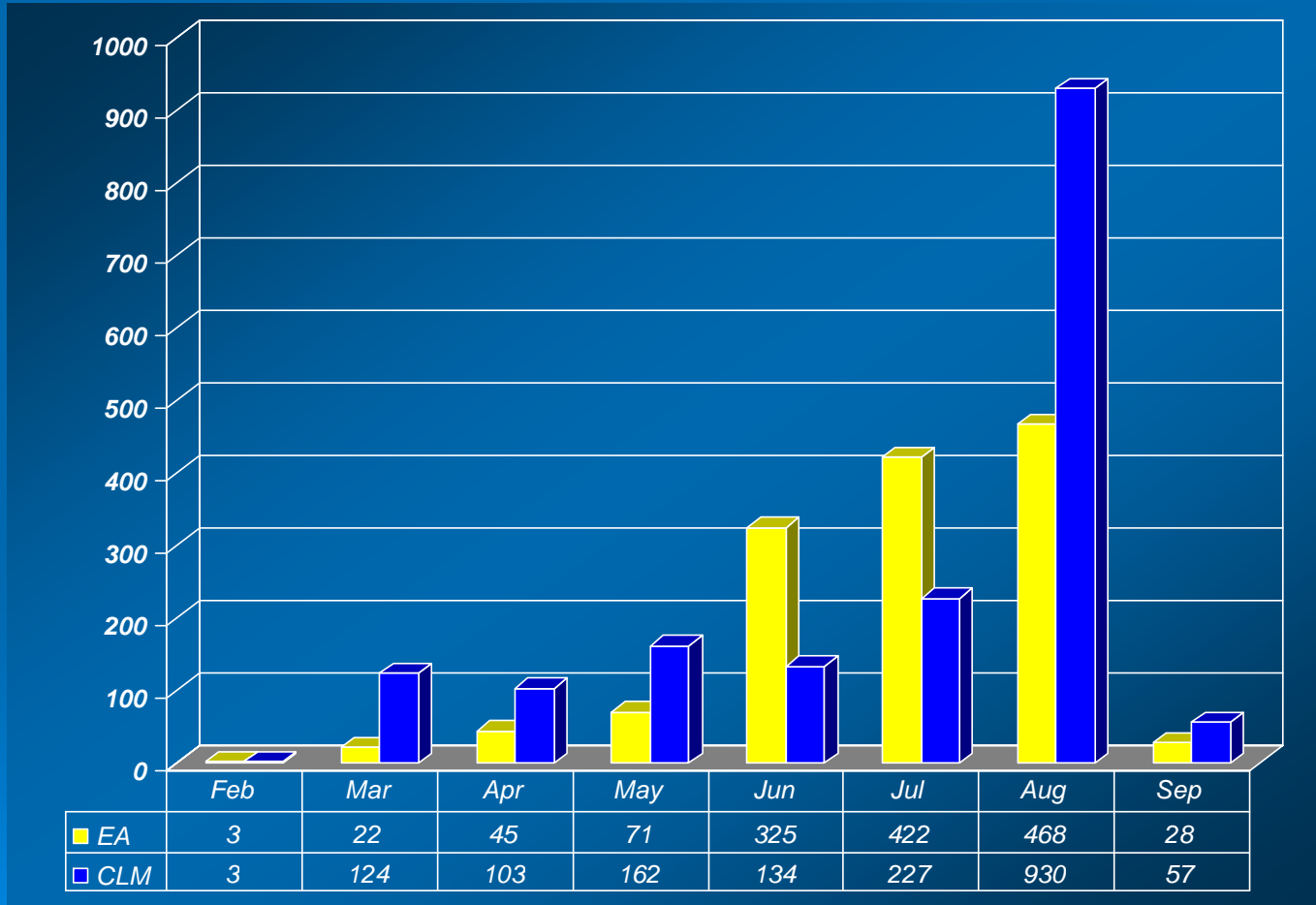
- Student is interviewed by advisor
- Student starts in CLM test or EA test.
- If the student earns a low score on the CLM test the student is advised to take the EA test immediately.
- If the student earns a high score on the EA test, the student is advised to take the CLM test immediately.
- Combining the interview with the score or scores on the exams the student is placed into a section of an appropriate course.

[Brian.Smith@autonomoussolutions.com](mailto:Brian.Smith@autonomoussolutions.com)

# Math Placement Test

- Students may take the exam at any time.
- Students may take the exam once per day as many times as they want.
- Students are charged a fee of \$10 per advisement.
- Students who do not earn a score that is satisfactory are advised to study appropriate materials provided by College Board, to take Math 0920, use the online Math Refresher materials on the Department of Mathematics and Statistics web site.

# Math Placement Tests Given



# Math Prerequisite Acceptability Time Limit (MPATL)

- The Math Majors voted in favor of a time limit on all prerequisite courses and math skills assessment scores in fall of 2006.
- The maximum time limit approved by the Board of Regents is two years.
- USU adopted a one year time limit. UofU, Weber, and SUU have adopted the same limit.
- Students who do not satisfy the MPATL will be required to take the Math Placement Test as described earlier.
- The online USU General Catalog is the ultimate guide in terms of the MPATL and advisors should use the online definition to advise students.

# MPATL General Guidelines

- Incoming freshmen must have a valid math skills assessment score (e.g, math ACT or AP Calculus score) or passing grade in a prerequisite course within the past 12 months.
- Matriculated students must have a valid math skills assessment score or passing grade in a prerequisite course within the past three consecutive semesters including Summer semester.
- The same time limit applies to the Math Placement Test.

# Math 0920 Math Skills Review

- First official offering was the week before Fall Semester 2007.
- 85 to 90 students enrolled.
- 58 were tracked from beginning to end.
- Students were charged \$100 to attend.
- Students were given the Math Placement Test before and after the course at no charge.
- Students received 20 hours of review on math skills in content from Math 0900 to Math 1220.

# Math 0920 Math Skills Review

- Students were given the MPT during the first meeting.
- Students were advised into various review sessions based on the first score.
- Students were allowed to move between courses as needed to review content.
- Students were given the opportunity to take the MPT at the end – 58 took the exam at the end.

# Math 0920 Outcomes

- Most students improved their scores.
- Those who did not lowered their scores by no more than 5 points.
- Some students whose scores did not improve admitted to guessing at some of the problems on the first MPT.
- The median improvement was more than 20 points.
- Students improved by as much as two full semesters based on the MPT improvement.

# Math 0920 Outcomes

- Students saved a total of 58 seats in sections.
- Some students moved ahead by two full semester courses. For example, several students who initially placed into Math 0900 were able to place into Math 1030, Math 1050, Math 1060, or Stat 1040 for QL.
- The seats saved added up to 1.5 sections of remedial mathematics courses.
- A conservative estimate of \$32,250 in tuition and fees was saved based on total tuition and remedial fees saved after the course fee was subtracted.

# Online Math Skills Refresher Materials

- The most important deal:  
<http://www.math.usu.edu/>  
Click on the Math Refresher link on the Undergraduate item in the navigation bar.
- The development team created materials integrated with the current mathematics curriculum in Math 0900, Math 1010, Math 1050, Math 1060, and part of the content in calculus courses.
- The Dean of the College of Science and the Provost provided about \$20,000 to hire six students with tutoring experience in the ARC to help develop the materials.
- There are 17,828 pdf files with worked examples, partially worked examples and practice problems.

# Online Math Refresher Materials

- Materials are indexed relative to the textbooks used in the courses.
- Keywords are being added so that the examples are “searchable”
- The pdf files are freely available to anyone who has access to the internet and a reasonable browser.
- The site became available during the first week in October and will be modified from time to time after this.

# The Next Step in Efforts to Help Students Refresh Math Skills

- Funding for an enhancement of this effort using Smartboard technology has been requested from the Provost's office.
- The idea is to create an online tutoring service for students at USU.
- Students using the online materials will be able to ask questions of a tutor using a "Smartboard".
- This will allow students to download and print copies of the question answer session.
- The sessions will be saved into a "forum" like database that will be freely available to anyone with internet access. This will be freely available to anyone.

# Even More

- An official syllabus is being developed by the Department of Mathematics and Statistics for each course from Math 0900 through Math 1220.
- Each syllabus will be posted on the Department of Mathematics and Statistics web site for consistency.
- Stronger teaching efforts in Math 1210 Calculus I and Math 1220 Calculus II