

UK Institutional Research Brief:

An Analysis of Enrollment Trends and Outcomes Associated with Remediation in Math

September 2009

In fall 2001, the Council on Postsecondary Education instituted a mandatory placement policy that directed institutions to remediate undergraduates who fell below statewide readiness standards. Students who earned scores below 18 on the ACT math, English, or reading scales were required to take a developmental course to improve deficient skills before being placed in a college-level, credit-bearing course. CPE amended this policy in 2004 and 2009 by adjusting readiness standards. Starting in fall 2005, students needed a score of 19 on the ACT math sub-scale to place into a credit-bearing course.

From fall 2001 to fall 2005, the number of first-time, full-time students enrolled in MA 108R during their freshman year ranged from 252 to 371 (see Figure 1). The percent of the fall cohort enrolled in remedial math during this five-year period ranged from 6.5 percent in 2004 to 10.0 percent in 2002. The number of cohort students taking MA 108R increased dramatically in 2006. A total of 647 students, 15.7 percent of the cohort, were remediated. The jump in the number and percent of first-year students during 2006 can be attributed to three factors: the implementation of a slightly higher placement standard in 2005; the enrollment of the largest freshman class in UK's history; and the relatively weak academic preparation of this cohort, as measured by high school grades and standardized test scores. Since 2006, the number of percent of students enrolled in developmental math has continued to be relatively high, but has started to decline somewhat.

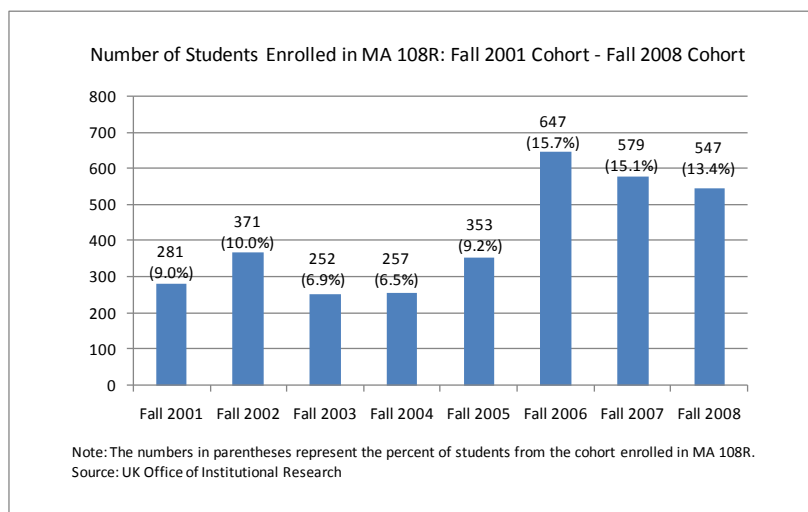


Figure 1

Students' Success in MA 108R

Students who take remedial math arrive on campus with lower high school grades and ACT scores. Over the eight cohorts studied, average high school GPAs for remedial math students ranged from 3.15 to 3.33, and average ACT Composite scores ranged from 19.7 to 21.3. By way of comparison, GPAs for the full cohorts ranged from 3.48 to 3.57, and ACT Composite scores ranged from 24.0 to 24.8.

The UK Institutional Research Office examined the success of incoming freshmen from Fall 2002 to Fall 2008 who took remedial math. Figure 2 presents the percent of first-time, full-time students who successfully passed MA 108R with a 'C or higher' by ACT Math scores for the last seven cohorts.

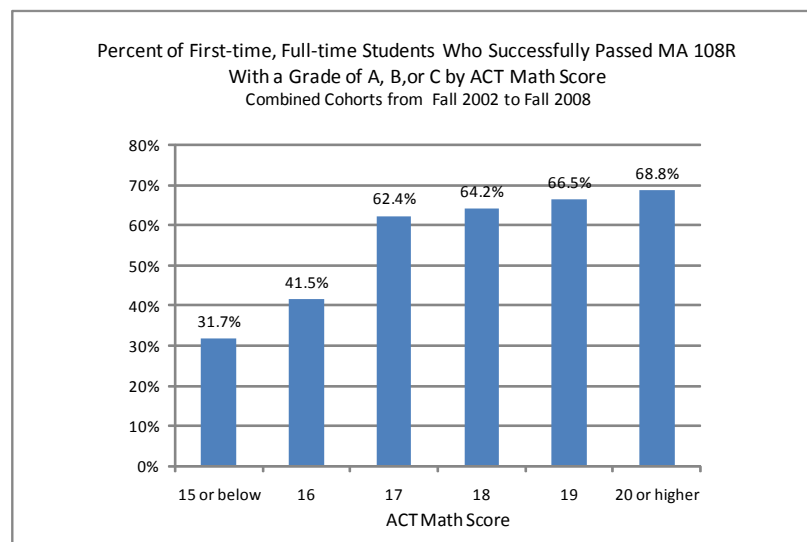


Figure 2

Of those students who earned an ACT math score of 18—one point below CPE's current system-wide standard—about two-thirds (64.2%) passed the remedial math course with a grade of 'C or better.' Only two of five (41.5%) students who presented an ACT math score of 16 earned satisfactory grades. And for students who earned scores of 15 or below, the probability of passing the remedial course with a 'C or better' was less than one in three.

Interestingly, the IR Office identified 879 students from the past eight cohorts who took remedial math, despite scoring at or above the statewide standard of 19 on the ACT math sub-scale. These students were apparently placed into MA 108R either for their poor performance on the math department placement exam or for personal reasons. Students in this group earned grades fairly comparable to students scoring one point below the statewide standard. Overall, the results of this analysis are somewhat disappointing, considering that two of five students (39.1%) earned a D, an E, or withdrew from MA

108R. In fact, the percent of DEW grades earned in MA 108R has grown steadily from 32.8 percent in 2002 to 44.9 percent in 2008.

Success in the First College-level Math Course

The IR Office examined the performance of students who successfully completed MA 108R with a 'C or better' in their first credit-bearing math course.

- *Of those students who earned an A*, 86.0 percent earned an A, B, or C in their first college math course.
- *Of those who earned a B*, three of five (59.5%) earned a grade of 'C or better' in their first credit-bearing math course.
- *Of those who earned a C*, less than half (41.9%) earned an A, B, or C in their first college-level math class.

Math Remediation and Academic Success

The performance of students in MA 108R provides a clue to their eventual academic success at UK.

Students who earned an A, B, or C in remedial math:

- are retained at about the same rate as the entire class of first-year students (76.0% - 83.2% vs. 76.4% - 81.0%).
- earned grades that are somewhat below average, but still in the acceptable range (2.55 – 2.74 vs. 2.60 – 2.76).

Students who received DEW grades in remedial math:

- are retained at rates well below those for the entire cohort (44.9% - 66.4% vs. 76.4% - 81.0%).
- earned first-year GPAs well below their peers who do not remediate (1.34 – 1.82 vs. 2.60 – 2.76). On average, these students are not in good academic standing at the end of the academic year.