

SCIENCE/MATH DEVELOPMENTAL-POSTSECONDARY BRIDGE

Madison Area Technical College

The Madison area is a hot spot of growth for biotechnology and laboratory-based industries. In 2006, Madison Area Technical College (Madison College) was awarded a \$1.9 million Community Based Job Training Grant (CBJTG) from the Department of Labor to develop career pathways to prepare workers to advance in these increasingly important fields.

As a critical part of this pathway, Madison College developed a Science/Math Bridge in order to increase opportunities for lower-skill individuals to access – and to succeed in – the college’s science-based postsecondary programs. The Science/Math Bridge pairs together General Chemistry with a developmental mathematics course and a technical reading course specifically designed to support learning of Chemistry content. All three courses are taught in a single semester, reducing students’ remediation time. The Chemistry, Reading, and Math instructors meet before and throughout the semester, to check in regarding student progress and course alignment.

The bridge is designed for students who are seeking to complete the math and chemistry coursework needed for acceptance into science-based associate degree programs (for example, Veterinary Tech, Clinical Lab Tech, Biotech, and Nursing), but who may lack the necessary math and/or literacy skills. Traditionally, students are unable to take General Chemistry until they have completed a sequence of developmental math courses – a path that can take some students up to three semesters – or have reached a set cut-off score on a math assessment test.

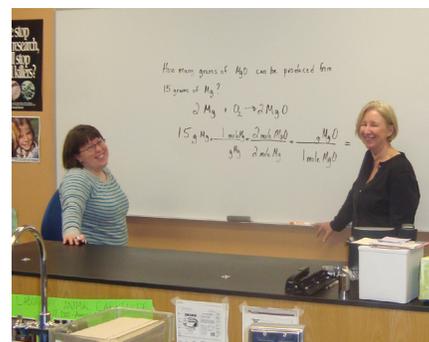
The Science/Math Bridge incorporates various innovative elements to help improve postsecondary transitions and outcomes for lower-skilled individuals. The bridge: 1) applies basic math and reading skills within the context of Chemistry, 2) accelerates remediation time, 3) blends credit and non-credit coursework, and 4) follows a “learning community” model in which a cohort of students takes a series of connected classes together and works towards a common goal.

The Science/Math Bridge was piloted in Fall 2008, and outcomes for the first five cohorts of students are extremely promising. All students markedly improved their math and reading competencies over the course of the semester, as measured by assessment tests delivered before and after the bridge. Developing better math and reading skills will help these students succeed in their future postsecondary coursework at Madison College. Moreover, 41 out of the 46 students who completed the bridge passed Chemistry. This is noteworthy considering that without this bridge, none of these students had scored high enough on their math assessment tests to have been eligible to enroll in General Chemistry, and it underscores the promise of alternate approaches to basic skills remediation.

The Science/Math Bridge at Madison College is a promising, innovative model that can provide more developmental students with opportunities for postsecondary success. By reducing remediation time and teaching developmental content within the context of Chemistry, it more closely connects students with their future occupational goals, and allows them to get there more quickly. The bridge has been so successful that it was expanded from one to two sections for Spring and Fall 2010. Given the promising results of the Science/Math Bridge to date, key faculty and administrators are considering what is needed to institutionalize the bridge within Madison College so that it can be sustained once grant funding ends in January 2011.



Bridge Student Leslie C. Metz



Math Instructor Emily Baguhn and Reading Instructor Pam Peterson

“I hope it [the Science/Math Bridge] continues. It was a really, really good idea. It’s another way to get more people through that certainly would make good candidates for a program, but that would need just a little extra [help], or a different style.”

Leslie C. Metz, Science/Math Bridge Student, Spring 2009 cohort

“My usual experience without this level of support is that students who have marginal math and/or reading skills often do not succeed in Chemistry and they end up dropping. So, here I have a class of students, many of whom without this, I think would not have succeeded. And they did.”

Bill Huntsman, Chemistry Instructor, Madison College