



The Issue

The Kansas economy requires well-prepared citizens and workers in Science, Technology, Engineering and Mathematics (STEM). Wichita manufactures 70% of the world's general aviation aircraft. The Kansas City metropolitan area is a center of automobile production and printing. Metal fabrication, printing, and mineral products industries predominate in the nine southeastern counties, and Kansas continues to lead in agricultural production. Scientists and engineers are innovators in their fields, fueling energy, biotechnology, manufacturing, aviation and agricultural industries that drive our region's economic engine. Their impact throughout the region is invaluable. The future of the Kansas economy requires high quality math and science education in our schools. There are some disturbing trends in Kansas teacher data. The workforce is rapidly graying with many of our highly qualified teachers retiring. There is less interest in going into teaching by the next generation and those individuals, who decide to teach, leave the field at an alarming rate.

- 36% of our teachers are eligible to retire in the next five years; 50% of personnel are over 45.
- 12% fewer students have gone into teaching over the past six years.
- New licenses in chemistry have decreased by half since the 1990s only with 35 licenses in 2008.
- Physics teacher licenses have declined 67% to only 28 physics licenses in 2008.
- Over the last 6 years KS teacher biology licenses dropped from 235 to 82 biology licenses in 2008.
- 40% of our Kansas teachers have been leaving the field within the first seven years.

These trends are combining to create an escalating deficit of qualified math and science teachers leading us to ask, who will teach the next generation of STEM professionals?

The UKanTeach Program

UKanTeach <http://UKanTeach.ku.edu> is a program of the KU Center for Science Education resulting from a new partnership between the KU College of Liberal Arts and Sciences, the KU School of Education and Kansas school districts to develop the next generation of science and mathematics teachers. As part of this four-year program of study, students complete their B.S. or B.A. in mathematics and/or science and the UKanTeach coursework to obtain a secondary teaching license. UKanTeach is dramatically increasing the number of math and science teachers graduating from KU, resulting in over 100 new, highly qualified science and math teachers each year. This dramatic increase of graduates is resulting from this new way of doing business at the University of Kansas but *what is very important is that these Math and Science Teachers are being prepared to teach in significantly new and effective ways.*

UKanTeach Milestones 2007-2009

- Received National Math and Science Initiative grant to replicate UTeach in November 2007 (**\$1.4 million**, with an additional \$1 million match awarded for raising \$1 million for endowment).
- Received first **\$100,000** of the \$1 million that needs to be raised for UKanTeach Endowment.
- Received initial funding for UKanTeach operations from Kauffman Foundation (**\$250,000**)
- Approved as an innovative program for licensure by the Kansas State Department of Education.
- Initial number of students in UKanTeach program: Fall 2007: **33**, Fall 2008 = **88**, Fall 2009 = **157**,
- Number of UKanTeach students (2009) working on licensure in each area of math and science:
Biology: **66** Chemistry: **17** Earth & Space Science: **10** Mathematics: **54** Physics: **8** Undecided: **2**
- UKanTeach has students participating in early teaching experiences in 14 local school districts.
- First UKanTeach graduate was in May 2009. A full program in 2014 projects 430 students in the program and a graduation rate of 120 math and science teachers each year.