

CU-Boulder: A National Leader in STEM Education

- The University of Colorado at Boulder stands alone in the breadth of its integrated, campuswide Science, Technology, Engineering and Mathematics (STEM) initiatives that transform the way undergraduate courses are taught. CU-Boulder professors conduct leading research in STEM education and recruit the best math and science students into teaching.
- Recognized as a national leader in STEM education, CU-Boulder STEM education programs are supported by an array of grants totaling more than \$30 million from national organizations including the National Science Foundation. Faculty-directors of these efforts serve in national roles such as chairing the National Academies' Board on Science Education and advising on the recent Race-to-the-Top National Resource Conference.
- Through a multidisciplinary collaboration of the School of Education, the College of Arts and Sciences and the College of Engineering and Applied Science, CU-Boulder has increased the number of STEM majors completing secondary math and science teacher certification from an average of six per year (2000-04) to 13 per year (2005-present). The number of physics and chemistry majors enrolling in teacher certification has more than tripled in the past three years.
- Replicated at 12 other universities, CU-Boulder's Learning Assistant Program has worked aggressively since 2003 to recruit and prepare future K-12 math and science teachers, and to improve introductory STEM courses at CU. To date, 444 STEM majors have participated as Learning Assistants, helping to improve introductory courses in 10 departments and to positively impact more than 8,000 CU students each year. Learning Assistants outperform their peers in measures of student learning, and students in Learning Assistant-supported classes show learning gains two to three times that of students in traditional courses.
- CU-Boulder was one of only 13 teacher education programs in the nation awarded a grant in 2007 by the National Math and Science Initiative to model its CU Teach program after the nationally renowned UTeach program. CU Teach works with existing STEM programs at CU to prepare secondary math and science teachers who are ready to teach right after earning their bachelor's degree.
- Distinguished Professor and Nobel laureate Carl Wieman launched the Science Education Initiative in 2006 to incorporate research findings on effective science instruction in classrooms at CU-Boulder. In 2002 Wieman also created the Physics Education Technology project, or PhET. The globally renowned education tool uses interactive Web-based simulations for physics instruction.
- World-renowned researchers, including Distinguished Professor and Nobel laureate Thomas Cech, teach CU-Boulder undergraduates and help encourage students to consider K-12 teaching as an intellectually challenging and rewarding endeavor.
- In 2009, CU-Boulder was awarded one of only six NSF Innovation Through Institutional Integration grants to build a Center for STEM education, designed to further establish CU as a national hub of STEM education research and reform.

For more information visit <http://www.colorado.edu/istem> and <http://stem.colorado.edu>.