

Science, Technology, Engineering, and Math in the United States

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Science, Technology, Engineering, and Math (STEM)

The United States Department of Education (DOE) states, "In the 21st century, graduating from high school prepared for postsecondary education and careers means having a solid grounding in the science, technology, engineering, and mathematics (STEM) field." This need for having proficiency in STEM education is not only for those who are pursuing careers in science, engineering, and teaching, but is essential for all students.

Based on a 2009 Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA), student performance in the United States ranked 23rd on the science scale and 31st on the mathematics scale. These alarming numbers warrant the need for American schools to increase the number of students who are pursuing STEM fields in their education and careers.

Teach the Teacher

William Author Ward states, "The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." The Colorado State University OnlinePlus [Master of Natural Science Education \(MNSE\)](#) builds on the existing knowledge of licensed teachers nation-wide to give them the tools to do just this. This degree increases teachers' science knowledge base and competency in teaching science at the middle-or high-school level. It combines science and education curricula with research to:

- Expand science knowledge in the areas of biology, chemistry, physics, and environmental science
- Advance instructional skills with coursework exploring classroom management, presentation skills, communication, and discipline
- Enhance research skills and understanding of the methodology scientists use

This degree is a 34 credit, coursework-only degree (no thesis required). To apply to the MNSE degree program, an applicant must be a practicing instructor and/or licensed

educator who has earned a B.S. in a science discipline from a regionally accredited institution.

The MSNE is broken into four focus areas of study: education, natural science, research, and independent study to develop research and curriculum development skills while expanding specific scientific knowledge.

Since the 2003 OECD PISA report, the United States has seen a five point increase in mathematics, reflected in the 2009 report mentioned above. The 2009 report also shows a 13 point increase in science from 2006.

Colorado State University produces more STEM (science, technology, engineering, and mathematics) graduates to help drive the state's economy than any other campus, and we produce more STEM high school teachers than any other university in Colorado.

Interested in doing your part? If you are a licensed teacher looking to go back to school, feel free to [contact me](#) and let's chat about this degree and how it can help you become a better teacher for our future generations.

~ Mike Macklin

Thanks [jimmiehomeschoolmom](#) and [GoodNCrazy](#) for the photos!

