

# CMSE

## OUR MISSION

*The CMSE increases the quantity and quality of mathematics and science teaching and learning in western North Carolina through professional development for K-12 teachers, academic enrichment for K-12 students, and recruitment of students into STEM related professions.*



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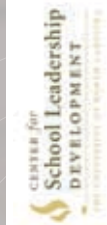
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CMSE  
IS A MEMBER OF:



## Western Carolina University CENTER FOR MATHEMATICS AND SCIENCE EDUCATION



# CENTER FOR MATHEMATICS AND SCIENCE EDUCATION



The Center for Mathematics and Science Education (CMSE) at Western Carolina University (WCU) is a constituent member of the North Carolina Mathematics and Science Education Network (NC-MSEN). The Center is housed in the WCU College of Education and Allied Professions (CEAP), and works with faculty from throughout the university to realize its mission. It also collaborates with the other NC-MSEN Centers to effect change and bring about improvement in science and mathematics education statewide.

## CORE IDEAS & VALUES

- The Center's programs and products should stimulate intellectual engagement with significant topics in science and mathematics.
- The most effective professional development programs are sustained over time and integrated into educational practice.
- Teachers and students need opportunities to experience the interconnected nature of knowledge and the world we live in.
- Western North Carolina is home to a vast array of resources that should be used to enhance the teaching and learning of science and mathematics. Among these are the region's universities, community colleges, natural and cultural resources, and its' numerous science and mathematics related education facilities.

- Respect for the diverse communities and cultures of western North Carolina forms a foundation for effective communication, collaboration, and education.
- Genuine collaboration characterizes the way in which the Center works with schools and school districts in the region, as well as with other entities both inside and outside the University.

## COLLABORATION

The CMSE actively seeks-out ways to participate in, or lead, partnerships between school district, WCU, and other institutions that will further the teaching and learning of science and mathematics in the region. This includes, but is not limited to, partnering on proposals for grants such as those sponsored by NC-QUEST and the Math/Science Partnership (MSP).

## ACTIVITIES

**Professional Development for Teachers:** The CMSE provides three primary types of professional development programs for teachers: institutes that are at least one-week in length, workshops that typically last one to two days, and instructional coaching, which is generally sustained over a longer period of time. The specific form of professional

development is determined by what is most appropriate for addressing the needs of a given group of teachers. Skill-based training, such as how to use a particular type of software or instructional tool, can be accomplished in the shorter workshop format. Deep intellectual engagement with subject area content requires a greater time commitment and is more suited to the longer format of the institutes. The strengthening or changing of pedagogy may occur during an institute but is most effectively addressed through coaching or mentoring over a sustained time period, such as a school year.

**Pre-College Program (PCP):** A statewide college-access program which has a long history of success in North Carolina. Although it has been a part of the NC-MSEN for over two decades, it is a new program for the Center at WCU. This program provides a vast array of services for middle and high school students in the region. Included are Saturday Academies, statewide academic competitions, summer programs, internships, college visits, and programs for parents. The academic focus is on math, science, engineering, and technology. The programs are designed to nurture the development of the whole student and provide support for the pursuit of a degree from a four-year college or university. For more information visit: <http://cmse.wcu.edu/precollege>

[HTTP://CMSE.WCU.EDU](http://cmse.wcu.edu)

