Project Information

Please tell us about yourself and give us a brief abstract of your project.

Name of Project: Project Lead The Way

Type of Project (e.g., Professional Development): STEM education curriculum

Project Manager:

- Name: Dr. Martha Cyr and Ms. Terry Adams, Office of K-12 Outreach
- Affiliation: WPI (Worcester Polytechnic Institute)
- Email: mocy@wpi.edu; tadams@wpi.edu
- Telephone: 508-831-6709; 508-831-5198

PreK-16 Regional STEM Network affiliation (check one): __X__ Central

Description of Project:

Since 2004 WPI has been the MA Affiliate University for Project Lead The Way (PLTW.org), a nationally acclaimed STEM program that promotes math, science and technology skills for middle and high school students using real-world problem-solving as a framework.

PLTW curriculum programs in Engineering and Biomedical Sciences engage and prepare students for post-secondary education and careers in STEM. Hands-on activities, projects, and real-world problems that students complete in each course are designed to meet many of the National Standards for science, mathematics, English language arts, ITEEA technology literacy, and ISTE educational technology standards. Many of the projects and problems allow students to apply their skills and knowledge to address issues in their local communities, providing community service and further engaging students and their parents. PLTW provides STEM lessons for grades 6 to 12. Middle school students have the opportunity to take up to six 9-week units of focused instruction in the Gateway To Technology program. Students gain hands-on experience working with 3-D modeling software, designing and prototyping products, and are introduced to STEM concepts related to aerospace, biotechnology, nanotechnology, electricity, robotics, and manufacturing. High school students can choose from eight full-year courses that provide a solid foundation in the engineering design process and computer modeling, the principles of engineering, and the specialty areas of digital electronics, civil engineering and architecture, aerospace engineering, biotechnical engineering, and computer integrated manufacturing. The high school experience of PLTW engineering students culminates in a senior design and development capstone project. The PLTW hands-on, project-based curriculum has been implemented in 4,125 programs in schools located in all 50 states and the District of Columbia since 1997 when WPI alumnus Richard Liebich's family foundation funded the formation of PLTW, a nonprofit organization with 501(c)(3) tax-exempt status.

WPI is one of 36 Affiliate Universities for the PLTW Engineering Program. WPI is responsible for running a two-week professional development Core Training Institute annually to train teachers before they teach any of the PLTW courses. We also certify PLTW high schools, host guidance counselor and school administrator conferences, assist in the implementation of the program in MA schools, and support the existing 25 MA PLTW schools. PLTW engineering high school courses are similar to Advanced Placement courses in that WPI students who excel in the courses and on the final exam at a PLTW-certified high school are eligible for WPI college credit. PLTW also has 6 Affiliate Universities for their Biomedical Sciences high school curriculum, with the closest being in Maryland and Ohio.