STEM K-12 Educational Outreach Program

The UND School of Engineering and Mines and the Sustainable Energy Research Initiative (SUNRISE) in association with the Dakota Science Center have established a multi-dimensional learning model that engages students more fully in Science, Technology, Engineering, and Mathematics (STEM). PowerOn! is the STEM educational outreach program based on this learning model. Engineering utilizes science, math and technology concepts. Youth engaged in engineering activities improve their math, science and technology skills. They also gain an understanding of the design process which improves their problem solving skills.

The PowerOn! program encompasses university student service learning, pre-service teacher engagement, teacher workshops, curriculum development with master teachers, out-of-school programs, community events and summer camps. SUNRISE and DSC initiated the PowerOn! program in 2007 with participants from education and STEM disciplines. The PowerOn! program develops STEM activities to be used at community events, activities with lesson plans for educators to use in their classrooms and topic based modules for classroom use and after-school/summer programs. Specific modules are developed upon request for teachers and youth organizations. The Dakota Science Center collaborates with university faculty to fulfill community outreach grant requirements with the development of STEM modules. Modules are posted on the Dakota Science Center web site and shared with the North Dakota Teach Center Network.

PowerOn! University Student Service Learning

Service learning integrates academic learning with community involvement. The Dakota Science Center collaborates with students and faculty from education and STEM disciplines to develop hands-on STEM activities for youth. Students often develop activities based on a teacher's request. The activities are field tested at community events. A lesson plan is completed for successful activities. The lesson plans are posted on the Dakota Science Center web site.