HEAD *of the* class

(L to R): grad students Seken Guzey and Brant Miller; Stephan Carlson, Gillian Roehrig, and Tamara Moore.

PHOTO BY RICHARD ANDERSON

A significant measure of success for students is the extent to which they're participating in critical fields like science, technology, engineering, and mathematics (STEM)—areas that are increasingly important to Minnesota's global competitiveness.

Researchers at the University are working to find novel ways to engage youth in STEM. Curriculum and Instruction professors Gillian Roehrig and Tamara Moore, and Stephan Carlson, from University Extension, are working with Anishinabe youth in northern Minnesota, along with collaborator Paul Imbertson from Electrical and Computer Engineering.

Their project, Reach for the Sky (RFTS), is an innovative education program funded by the National Science Foundation striving to make STEM more culturally relevant to Anishinabe students on the White Earth Reservation. RFTS is unique, because it incorporates traditional American Indian stories and activities. Pilot activities introduced concepts of geometry in building birch bark canoes, chemistry in making maple syrup, and biology in harvesting deer. Students will also learn engineering through activities such as bike design and solar and wind energy production.

RFTS is doing more than connecting students to STEM—it has facilitated partnerships between three University colleges (Education and Human Development; Food, Agricultural and Natural Resource Sciences; and Institute of Technology), University Extension, the White Earth Tribal College, three Reservation schools (Circle of Life, Naytahwaush and Pine Point), and two businesses (Land Recovery Project and Industrial Art and Design).

"Developing these student's STEM skills will have consequences beyond the classroom," says Roehrig. "These efforts will help build a skilled work force prepared for tomorrow's challenges."