

1023-H5-1721 **Julia Darby Head*** (julia.head@ttu.edu), PO Box 41042, Texas Tech University, Lubbock, TX 79409, and **G. Brock Williams**. *Euler Enriches Summer High School Program*. Preliminary report.

In an effort to broaden the horizon of mathematically-gifted high school students in a summer program (TeXPREP) through enrichment as opposed to acceleration, I designed and instructed a course on graph theory. The course began with Euler's work on the Seven Bridges of Knigsberg and ended with students completing three projects: a United States Project that includes students finding an Eulerian path across the country, a Group Project in designing graphs with certain criteria, and an Instant Insanity Project based on the 1970's puzzle. This talk will focus on why particular elements were included in the course design and what applications of each element we observed. Particular emphasis is given to Eulerian, Hamiltonian, and weighted graphs, with special focus on the projects.

TeXPREP is a Texas a pre-freshman engineering mathematics and science program. The program's mission is to provide seventh through eleventh graders with unique, high-quality experiences in engineering, mathematics, and sciences designed to prepare them for honors courses and college programs in these areas. (Received September 26, 2006)