

1014-Y3-1655 **Mazen Shahin*** (mshahin@desu.edu), 1200 N. DuPont Highway, Dover, DE 19901, and **Melissa A. Harrington** (mharring@desu.edu), 1200 N. DuPont Highway, Dover, DE 19901. *Girls Explorations in Mathematics and Science (GEMS): An Outreach Program Attracting a Diverse Group of High Achieving High School Girls*. Preliminary report.

GEMS is a three-week summer residential program involving hands-on explorations in mathematics, biology, and information technology with research activities. This project offers to 24 culturally diverse motivated, high-potential high school girls an opportunity to integrate and apply concepts from these disciplines to problem solving. GEMS program is designed to stimulate and extend students' interest in these fields. This addresses the problem of under-representation of women, in particular minorities, in mathematics and related disciplines. Four college professors conduct the project assisted by six undergraduate/graduate women. The curriculum has been carefully designed to expose students to research methodology, to enable them to see the connections between mathematics and biology. The mathematics curriculum focuses on modeling with difference equations and matrix algebra. The participants work in small groups and use computers extensively to explore and discover mathematical and biological concepts in the classes and on research projects. In this presentation we will share the main features and logistics of GEMS program as well as the funding issues. In particular we will focus on the innovative mathematics curriculum and mathematics research projects. (Received September 28, 2005)