The School of Industrial Engineering at the University of Oklahoma achieved gender parity among undergraduate majors without special programs or goals. A multi-disciplinary NSF-funded (0225228) research team has been studying this phenomenon for 3 years. Primary data are 164 student and 19 faculty interviews, including some repeats for a longitudinal view, and triangulation data (e.g., academic transcripts). This talk will focus specifically on findings relevant to the mathematics community. For example, engineering majors continue to be frustrated by courses (e.g., calculus) that they perceive to be not targeted for them. Furthermore, nearly 1/3 of the IE majors interviewed switched into IE from another field, many of them top students who liked mathematics. Many participants also indicate that they did not understand how versatile IE is as a major when they started college. Such students might also be potential mathematics majors, if mathematics departments were proactive about recruiting. Participants described IE at OU as ”inviteful”, both as a field and as a department. Specifically, the School cultivates both vertical (faculty-student) and horizontal (student-student) social networks, and these networks attract additional majors in as well as retain current ones. (Received September 27, 2005)