Chapter 5.5
Girls' E-Mentoring in Science, Engineering, and Technology Based at the University of Illinois at Chicago Women in Science and Engineering (WISE) Program

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EXECUTIVE SUMMARY

The Girls' E-Mentoring in Science, Engineering, and Technology (GEM-SET) program has been linking volunteer women mentors in the fields of science, engineering and technology to student members from across the U.S. since 2001. More than 1,300 girls ages 13-18 and 200 mentors in graduate school and beyond have participated via on-line mentoring and face-to-face programming where available. The basic benefits to the student participants are a free subscription to the on-line GEM-SET Digest that provides access to scholarships and internships information, invitation to field trips, career panel discussions, and conferences, direct access to successful mentors in non-traditional careers, and tutoring in select schools. GEM-SET is one branch of pre-college mentoring provided by the Women in Science and Engineering (WISE) program at the University of Illinois at Chicago (UIC).

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BACKGROUND

History of Women in Science and Engineering (WISE) Program

The Women in Science and Engineering (WISE) Program at the University of Illinois at Chicago (UIC) is one unit of the Center for Research on Women and Gender, a cross-disciplinary research center established in September 1991 with support from the Illinois Board of Higher Education. UIC faculty researchers and staff advance the center's mission to promote collaborative, multidisciplinary research related to women and gender, with an emphasis on work, health and culture. The center sponsors or co-sponsors research across a range of disciplines, hosts academic conferences on women's issues, and develops programs for students and faculty focused on women in science, technology, engineering, and math (STEM).

WISE has a more focused mission than the umbrella research center. Its mission is to increase the number of women students pursuing degrees and graduating in STEM disciplines. It also promotes the recruitment, retention, and advancement of women with academic careers in STEM at UIC and at educational institutions nationwide. The WISE mission mandates that outreach targets the entire student pipeline from k-12 education to post-graduate studies.

WISE research staff monitors enrollment and retention data for undergraduate students in the UIC College of Engineering and several departments in the College of Liberal Arts and Sciences including biological sciences, chemistry, earth/environmental sciences, mathematics, computer science, and physics. Tables 1, 2, and 3 below indicate the number and percentage of women in these fields based on data for Fall 2006 provided by the UIC Office of Data Resources and Institutional Analysis.

These data show that women are the majority of students in biology, chemistry, earth/environmental science, but continue to be a minority in nontraditional majors for women such as engineering, mathematics, or physics. Approximately 55% of the UIC student body is female, but they comprise only 40% of undergraduate STEM students (DRIA, 2006). At UIC women are 60% of the undergraduate majors in biological sciences and

Table 1. UIC women undergraduates, College of Engineering, fall 2006

Department	# of women enrolled	% women enrolled
Bioengineering	68	38
Chemical Engineering	28	24
Civil and Materials Engineering	38	16
Computer Science	22	12
Electrical and Computer Engineering	51	11
Mechanical and Industrial Engineering	36	9
All Engineering Departments	**243**	**15**

Table 2. UIC women undergraduates, College of Liberal Arts and Sciences (LAS) STEM Departments, fall 2006

Department	# of women enrolled	% women enrolled
Biological Sciences	932	60
Chemistry	189	59
Earth & Environmental Sciences	29	54
Mathematics	91	43
Physics	10	18
All LAS STEM Departments	1212	58

Table 3. UIC women undergraduates, ALL STEM Departments, fall 2006

ENGINEERING + LAS DEPARTMENT TOTALS	n=1455	40% women