

## Retention of Female Students in Engineering

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The Women in Engineering Program (WEP) consists of a College Industry Advisory Committee for Women (CIACW), the Society of Women Engineers (SWE), the Alumnae Network (AN), and the Women Faculty Advisory Group (WFAG). Each arm of the WEP, through its diverse activities and network, support the recruitment and retention of women in engineering.

This paper focuses on six strategies for retaining women in engineering. Most of these are an outgrowth of the efforts of the CIACW. Its establishment was the first effort in the development of the WEP. The CIACW conducted an Alumnae Survey in 1986. The results of this survey assisted the CIACW in designing several initiatives to help in the retention of female undergraduates. These have been expanded to include female graduate students and female faculty in the college.

The CIACW consists of 14 corporations, 19 corporate members, the SWE president and the director of the WEP. Next year it will be expanded to include a female graduate student and a female faculty member. The committee acts in an advisory capacity to the WEP, coordinates specific activities, and is the primary financial supporter for the WEP.

The retention activities designed and coordinated by the CIACW are the 1) Alumnae Survey, 2) Shadow An Engineer, 3) Corporate Mentor Directory and, 4) SWE Summer Job Program. Additional activities of the WEP are the 5) Graduate Women's Network, 6) Society of Women Engineers and, 7) Women Faculty Advisory Group.

The Shadow an Engineer activity provides for students to visit the corporations of the CIACW for a day so they can learn about the role of engineers in the workplace. A description of a model day, specifics about the company, and corporate reports are kept on file in the Office of Undergraduate Affairs Resource Library. The students can call the assigned contact person for each of the corporations and make arrangements to visit at a mutually convenient time. A follow-up evaluation is completed by the student after each corporate visit. This information is then passed on to the corporate contact, who may be a member of the CIACW.

The Corporate Mentor Directory consists of alumnae of our college who responded to a request for their support. The computer program data identifies each participant by name, college major and year of gradua-

tion, employer, description of professional responsibilities, and proximity to metropolitan center. The objectives of the directory are 1) to provide contacts for female engineers with professional female engineering role models to assist them regarding potential career choices; 2) to identify mentors who can offer advice and guidance on a wide range of issues; and 3) to involve corporations, and give them greater visibility among female engineering students in our college.

The Graduate Women's Network was initiated this year to establish a continuing link for undergraduates, so as to encourage them to consider graduate studies and, also, to provide support for graduate female students. An open meeting was held this spring inviting all female graduate students to meet with SWE members to talk about a variety of issues and perspectives. This resulted in the appointment of a graduate student to the SWE Executive Board. The expectation is that this representation will help in designing activities and providing support for the graduate students.

The Society of Women Engineers continue to provide a balance of professional and social activities to support retention. These include a Big/Little Sister network, a high school career day, plant tours, and professional and personal development seminars. A new initiative this fall will establish small support groups within each dormitory housing women engineers. The facilitators will be SWE members.

The Women Faculty Advisory Group was convened for the first time this year by the director of the WEP. It includes four full-time faculty and one part-time faculty member.

The purpose was to involve these professionals in the discussions of issues of mutual concern. After several monthly meetings, the group drafted a list of seven objectives. These are to increase the number of female and minority females: 1) on the faculty; 2) doing research as undergraduates; 3) graduate students; 4) graduate fellowships; 5) on departmental corporate advisory committees; 6) on the Dean's Corporate Advisory Committee; and, 7) on ABET accrediting teams. After additional discussion and input from other faculty colleagues, the WFAG will present their recommendations to the dean of the college.

Additional issues which have surfaced in our discussions include how to prepare for tenure reviews, how it is to be a minority in the college and profession, and departmental and college politics. It soon became evident that this advisory group has become a support network for female faculty and students in engineering.

**COLLEGE INDUSTRY ADVISORY COMMITTEE  
FOR WOMEN**

**14 CORPORATIONS**

**19 MEMBERS**

**SWE PRESIDENT**

- \* ADVISORY GROUP IN SETTING  
WEP GOALS**
- \* SHADOW AN ENGINEER**
- \* CORPORATE MENTOR DIRECTORY**
- \* SEMINAR PRESENTORS**
- \* FINANCIAL SUPPORT FOR WEP;  
CONFERENCES**
- \* SUMMER JOBS; PERMANENT JOBS**

**SHADOW AN ENGINEER**

- \* CIACW MODEL - 6 CORPORATIONS**
- \* STUDENTS MAY PARTICIPATE IN A  
VARIETY OF ONE-DAY CORPORATE  
VISITS**
- \* INFORMATION ON CORPORATIONS,  
CONTACT PERSON, ETC., LOCATED  
IN UNDERGRADUATE OFFICE  
LIBRARY**

## CORPORATE MENTOR DIRECTORY

(JANUARY 1990)

- \* ALUMNAE QUESTIONNAIRE - 14.5% RESPONSE
  - TO PROVIDE FEMALE ENGINEERS WITH PROFESSIONAL ROLE MODELS TO ASSIST THEM REGARDING POTENTIAL CAREER CHOICES
  - TO IDENTIFY MENTORS WHO CAN OFFER ADVICE AND GUIDANCE ON A WIDE RANGE OF ISSUES
  - TO INVOLVE CORPORATIONS, AND GIVE THEM GREATER VISIBILITY AMONG FEMALE ENGINEERING STUDENTS

## GRADUATE WOMEN'S NETWORK

- \* CONTINUING LINK FOR UNDERGRADUATE WOMEN - SWE
- \* RETENTION OF GRADUATE WOMEN
- \* FELLOWSHIPS

## **SOCIETY OF WOMEN ENGINEERS**

### **IMPROVE IMAGE**

#### **BIG/LITTLE SISTER NETWORK**

- SUPPORT GROUPS IN DORMS
- YEAR-LONG ACTIVITIES DESIGNED FOR FRESHWOMEN

#### **PROFESSIONAL SEMINARS**

- INVOLVE MORE FEMALE PROFESSIONAL ENGINEERS
- FOCUS ON PROFESSIONAL DEVELOPMENT

### **WOMEN FACULTY ADVISORY GROUP**

**4.5 FACULTY WOMEN/120 FACULTY (4%)**

**GOALS: TO INCREASE THE NUMBER OF FEMALE AND MINORITY FEMALE**

1. FACULTY
2. INVOLVED IN UNDERGRADUATE SUMMER RESEARCH IN THE COLLEGE
3. GRADUATE STUDENTS
4. GRADUATE FELLOWSHIPS
5. ON DEPARTMENTAL CORPORATE ADVISORY COMMITTEES
6. ON DEAN'S ADVISORY COMMITTEE
7. ON ABET ACCREDITING TEAMS

