

EXPERIENCES OF NEW DIRECTORS OF WOMEN IN ENGINEERING PROGRAMS

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INTRODUCTION

The Women in Engineering Program at the University of Colorado at Boulder is almost five years old. The lessons learned over those five years can be valuable in helping a new director develop a program as quickly and efficiently as possible. This is not a manual or "how-to" for developing and implementing good programs and activities. Rather, it consists of some advice based on the experiences at CU-Boulder - some do's and don'ts - for establishing and running a women in engineering program that will encourage collaborative work, participation, and success.

WOMEN IN ENGINEERING AT CU-BOULDER

Women currently comprise about 18% of the undergraduate enrollment at the University of Colorado at Boulder. Since 1988, the percentage of women in the freshman class has ranged from 18-20%, the percentage of all women undergraduates has been between 15.5 and 18%, and the graduation rate of women has been between 11 and 13%. Over the last five years, the overall undergraduate enrollment has been between 2300 and 2500 students.

THE WOMEN IN ENGINEERING PROGRAM

The Women in Engineering Program was initiated 5 years ago with approximately 5% of a full-time equivalent position. It gradually increased to its current level of 50% fte. WIEP's primary focus is on retention of undergraduate women. Recruiting activities have recently been added to the program. There is less emphasis on outreach.

The Women in Engineering Program conducts the following intervention activities:

- Career workshops
- Counseling
- Orientation seminars for students and parents
- Advocate for sexual harassment complaints

The Women in Engineering Program promotes, educates and disseminates information about WIEP:

- Newsletter
- Letters to current students
- Letters to parents of current students
- Letters to prospective students
- E-mail

The Women in Engineering Program identifies and provides role models for students:

- Peer mentoring
- Professional mentoring
- Job shadowing

The Women in Engineering Program maintains a symbiotic relationship with the SWE student section and coordinates activities with Rocky Mountain SWE:

- WIEP Director is SWE faculty advisor
- WIEP subsidizes (with privately donated funds) SWE students to attend Rocky Mountain SWE meetings.

The Women in Engineering Program conducts recruiting activities in an effort to enroll a higher percentage of the available women in the qualified applicant pool.

- WIEP sends letters to female high school seniors who attended the College's 3-day summer engineering program (High School Honors Institute).
- WIEP, with the assistance of SWE, conducts a phon-a-thon to contact all in-state women who have been accepted to the College, but have not yet decided where to go.

- WIEP offers scholarships to as many in-state prospective women freshmen as possible (18 2-year scholarships for 1993-94).

- WIEP holds a "Women in Engineering High School Career Day", once each semester, to interest high school girls in engineering. The first conference was held Spring, 1993.

The Women in Engineering Program is involved in a limited number of outreach activities to help increase the size of the qualified pool. After hosting an Expanding Your Horizons Conference in 1992, the WIEP is assisting two local AAUW sections in conducting an EYH Conference in 1994 on the CU-Boulder campus.

ADVICE TO NEW DIRECTORS OF WOMEN IN ENGINEERING PROGRAMS:

- Meet with deans and department chairs, women faculty, and students. Find out if they have any pre-conceived notions about what a WIEP does or should do, and what they might be expecting from you. Find out who your advocates are and build alliances.

- Perform some type of needs assessment for your students. This can be by survey, focus group, or other mechanism. Depending on the politics of the institution, you might ask other people to conduct them for you. Women students at CU-Boulder reported the following problems:

- Social Unhappiness

- Isolation
- Lack of peer support
- Need to excel to be accepted, "taken seriously"
- Gender discrimination/sexual harassment

- Academic Unhappiness

- Competitive vs cooperative environment
- Emphasis on "how" vs. "why" in engineering courses
- Classes unexciting
- Need for networking
- Inadequate advising
- Lack of role models
- Need for hands-on training

- Set goals. Goals for the number of women enrolled in engineering must be College-wide goals, developed by faculty, which the College administration will support. Once optimistic, realistic, and attainable goals are set, then you must work with College administration and faculty to educate them that the Women in Engineering Program is one component of an overall effort to increase the participation of women in engineering. Faculty and administration must look closely at the campus and college climate. Is there sexual harassment that goes on unimpeded? Is there genuine insensitivity on the part of faculty, staff, and/or students? Are there significant numbers of female faculty members in the College, or only a token woman here or there? Are classes - particularly the freshman math, chemistry, and physics classes - huge, with little opportunity for students to get to know their professors?

- Decide on the mission of your program. The mission of some WIEP's is to improve the retention and recruiting of female engineering students. Some schools may choose to do outreach only, while others choose to concentrate on research. Your program's mission will play a major role in the type of funding you seek and receive.

- Form advisory boards. One option is to have one board with both corporate and faculty representation. CU-Boulder WIEP had such a board for one year. This board assisted in the development of a mission, goals, strategic plan, and in prioritizing activities. After one year, the board was split into a corporate advisory board and an internal advisory board.

One purpose of the corporate board is to assist you in finding and cultivating funding sources. The board may also provide an external evaluation of your program. In any event, members will show a consistent support for women in engineering to your dean and to their business associates. They do not get involved in the day-to-day activities of the program. Professionals participating on this board should be of diverse gender and ethnic backgrounds. You may choose to have another WIE director on the board. This group meets once or twice per year. An executive committee may meet more often.

The internal advisory board consists of male and female faculty, female students, and a counselor from our counseling center. A representative from our "development" group is also on the board, to help develop funding sources, and to be able to update our corporate and alumni sponsor on the activities of the program. This group gets involved in the details of the program's activities and operations, and provides advice when needed. This group meets twice each semester or more as appropriate.

- Get to know other administrators, staff, and faculty on the campus. If you are counseling, you will no doubt have to refer students to other University offices, and you want to be sure that your referrals are good ones. In addition, there are often sources of funding in other campus units, for which you can apply.

- Work closely with SWE, whenever desirable or possible. There are many recruiting and outreach activities that SWE likes to do, and your support can help to enhance those efforts. SWE also can provide volunteers for your programs. At CU-Boulder, SWE earns money for each volunteer who works on WIEP programs such as phon-a-thons and high school career day. The relationship can be a true "win-win" situation.

- Decide, perhaps by yourself or with your administration, what role you will take in sexual harassment cases. Do you want to be the point of contact for the student? Do you want to provide the support when cases are taken to the University administration? Will active support of students in pursuit of validation of their claims jeopardize your relationships with other faculty or department chairs?

- Demand tools that you need to get your job done. Is your computer obsolete? Is your printer letter quality? Do you have access to a copy machine, fax machine, long-distance phone service? Could you get a significant amount of work done and drastically improve your efficiency with an inexpensive lap-top computer?

- Request help. Students on work-study are often employed in our Dean's office, and they can be called upon to stuff envelopes, prepare mailings, etc. Obtain some secretarial help, for handling phone calls and routine typing.

- Make sure you know what is expected of you. Write a job description and get it approved. How much money are you expected to raise? If the goals of enrollment of women are not met, what are the consequences? Are the expectations realistic, attainable, and fair?

- Understand that in the traditional large university, you are trying to change the status quo. Many people will like and appreciate the program. In other circles, you will be unpopular. Appreciate the impact you make on the students who need you.

THE NEXT FIVE YEARS
FOR WOMEN IN ENGINEERING AT CU-BOULDER

The administration, with the support of its corporate and alumni sponsors, has recently decided to expand the Women in Engineering Program at CU-Boulder. A half-time executive director was hired to raise the funds necessary to operate the program. The current director will continue to develop and direct the student retention and recruiting activities. A half-time executive-on-loan may be added to assist with recruiting. A Women in Engineering Resource Center will be established.

Several departments have already made tremendous strides towards improving the climate for their women students and faculty. In addition, with the assistance of the Women in Engineering Program, the College is developing a special orientation program for all new students, to introduce the concepts of gender and ethnic diversity, and to discuss expected behaviors.