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CENTER FOR TRANSPORTATION INFRASTRUCTURE AND SAFETY



Women In Science & Engineering Scholarships and Summer Camp Outreach Programs: Year 6

by

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**A National University Transportation Center
at Missouri University of Science and Technology**

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16. Abstract Support will make scholarships available to minority and women students interested in engineering and science and will increase significantly the number of minority and female students that Missouri S&T can recruit to its science and engineering programs. Recipients of scholarships will also be exposed to career opportunities in transportation.			
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Women In Science & Engineering UTC FINAL REPORT FOR 2011 - 2012 ACTIVITIES

Overall Summary:

Since the UTC Scholarship program began in the spring of 2005 and continues today on the S&T campus, approximately 435 female students have benefitted tremendously from this source of financial aid. The program began in the first few years with 15-30 awards, and has now progressed to over 130 per year. Approximately **100** scholarship recipients have graduated since the inception of the program, and of those **45 have been employed in transportation-related industries**. In addition, the **female enrollments in several transportation-related majors have increased greatly since the program's inception**. **Examples of these increases include: Civil Engineering from 64 to 100, Mechanical engineering from 55 to 96, and Architectural engineering from 35 to 63**. **The program has established a priority awarding guidelines based on a 3.0 cumulative grade point average, and the plans of the recipient to major in a transportation-related field. With these guidelines will also come the reporting of the final outcomes- the number of students participating in the program who are finding permanent, summer, or co-op related employment in a transportation-related field. This will be requested of students when they are initially awarded the scholarship, and as they progress with each scholarship renewal**. This scholarship program in the past year has been a tremendous help in increasing female enrollment on campus to help set the all-time record of 1,512 on campus, plus 173 off-campus for a total female enrollment of 1,685 for the 2011-2012 academic year. We are also happy to report that these scholarships help with retention and graduation rates for women, as our 1st-2nd year retention rates have been in the 88%-92% range in the years since the scholarships were first given, and the 6-year graduation rates have increased from 67% to 74% in that same time frame.

Outreach Activities and Professional Development Opportunities for Women

Society of Women Engineers (SWE) National Conference:

***October 2011 (National); 10 students; 2 staff**

Regional Conference Feb. 23-25; 8 students attended

Missouri S&T Society of Women Engineers (SWE) students participated in the National and Regional conferences which are the major events for SWE and one National is one of the largest technical and career conferences for female engineers in the country. Each year, the conference attracts nearly 5,000 engineering professionals, students and corporate representatives. The conference is an opportunity for engineering companies and corporations to recruit top talent from SWE membership. It also provides educational, technical and career opportunities for professional and student engineers. Additionally, two UTC scholarship recipients who are graduating civil engineering majors are the current president of SWE and regional collegiate representatives of SWE! Both have jobs in the transportation industry, as well!

Girls "Lock-In" Conference's (11-12th grade girls)

***September 30-October 1, 2011 (26 participants)**

***March 9-10, 2012 (24 participants)**

The conferences gave the students the opportunity to camp out in a residence hall, learn more about studying math, science, and engineering at Missouri S&T, meet other perspective and current students, learn tips for financial aid and admission, and participate in team projects. **Transportation-related hands-on activities are a part of these conferences, usually with workshops or lab demonstrations**. The conference was designed by students who are members of the Missouri S&T Society of Women

Engineers (SWE) and the Women in Engineering and Science Program. This event has a 60% success rate in enrolling attendees.

Girl meets Missouri S&T (12th grade girls)

***April 15-16, 2012 (13 participants)**

This 2-day program is a student recruitment event for female high school seniors and transfer students who have been admitted to Missouri S&T but who have not yet made their enrollment deposit and commitment to attend Missouri S&T. Designed to invite, encourage, promote and support female students to enroll as undergraduate students at Missouri S&T. The recruitment event will allow students to see first hand what life as a female engineering or science student entails and to gain insight into the opportunities available for a successful undergraduate career at Missouri S&T. Visiting campus is the best way for students to get a complete picture of Missouri S&T and its programs. Parents will be invited to attend the event with the student. Students will stay overnight in the residential halls and are matched with current female students who will serve as a peer while on campus. This event has a 75% success rate of enrolling attendees.

“Expanding Your Horizons... in Math and Science”

November 4, 2011 (over 500 participants)

This national program was established by the Math and Science Network in 1976. Missouri S&T implemented the annual EYH conference in 2000 and today has served over 3000 students. Missouri S&T hosted its 7th conference for over 500 young women. This conference is designed to nurture girls’ interests in science and math courses and to encourage them to consider science and math based career options such as engineering, computer science, and biometrics. EYH is an invitation for 7th & 8th grade girls to visit the Missouri S&T campus and attend a keynote presentation by a successful women engineer or scientist, participate in hands-on math/science activities, and interact with female students, faculty and practicing engineers and scientists who serve as positive role models.

Summer Solutions Camp (9-10th grade girls camp)

***June 21 – 25, 2011 (32 attended)**

Summer Solutions Camp is designed to pique the interest of freshman and sophomore high school girls in engineering and science. The one-week program is designed to enable female students to obtain a clear picture of engineering and science as a profession. Several hands on projects are planned to help the students learn more about career options and the demand faced in the fields of engineering, math, and science.

“It’s a Girl Thing” – 7th & 8th Grade Girls

***June 14 – 18, 2011 (32 participants)**

The program is designed to enable young female students who will be in the 7th & 8th grades during the 2010-11 school term, to help them obtain a clearer picture of engineering and scientific/technological professions. Students will get an opportunity to explore engineering, math, and science through “hands-on” experience. The sessions include laboratory experience, at least one having a transportation-related them, such as building truss bridges with team engineering projects, and time to interact formally and informally with role models and peers. Students become acquainted with various fields of engineering and science and with the demand faced in these fields by practicing engineers and scientists. Another goal is to acquaint students with the type of effort required for college study.