Pathways To Your Future: Exploring STEM Careers
At Penn State York
May 16, 2014

A Brief Description of the Program

Pathways To Your Future: Exploring STEM Careers at Penn State York is a career awareness program for seventh grade girls, their teachers and parents that highlights college major and career opportunities in science, technology, engineering and mathematics (STEM). The program, which is free for participants, brings together young women and professional women from academia, medicine, government agencies, business and industry for a day of learner-centered, hands-on workshops. In addition, Pathways provides participating teachers and parents with information to guide young women toward college majors and career opportunities in science, technology, engineering and mathematics (STEM) related fields.

Description and Participants

All of the middle schools (both public and private) in the Penn State York service area (which includes York County, parts of Adams and Lancaster Counties, as well as fourteen schools in Maryland) are eligible to attend Pathways. We also invite established groups of York County home schooled children and charter schools, both “bricks and mortar” and cyber (that enroll York County students), to participate in our program. Each school may send, free of charge, eight girls, one teacher (female mathematics or science teachers are encouraged to attend) and one parent to the conference.

Pathways 2014 hosted 276 students, parents, and teachers from twenty-eight different schools. More than 90 volunteers - workshop presenters, workshop assistants, conference coordinators/planners, Exelon Generation employees, Penn State alumni, Penn State York faculty and Penn State York staff members - contributed to the success of the program.

The middle school participants are chosen by the school (usually by our teacher contact). Teachers use a variety of methods for selecting the girls to attend the conference: grades, lottery, essays, interest in college degrees in math, science, engineering and/or technology, teacher recommendation, etc. We ask the schools to select girls from all ability levels and to encourage girls to participate even though they may not yet show a genuine interest in college and/or mathematics and science. Our hope is that by engaging these girls in meaningful, hands-on activities, we will encourage more young women to consider a science, technology, engineering, or mathematics related (STEM) college major/career.

List of the Workshops

The titles of the twenty-three workshops offered at Pathways 2014 are listed below. Complete workshop descriptions are available in the conference brochure and in the workshops section of our website (http://www.yk.psu.edu/pathways/workshops.html).

- Ask Marilyn (or Not)
- Bridging the Gap
- Can You Keep A Secret?
- Cell-A-Bration
- Digital Crime Scene Investigator (CSI)
- DNA Detectives
Goals of the Program

- To increase young women’s awareness of STEM (science, technology, engineering and mathematics) college majors and careers
- To encourage young women to take college preparatory mathematics and science courses in high school and to become comfortable with using technology so that the doors to STEM college majors and careers remain open to them
- To provide opportunities for young women to explore career options and to interact with professional women from STEM and related fields
- To provide continuing support and encouragement for young women who have expressed interest in pursuing college majors/career opportunities in STEM and related fields
- To provide teachers and parents with information to guide young women toward college major and career opportunities in science, technology, engineering and mathematics

Objectives of the Program

- To expose each participant to a variety of careers, with an emphasis on those careers that are considered non-traditional for women; role models for minority and other under-represented groups are included
- To actively involve each participant in each workshop that she attends through "hands-on" or "role playing" activities
- To provide each participant with the opportunity to speak personally with a workshop presenter, workshop assistant (college student/alumni/professor) or college career counselor at the conference
- To provide participants with tangible mementos of the Pathways conference (e.g. t-shirt, tote bag and pen) with the intent of providing long-term recollection of the experience
Measurement of Goals and Objectives

Most of the conference assessments are qualitative. After leaving the conference, we ask each teacher, workshop leader, and workshop assistant to complete an online evaluation form to assess their overall conference experience and workshop effectiveness. In addition, we ask these participants for suggestions to improve the conference.

The responses to all of the forms are tabulated and categorized and are then discussed by the conference coordinators/planners. We use the results of the evaluations to determine the immediate effectiveness of the conference, to provide a workshop assessment to each workshop presenter, and to modify the conference program for the following year.

Accomplishments of the Program

For the past eighteen years, this program has brought together students, teachers and parents from local middle schools; current students, professors, career counselors, administrators and alumni from Penn State; professors from other universities; individuals from Harrisburg and Baltimore area educational facilities; and people from businesses and industries for a most exciting, informative and rewarding day-long conference.

The Pathways program has given our campus an opportunity to reach out to the community with a free educational conference for seventh grade girls, their teachers and parents to encourage young women to pursue college majors/careers in STEM (science, technology, engineering, and mathematics) related fields.

During our wrap-up session, students indicate that they enjoyed the day and learned something new at Pathways. In addition, students have commented that, as a result of participating in this conference, they understand how important science, mathematics and technology are to their future success, and they now are considering college majors/careers that require these skills. We feel very strongly that we have “made a difference” and positively influenced the future college/career paths of many of the student participants from the local middle schools by providing worthwhile experiences and excellent female role models.