

Project Overview

STEM Academy and CTE Learning Series

Rogue Community College will encourage the successful recruitment and retention of females in STEM by implementing these three related projects:

- 1) **STEM Academy:** The STEM Academy will be a sequence of interactive linked experiences in science, technology, engineering, and math targeted at high school and community college women. The STEM Academy will promote girls' choosing and continuing in STEM education and STEM fields. The Academy will provide hands-on STEM experiences and mentoring that build and expand on work done in the 2011 Perkins Nontraditional Grant. There will be a wider spectrum of hands-on learning experiences and industry tours in multiple STEM careers, along with education on ways to overcome barriers in nontraditional careers so girls more fully realize their potential. In presenting female-led workshops with female role models with STEM work experience, RCC staff will be able to "control the messages" high school and college women receive, both spoken and unspoken. Each workshop will impart distinct STEM skills by providing a project to finish or a set of tasks with clear outcomes related to STEM fields.
- 2) **CTE Learning Series:** This learning series will be targeted to teams of high school science, math, CTE teachers, guidance counselors and administrators; and postsecondary counselors and recruiters. It will offer unique CTE professional development courses to foster collaborations among programs of study; and help in the recruitment of women/girls to CTE programs of study, and students to participate in the STEM Academy. By offering the CTE Learning series in conjunction with the STEM Academy, RCC staff hopes to educate the gatekeepers at the secondary and postsecondary levels by building equity training into the workshop curriculum.
- 3) **The STEM Alliance:** The STEM Alliance will be targeted to RCC women students and faculty as a way to continue efforts to develop, sustain, and promote STEM careers. The STEM Alliance will focus on issues of equity in the workforce through quarterly presentations and meetings to expand the reach of and knowledge about STEM careers. Alliance members will serve as leaders in the development and delivery of the STEM Academy workshops. Taking on the mentor role will likely to also strengthen their own commitment to STEM education.

The target populations for this project are Career and Technical Education (CTE) program of study students at high schools in the SOESD and at RCC, and high school and college counselors. These programs of study include automotive/diesel technology, computer science, construction technology, and manufacturing/engineering technology, electronic technology, welding technology, science and applied math.

What are the major activities or strategies that will be carried out?

- 1) **STEM Academy:** This activity will combine secondary and postsecondary students and teachers, and be offered at all three RCC campus locations located in White City, Grants Pass, and Medford, Oregon. Secondary and postsecondary academy planning committee members will be from SOCTEC, the SOESD, members of the STEM Alliance

and RCC representatives from each STEM CTE program of study. The two- to four-hour workshops will take place from November 2012 to late April 2013. These ongoing workshops will represent an intentional selection of students for participation, engender a shared vision among CTE-STEM secondary and post-secondary faculty/staff, and provide a creative, experiential, reality-based curriculum.

Timeline

1. Summer Term – Research best practices for successful production, execution, and follow-up of STEM Academy.
 2. Fall Term – Identify planning committee members to begin the planning process. Recruit students, teachers, counselors, and mentors, and develop workshops based on students' interests. Divide duties among committee members and begin STEM Academy.
 3. Winter Term – Continue STEM Academy.
 4. Spring Term – Evaluate and Assess STEM Academy.
- 2) **CTE Learning Series:** The experiential workshops will target secondary and postsecondary teams (as referenced in the prior question) and be located at RCC's campuses in White City and Grants Pass, Oregon. The full-day professional development courses will take place from October 2012 to late May 2013. These ongoing courses will represent continuing efforts to engender a shared vision among faculty and staff to provide a creative, experiential, reality-based curriculum that mimics and enhances the experience of students participating in the STEM Academy. Secondary and postsecondary planning committee members will be recruited from RCC faculty from each STEM CTE program of study, SOCTEC, and SOESD.

Timeline

1. Summer Term – Research best practices for successful production, execution, and follow-up of CTE Learning Series.
 2. Fall Term – Identify planning committee members and begin the planning process. Recruit teams of teachers and counselors, develop curriculum for professional development courses designed to highlight skills, labor markets and career opportunities. Divide duties among committee members and begin CTE Learning Series.
 3. Winter Term – Continue CTE Learning Series.
 4. Spring Term – Continue, evaluate and assess CTE Learning Series.
- 3) **STEM Alliance:** To better assure awareness of STEM Alliance gatherings and events, direct student support will take place on all three RCC campuses, and through email/online support for high school students taking RCC STEM classes. At the postsecondary level, direct student support will be facilitated by the nontraditional coordinator who will focus on the retention of CTE students who have enrolled in RCC-CTE/STEM programs. The nontraditional coordinator will develop topics for events based on student input and STEM/CTE faculty and industry professional availability. The grant will pay for meeting support costs and instructional supplies. The emphasis

for this activity is on creating a cohort of support for students who are in nontraditional programs and thus, a gender minority.

Timeline

1. Summer Term – Research best practices for nontraditional student support services; identify student group.
2. Fall through Spring Terms - STEM/CTE students will be identified once a term during fall, winter and spring through RCC's registration records. There will be quarterly student summits for networking and support facilitated by the RCC nontraditional coordinator.