Abstract

The College of Natural Sciences and Mathematics at Sacramento State is experiencing a renaissance in student success initiatives aimed to support students in science and math courses. Within the last five years, departments in NSM have launched successful programs to help students succeed in gateway courses, like calculus and general chemistry, help students obtain academic advising, and most recently, help undergraduate students obtain high-quality research experiences in the classroom. In addition, these new program initiatives complement long-standing student support programs, like the Science Educational Equity Program, which has served underrepresented students in the College for nearly thirty years. Collectively, these college-based services and programs offer students the support that they need in order to enhance their success at the University. There is strong partnership and synergy among programs, and to formalize this relationship, the College of NSM is launching the new Center for Science and Math Success in 2015. The Success Center will bring under one umbrella the following existing programs: Science Educational Equity, Peer-Assisted Learning, Commit to Study, Sacramento State LSAMP, and PASS (Peer Assisted Student Success) Advising. In addition, the Success Center will focus on the implementation of interventions designed to contribute to overall student success and engagement, with the goal of increasing retention and graduation rates for students in the college. Moreover, the Success Center will serve as a hub for the development and dissemination of innovative pedagogical and student support to help students across the University improve their success in introductory science and math courses. As a collective, programs under the Success Center umbrella will be able to leverage resources, establish collaborations, and strategically develop programs to meet the needs of math and science students at Sacramento State.

Programs Featured in the Center

Science Educational Equity Program


dermographic of SEE students compared to non-SEE NSM low income students

- Students who participate in the SEE Program have increased retention rates (96.3% vs. 80.9%) when compared to a similar cohort of the college's ESP Report, 2014.
- While not all underrepresented students in NSM are served by the SEE program, SEE has a high proportion of URM students when compared to a similar cohort of non-SEE NSM low-income students.

Early Intervention: PASS Advising

- Early intervention must occur within the first 11 days of the term.
- Advising has limited effect on improving course grades.
- However, PASS Advising increases the 2-year retention rate within STEM by 17%.

Peer-Assisted Learning Program

- PAL PASS rates are 15% higher than No PAL Cohort.
- PASS groups show a significant increase in grades, Math SAT, and placement exams.
- PAL has a slight, but positive effect on long-term retention in STEM.

Programs in the Center Serve a Diverse Population of Sacramento State Students

- Placing underrepresented students into academic leadership positions provides mid-level, highly visible membership in the academy.

Future Directions & Next Steps

Future Directions

Commit to Study: Advising
- Aim: To increase the academic success of incoming students with little or no financial support by providing students with a supportive academic environment.
- Services provided by the center and current students who are currently not served by other programs.
- Commit to Study Advising will use group tutoring and special events to connect with students and guide them to appropriate services.
- The program provides opportunities for math and science students to succeed in their classes.
- Associate researchers will be supervised by the STEM WISE Mentor.

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