

A new STEM education center, north of McLane Hall, will broaden the Department of Physics.

Explain the current challenge you wish to address.

Lack of a STEM education center severely restricts our education and Outreach programs. (STEM is Science-Technology-Engineering-Mathematics.) K-12 students in the community and Fresno State students cannot currently access the resources to further their STEM education. We will provide not only physical, hands-on learning with modern equipment, but also written lesson plans and other resources for teachers at all levels, throughout the diverse Fresno community.

Explain your solution to the challenge.

The \$10 million center would provide space for K-12 and Fresno State students to work with demos, as well as storage for checking out equipment and lesson plans. Technological facilities would include a video studio for recording lesson plans for teachers, and consolidating laboratories and study rooms for Fresno State students. A high-bay entrance would enable a Foucault pendulum (for demonstrating Earth's rotation) and other physics demonstrations. It would also look impressive, important for attracting external funding: the dumpsters immediately outside the current physics office do not cut it. Instead, the plan would create a mall between physics and engineering, encouraging interdisciplinary collaboration.

How does your solution benefit Fresno State?

Enrollment in the Department of Physics is twice as high as it was ten years ago. Demand for STEM education is booming throughout the United States, and in the Central Valley especially. The proposed STEM education center would enable Fresno State to take the lead as a national leader in graduating STEM URM (under-represented minority) majors.

This bold idea could:

- (1) Enhance teaching and learning through innovative practices for this rapidly growing STEM field.
- (2) A new STEM education center can't help but be a dynamic, state-of-the-art work environment, key to developing and retaining the best diverse faculty.
- (3) A new STEM education building will obviously modernize our campus physical and technological infrastructure.
- (4) The Department of Physics now has a vigorous Outreach program in the community. This STEM education center would facilitate students and teachers in K-12 schools throughout the community to come to us. With any luck, these students will matriculate at Fresno State!

Photos of a model and architectural drawing of the proposed STEM education center are at this link:

<http://zimmer.csufresno.edu/~fringwal/bold-idea.html>