WELL-PREPARED PK-8 TEACHERS:

LIBERAL STUDIES STEM CONCENTRATION

MSTI was an integral partner in the development of a $20,000 Bechtel grant to create a Liberal Studies STEM Concentration unique in the CSU system. Core team: faculty from Math and Science Education, Engineering, Geology, and Physics. Concentration courses: Energy, Technology, and Society; Environmental, Earth, and Life Science; Physics Pedagogy and Outreach, and Engineering Literacy. Foci: NGSS and CCSS. Support: Stipends, $5 for professional travel, membership in prof. organizations, faculty support for 25 conference presentations (2013-14).

FRESNO UNIFIED TEACHER RESIDENCY PROGRAM

MSTI-Fresno is a vitally important partner in another outstanding Bechtel grant, providing the following: (a) professional learning scholarships to support math and science conference, workshop, and summer institute attendance; (b) a full tuition/fee waiver to those who enroll in middle school science and/or middle school math methods courses; (c) membership in CMC, CSTA, NCTM, and NSTA; (c) Assistance in preparing for the math and science CSETs (for FLA and FLGS); and (d) reimbursement of all test and credential fees.

MATHCOUNTS

MSTI actively supports the Fresno Chapter MATHCOUNTS tournament, a problem solving competition for middle school students held on the Fresno State campus.

SUPPORTING THE PRODUCTION OF MATH & SCIENCE TEACHERS

Since 2006, the Mathematics and Science Teacher Initiative (MSTI) has actively supported the recruitment and education of mathematics and science teachers for Central Valley classrooms through numerous programs and partnerships. As a result, from AY 2006 to AY 2012, the number of math and science teachers produced at Fresno State increased by 264%.

SUPPORT FOR PROSPECTIVE MATH & SCIENCE TEACHERS

- Developed and offer middle school science and math methods courses (CI 161/FLGS & CI 161/FLM)
- 2008-15: Have offered free workshops on CSET content in General Science (n=19), Biology (n=18), Chemistry/EPS (n=20), Physics (n=15) and inexpensive courses/workshops in math: Algebra (n=19), Geometry (n=18), and Calculus/History of Math (n=7). Total: 116 events
- Offer student advising via phone, email, & appts.
- Encourage professional involvement: Provide professional learning scholarships ($200/semester) for workshop and conference attendance.
- Provide membership in CMC, CSTA, NCTM, & NSTA.
- Reimburse all CSET Math/Science and CTC fees.
- Support instructional aides in the Chemistry Dept.
- Sponsor Earth & Environmental Sciences program for preservice teachers and gr. 5-8 students.
- Support the Early Field Experience program (coordinated by SMEC), which provides paid experiences in math and science classrooms.
- Serve as cost-share for FRESTEF (Noyce via SMEC).
- Co-sponsor of the Reedley College STEM Conf.

PHYSICS PEDAGOGY AND OUTREACH COURSE

This amazing service learning course provides future teachers with an opportunity to learn physics concepts and “take the show on the road”! In Fall 2013, 40 different schools in 11 districts throughout Central California were visited by the team, which also appeared on local television programs and at a number of Fresno State events. MSTI provides stipends for students taking this course, as well as media support, supplies, and outreach shirts.

FIRST LEGO LEAGUE

MSTI supported the FIRST LEGO League regional qualifying tournaments by recruiting volunteers and acquiring Fresno State’s mascot to distribute trophies and promote the university.

COMMUNITY BASED LEARNING (CBL)

In partnership with CBL, MSTI supports a wide variety of professional learning and instructional opportunities for Liberal Studies (LS) and Multiple Subject students to (a) increase their confidence and competence in math and science; (b) promote and supplement the LS STEM Concentration; and (c) encourage Teaching Fellows who are majoring in mathematics, science, or engineering to pursue a math or science teaching credential. MSTI-sponsored activities include After School and Summer STEM Teams (provide instruction for K-8 students), STEM instruction in Saturday Academies, and the PreService Teacher Institute (PSI) in collaboration with NASA Ames.

MSTI CONTACT INFORMATION

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SONIA KOWALEVSKY MATH DAY

In this co-sponsored event, young women are encouraged to pursue math-related careers as they enjoy a fun-filled day of hands-on mathematics activities, workshops, talks, and a career panel.

Email

Museums and Science Endowments
Fresno State • 2005-2012