Established in 1993 with major funding from the National Science Foundation (NSF), the STEM AMP program is a partnership of the state’s two- and four-year colleges and universities, with a primary goal of increasing the number of B.S. degrees awarded to underrepresented students in New Mexico. Managed by New Mexico State University (NMSU), STEM AMP supports students with scholarships; research assistantships; professional development; and enhanced teaching, learning, and mentoring experiences. Program activities are designed to attend to individual student retention, development, and progression; understand and support student progression to graduate school and the STEM workforce; and promote the replication of best practices, both within New Mexico and nationally.

STEM AMP supports economic development in New Mexico by supporting students in the STEM disciplines, facilitating their academic success and graduation, and providing them with experiences and skills that prepare them to become leaders and participants in the state’s growing technological base. By offering students opportunities to collaborate with faculty in scientific research and engineering design project, STEM AMP directly contributes to the development and advancement of a diverse, internationally competitive, qualified, and entrepreneurial workforce. Since 1993, STEM AMP has leveraged approximately $35 million, primarily in federal funding, to support education in New Mexico. Impacts of degree production increases have produced over $82 million in higher earnings and the creation of 570 related jobs.

### Program Impact to the State of New Mexico

- **STEM Degree Production and Representation:** Since program inception, New Mexico has seen significant increases in the number and percentage of B.S. degrees earned by underrepresented students at the state’s public 4-year universities – from 253 in 1992/93 to 779 in 2013/14. Importantly, the percentage of B.S. STEM degrees awarded to minority students increased from 24 percent to 44 percent in the same time period, thereby increasing diversity in STEM.

- **Educational Development in New Mexico:** Approximately $35 million in funding has been leveraged against state funding for student support, teacher preparation, and graduate student transition to the PhD. in the STEM disciplines.

- **Student Outreach and Support:** 1,500 students are impacted by STEM AMP activities each year, including outreach, professional development, and direct financial support.

- **Economic Impact:** NMSU economist and Regents Professor James Peach and his colleagues at the Arrowhead Center, the economic and business development leader for NMSU, examined the Census Bureau’s 2013 American Community Survey data for earnings differentials between STEM Occupations and Degrees versus Non-STEM (any degree) for New Mexico to measure the direct program impact of the STEM AMP program. Based on the increase over the base year in STEM graduates (253 in 1992/93), the following assumptions and calculations were made:
  - STEM degrees to underrepresented minorities increased by a total of 5,187 degrees after factoring out the baseline of 253 degrees per year over the lifetime of the program.
  - Based on the Census Bureau’s 2013 American Community Survey, the differential for STEM versus Non-STEM occupations was $36,459.
  - Using NMSU alumni data as a reasonable estimate, we assumed that 52% of STEM graduates will remain in New Mexico.
  - Based on the earnings differential of $36,459, we estimate that STEM graduates remaining in New Mexico had $82,272,736 in higher earnings than would have been the case without a STEM degree. The earnings of STEM graduates who have left the state of New Mexico are not included.
  - An estimated 570 additional jobs resulted from the higher earnings of STEM graduates, producing $20,623,434 in labor income in the state.
Program Rationale

As new industries continue to emerge and develop at the regional, national, and global levels, the need for trained individuals with degrees in STEM fields has increased greatly. Projections from President Obama’s Council on Jobs and Competitiveness indicate that “by 2020, we will have 1.5 million too few college graduates as compared with employer demand,” and that current challenges of finding qualified workers is especially difficult in the technical fields. Locally in New Mexico, of the eight top-growing industries, five industries are in STEM fields, including aviation and aerospace, bio-based businesses, electronics, energy, and high technology, which includes optics/photonics and micro-systems. To meet these challenges, students who develop expertise in STEM fields must be well equipped to contribute to practical solutions of local and national problems that prepare them for positions in industry, national laboratories, or universities. With the objective of implementing effective strategies for meeting these challenges, STEM AMP program activities include the following:

- **Undergraduate Research Assistantships**: Students are provided with professional development workshops, faculty-mentored research experiences, and a stipend. Academic year and summer opportunities are available.

- **Summer Community College Opportunity for Research Experience (SCCORE)**: In this four-week residential program at partner universities across the state, community college students participate in workshops, campus tours and orientations, and faculty-mentored research projects at the university campus of their choosing. Students receive a stipend in addition to housing, meals, tuition and fees.

- **Annual Statewide Student Research Conference**: Approximately 300 students (high school, community college, and university), faculty, and staff attend this annual event, held each fall semester at NMSU. Students participate in competitive poster research presentation sessions, and attend the NMSU University Research Council (URC) poster session, held concurrently.

- **Transfer Support Workshops**: Pre- and post-conference workshops are provided to 20-30 pre-transfer community college students each year. Workshops focus on conference skills, such as reading abstracts and interacting with presenters, and transfer planning. Participants receive a stipend.

- **Transfer Scholarships**: This scholarship is available to eligible community college transfer students for the first semester of university studies.

- **At NMSU, Integrated Learning Communities** increased retention of at-risk engineering students and served as the model for the mandatory college-wide Engineering Freshman Year program implemented in Fall 2014.

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