



U.S. Department of Education
Grant Performance Report (ED 524B)
Project Status Chart

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SECTION A - Performance Objectives Information and Related Performance Measures Data (See Instructions. Use as many pages as necessary.)

1. Project Objective ☐ Check if this is a status update for the previous budget period.

A.1. Performance Measure	Measure Type	Quantitative Data			
		Target		Actual Performance Data	
		Raw Number	Ratio	Raw Number	%
Objective A.1: Increase student success and retention by developing twelve (12) faculty-driven STEM Gateway course-reform projects to ultimately reach at least 7200 students annually (three (3) projects during the first year).	PROJECT	3	/	3	/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
Each year of the grant period, UNM STEM project will support three (3) gateway-STEM course reform projects, facilitated and overseen by the Office of Support for Effective Teaching	Three (3) course-reform projects have been proposed by Faculty and approved. These reform projects include the following courses: CHEM 122 (General Chemistry II), MATH 121 (College Algebra), and PHYC 160 (General Physics). Course-reform projects include nine (9) Full-time Faculty members from UNM, two (2) Part-time Faculty members from UNM, and four (4) Faculty members from Central New Mexico Community College.	Goal has been met
The three (3) course-reform projects implemented each year will directly affect at least 1800 student learners initially, and cumulatively more than 7200 annually by project end.	The course-reform projects began implementing pilot sections in the Fall of 2012. To date, these sections have impacted 291 students in 11 sections of three (3) courses.	After one (1) semester of pilot implementation, goal is on target to meet long-term goals

Percentage of students completing each reformed course will improve with course completion by Hispanic and/or low income students to 75% by 2nd semester of reform implementation & 80% by 3rd semester.	The course reform projects began implementing pilot sections in the Fall of 2012. Second-semester completion percentages will not be available until May 2013, and will be reported in the Year Two annual performance report.	To measure progress towards this goal, we are reporting the baseline data that will be used for this measure: BASELINE: Fall 2011 Hispanic and low-income course completion for target courses = 80.2% combined (CHEM 122=86.78%; MATH 121=78.2%; PHYC 160=84.2%) Fall 2012 Hispanic and low-income enrollment in reformed courses = 457 (66% of total enrollment in these sections) Fall 2012 Hispanic enrollment in reformed courses = 333 (48% of total enrollment in these sections)
Percentage of students completing each reformed course with a grade of C or higher will improve by 2nd semester of reform implementation with an improvement of successful course completion by Hispanic and/or low income students by at least 10% by 2nd semester of implementation and 20% by 3rd semester, compared to the comparable pre-reform statistics for the course.	The course reform projects began implementing pilot sections in the Fall of 2012. Second-semester completion percentages will not be available until May 2013, and will be reported in the Year Two annual performance report.	To measure progress towards this goal, we are reporting the baseline data that will be used for this measure: BASELINE: Fall 2011 Hispanic and low-income successful course completion for target courses = 57.2% combined (CHEM 122=68.4%; MATH 121=53.9%; PHYC 160=63.8%)

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: This data was collected from course reform applications submitted by teams of UNM/CNM faculty members, and from the student information system (BANNER). Data collected November, 2012. Baseline data for course reform sections was collected for the Fall of 2011 for the following courses combined: CHEM 122, MATH 121 and PHYC 160. Successful completion includes the following grades: A-B-C-CR. Non-successful completion includes the following grades: D-F-NCR-INC. Completion includes the following grades: A-B-C-D-F-CF-NCR.

PRELIMINARY FINDINGS: Response from Faculty members and Department Chairs has been strong during the first year of this program. Hispanic and low-income students completed baseline courses at 80.2% compared to Non-Hispanic/low-income students at 85%. Hispanic and low-income students successfully completed baseline courses at 57.2% compared to Non-Hispanic/low-income students at 67.6%. Since baseline completes are already near Year Two grant targets, we may propose to raise our targets for Year Three (3) based on findings from Fall 2012 success data (to be collected in January 2013).

DATA UTILIZATION FOR IMPROVEMENT: Reform-course applications will be utilized by the Office of Support for Effective Teaching in developing the summer Course Design Institute and subsequent professional development. Each course-reform team will collect additional data that will support the scale-up of their projects to more sections in the Spring 2013 semester. Findings from each course reform team will be presented to faculty groups at Spring 2013 and Fall 2013 workshops/forums. Results from each course-reform team will be shared with the Provost, Deans and relevant Department Chairs upon completion.

NARRATIVE PROGRESS REPORT:

(text in italics repeated from Executive Summary)

STEM GATEWAY COURSE REFORM PROJECT:

The Gateway Science and Math Course-Reform Program has successfully initiated three (3) course-reform projects for the 2012-2013 academic year, following a series of deliberate activities to engage STEM departments with this critical aspect of the entire project. The Dean of Arts and Sciences, Mark Peceny, joined the Project Co-PI and Faculty Development Director, Gary Smith, in contacting the Chairs of departments who teach the Gateway courses to encourage them to take advantage of the course-reform opportunities. Smith followed-up in meetings with these chairs and core faculty to seed the ideas for the first-year course-reform proposals. In January 2012, the Office of Support for Effective Teaching (OSET) conducted a workshop, "Pathway to Transforming Student Learning and Persistence in Gateway Science and Math Courses", which was led by Smith and used discussion of case studies to introduce the conceptual framework for transformative change in Gateway courses and explained how the course-reform projects would work. Twenty-one (21) Faculty members participated in the workshop, including representatives from each department teaching a Gateway science and math course. To further stimulate interest and engage Faculty with both the importance and process of STEM course-reform, Dr. Noah Finkelstein, a nationally regarded Physics Education Research Scholar at the University of Colorado, was brought to UNM in February 2012. Finkelstein was the luncheon keynote speaker at UNM's annual "Success in the Classroom: Sharing Practices that Work" conference, hosted by OSET and attended by 70 Faculty members and Administrators. He also conducted two workshops, "Interactive Engagement Techniques, Assessments and their Research Basis" which was attended by 53 individuals, mostly STEM Faculty. Finkelstein's programs further stimulated the STEM Gateway course instructors to develop ideas for changing their course curricula and pedagogy.

These efforts culminated in the receipt and acceptance of the targeted three (3) course-reform proposals for the first project year. Each project team consists of 3-4 UNM Faculty and 1-2 CNM Faculty members. These proposals were received from the instructors for the following courses:

- College Algebra (MATH 121: Enrolled by approximately 5000, mainly STEM-aspiring students annually at either UNM or CNM and currently a significant barrier to degree progress for STEM students who did not benefit from exceptional math learning experiences in high school. In the Fall of 2012, eight (8) sections of the reformed MATH 121 were offered by four (4) reform team members, enrolling 496 students. Since the semester is not yet complete, student achievement patterns for these sections will be reported in Year Two. During the spring semester, the Mathematics & Statistics Department will offer 13 reformed sections of MATH 121. Reform team members include: Tamra Mason, UNM Lecturer III and Director of Pre-Calculus Mathematics; Ivana Gorgievska, UNM Lecturer II; Deborah Casson, regular UNM Part-Time Temporary Faculty; Linda Martin, CNM full-time Instructor; Derek Martinez, formerly CNM Full-time Instructor and now UNM Lecturer II. To assist the Math Reform team in building active classroom instruction and assessment tools, we brought Dr. Milton Cox to UNM on September 10, 2011. Dr. Cox is Director Emeritus of the Center for Enhancement of Learning and Teaching at Miami University (Ohio), and is a nationally-recognized expert on faculty learning communities. In addition to meeting with the Math Course-reform team members, Dr. Cox also met with Faculty from other STEM disciplines and Grant staff members. To provide further support for the Math team, we have also funded travel to the Lily Conference on College and University Teaching for the following team members: Ivana Gorgievska, Linda Martin, and Derek Martinez. Deborah Casson also attended and her travel was funded by the University of New Mexico Student Affairs Division. At the end of the Fall 2012 semester, the Math reform team will submit a written report of their activities and their findings. During the Fall semester, the Project Director met individually with the majority of the Math Course-reform team members. Among the most transferrable lessons that emerged from the Math team is the importance of effective team leadership. This reform initiative is focused on a course that is consistently near the top of the UNM list of courses with high do-not-pass rates. This reform marks the third attempt by UNM to reform this course, and according to team members who have served on all three reform attempts, this one has the best chance for success. Key to that success has been the strong leadership of the team leader, who also serves as Director of Pre-Calculus Mathematics at UNM. She has agreed to assist with training future reform team leaders to develop similar practices.

- General Chemistry II (CHEM 122): Enrolled by approximately 1300 STEM majors annually at either UNM or CNM. Required for 25 degree programs, General Chemistry is the largest course sequence that is the gateway to nearly all STEM degrees. The course-reform proposal builds off of reforms initiated in General Chemistry I prior to the beginning of the grant and integrates reforms across both courses. In the Fall of 2012, one section of the reformed CHEM 122 was offered, enrolling 37 students. Since the semester is not yet complete, student achievement patterns for these sections will be reported in Year Two. Since CHEM 122 traditionally has higher enrollments in the Spring, the Fall 2012 semester was conceived by the team as a small pilot project. A larger pilot project will be conducted in the spring 2012 semester. The team will offer four (4) reformed sections of CHEM 122. Reform team members include: Dr. Joseph Ho, UNM Lecturer III and Director of Chemical Education; Dr. Stephen Cabaniss, UNM Professor of Analytical and Environmental Chemistry and Department Chair for Chemistry; Dr. Sushilla Knottenbelt, UNM Visiting Assistant Professor of Chemistry; Dr. Shaorang Yang, formerly UNM Part-Time Temporary Faculty and now CNM Full-time Instructor; Clarissa Sorensen-Unruh, CNM Full-time Instructor. To provide further support for the chemistry team, we have also funded travel to the Biennial Conference on Chemical Education for the following team members: Dr. Joseph Ho, Dr. Sushilla Knottenbelt, and Clarissa Sorensen-Unruh. At the end of the fall semester, the chemistry reform team will submit a written report of their activities and their findings. During the fall semester, the Project Director met individually with the majority of the CHEM reform team members. Among the key lessons learned from this reform team is the need to bring the faculty representatives from Central New Mexico College (CNM) more fully into the reform process. Grant staff will work with reform teams in the spring to further clarify and strengthen the role of CNM faculty in the process of reforming courses at UNM.
- General Physics I (PHYC 160) and General Physics II (PHYC 161): Calculus-based Physics enrolled by approximately 600 STEM majors annually at UNM, particularly a significant gateway for engineering majors. The focus of the PHYC 160 reform project is the redesign of PHYC 167 (Problems in General Physics); PHYC 167 is currently offered as an optional course, supplemental to PHYC160. The PHYC team increased the use of active learning in PHYC 167 and strengthened the content-based connections between PHYC160 and PHYC 167. Each of the PHYC 167 sections were taught by members of the PHYC reform team. For one section of PHYC 160 in the Fall, enrollment in PHYC 167 was required rather than optional. The team is studying the impact of a required, improved and better-connected PHYC 167 class on student achievement rates in PHYC 160. In the Fall of 2012, five (5) sections of PHYC 167 were offered by four (4) reform team members, enrolling 159 students. Since the semester is not yet complete, student achievement patterns for these sections will be reported in Year Two. During the Spring semester, the PHYC team will offer three (3) reformed sections of PHYC 168 in connection with General Physics II, PHYC 161. Reform team members include Dr. Douglas Fields, UNM Associate Professor of Physics; Dr. James Thomas, UNM Associate Professor of Physics; Jeff Saul, UNM Lecturer; Dr. Dinesh Loomba, UNM Associate Professor; Mary Odom, CNM Full-time Instructor. To assist the Physics Reform team in building active classroom instruction and assessment tools, we brought Dr. Peter Schaffer to UNM on August 17, 2012. Dr. Schaffer is a Physics Professor as well as a member of the Physics Education Group at the University of Washington (UW). He is a nationally-recognized expert on K-20 student learning in physics. In addition to meeting with physics course reform team members, Dr. Schaffer also met with faculty from other STEM disciplines and grant staff members. At the end of the Fall semester, the physics reform team will submit a written report of their activities and their findings. During the Fall semester, the Project Director met individually with the majority of the PHYC reform team members. Among the key lessons learned from the PHYC team is the need for UNM to better research the impact of student math preparedness on success in general physics courses. Through STEM Gateway research, we have already discovered that students who earn "C" grades in key gateway courses are far less likely to graduate with STEM degrees than "A" students. Additional research specific to physics and math may demonstrate the need to raise entry math-based standards for students going into general physics courses beyond simply "passing."

Representatives from each course reform team will present their activities and findings at the UNM Success in the Classroom: Sharing Practices that Work conference at the University of New Mexico in February 2013.

A.2. Performance Measure		Measure Type	Quantitative Data			
Objective A.2: Increase engaging, collaborative classroom learning through the training and deployment of undergraduate Peer Learning Facilitators (PLFs) in large-enrollment STEM gateway courses; to affect at least 3000 students annually (1500 students each semester).	PROJECT		Target		Actual Performance Data	
			Raw Number	Ratio	Raw Number	Ratio
			3000	/	2993	/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
Anonymous surveys of students in these classes will show PLF-supported collaborative learning meets needs of at least 80% of surveyed students.	Surveys have been administered to all sections supported by the Peer Learning Facilitator program. In the Spring 2012 semester, 90.3% of survey respondents in PLF sections answered that having PLFs available to them was either very important (40.9%) or moderately important (50.4%) to them. Only 8.7% answered that it was not important at all.	For the Spring 2011 semester, goal has been met.
Beginning in Spring 2012, the STEM PLF program will employ 40 Undergraduates per semester to work in 15-20 STEM class sections (potentially impacting more than 1500 learners per semester, 3000 annually)	For the Spring 2012 semester, 15 PLF supported sections were offered; employing 27 undergraduate PLFs and three (3) student workers; serving 1164 students at the end of the semester. For the Summer 2012 term, two (2) PLF supported sections were offered; employing two (2) Undergraduate PLFs; serving 61 students at the end of the term. For the Fall 2012 semester, 23 PLF supported sections were offered; employing 40 Undergraduate PLFs and three (3) student workers; serving 1,768 students as of Fall census. Throughout all three (3) terms, 46% of enrollments in PLF-supported sections were from Hispanic students, compared to an average 37% for all of UNM (per UNM Factbook). In all sections, 66% of enrollments were Hispanic or low-income.	Goal in progress. Enrollments have already nearly met the annual targets for year five (5) of the grant.

Faculty in at least one Gateway course in *each* of the departments that teach a Gateway life/physical science or mathematics course (Biology, Chemistry, Earth & Planetary Sciences, Mathematics & Statistics, and Physics & Astronomy) will adopt a collaborative learning pedagogy supported by PLFs by the end of the second project year.

This outcome is scheduled to be reported at the end of Year Two.

To measure progress towards this goal, we are reporting Year One data.

During Year One, PLF sections were offered in Chemistry, Earth & Planetary Sciences, Mathematics & Statistics and Physics & Astronomy. Plans are underway to include a Biology section in Year Two.

Percentage of students completing each PLF supported course section with a grade of C or higher will improve by 2nd semester of implementation the completion by Hispanic and/or low-income students by 10% by 2nd semester and 20% by 3rd semester, compared to the prior success percentage in sections of the same course taught by the same instructor.

STEM Gateway began offering PLF sections in the spring of 2012. Completion percentages for the second semester of implementation will be available in January 2012, and will be reported on the Year Two Annual Performance Report.

To measure progress towards this goal, we are reporting the Year One data following the first semester of implementation:

Fall 2011 baseline data:
Successful completion percentage for Hispanic and/or low-income students = 53.7%

Spring 2012 1st-semester-implementation data:
Successful completion percentage for Hispanic and/or low-income students = 58.5%

Percent change from baseline to 1st semester implementation = +9.1%

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: Enrollments were collected from the student information system (BANNER) and analyzed/reported by the STEM Gateway institutional researcher. Data collected November 2012. Baseline data for successful completion outcome is taken from the Fall 2011 semester for the following courses combined: MATH 120, MATH 121, EPS 101, and CHEM 111. Year data for successful completion outcome is taken from the Spring 2011 semester, for PLF-supported sections of the same courses. Additional data collected from the 2011-2012 UNM FactBook, Page 15. For Objective A.2., students are measured in enrollments rather than in individual students (for instance, one student may be enrolled in two courses, and will count as two enrollments).

PRELIMINARY FINDINGS: Faculty involvement has been high, and peer learning facilitators are excited about the program. Training programs for PLFs were implemented in the Spring 2012, and significant collaborations have been built with other UNM programs who also provide training to students who perform peer academic support roles. The PLF sections are effective at targeting student success for Hispanic students. In all three (3) PLF semesters (Spring 2012, Summer 2012 and Fall 2012), Hispanic students account for 46.1% of total enrollments, compared to a UNM-wide average of 47%.

UNMET OBJECTIVES: We exceeded our goal of at least 15 sections. We met our goal of employing 40 undergraduates to serve as PLFs. We nearly met our goal of serving 3000 students (we served 2993 student enrollments). With the addition of new sections for the Spring 2013 semester, we expect enrollments to exceed 3000 students in Year Two.

DATA UTILIZATION FOR IMPROVEMENT: Student success data and student survey responses are utilized to improve PLF training and management, and in building stronger active learning strategies for faculty members. Enrollment and success data for PLF sections will be utilized in expanding future sections.

NARRATIVE PROGRESS REPORT:

(text in italics repeated from Executive Summary)

PEER LEARNING FACILITATOR PROJECT:

Overview. The STEM Gateway Peer Learning Facilitator (PLF) Program began in the Spring 2012 semester with 27 PLFs and 3 Student Project Assistants. These PLFs served 10 instructors who taught a total of 15 sections in Math, Chemistry, and Earth & Planetary Science gateway courses. 1161 students were enrolled in these sections as of the fall census date, with 84.4% completing the course, and 61% earning A-B-C-CR grades. 807 Hispanic and low-income students were enrolled in these sections as of fall census date (70% of the total population), with 83% completing the course, and 58.6% earning A-B-C-CR grades. In the Fall of 2012, forty PLFs served 15 instructors in 23 sections in Math, Physics, Chemistry and Earth & Planetary Science Gateway courses. Course achievement rates for these sections will not be collected until the conclusion of the Fall 2012 semester. In the course of the semester, the PLF efforts included the following: (1) in-class assistance with learning activities, (2) out-of-class office hours for students to request additional assistance, (3) frequent out-of-class meetings with the instructor to align PLF efforts with lesson plans, (4) occasional grading of low-stakes in-class exercises and homework driven by the class activities, and (5) weekly PLF training sessions.

Training. Training for the PLFs is based on a triangular model focused on helping students perform their jobs in the classroom, empowering them to be leaders on campus, and helping them better serve their communities. The primary goal for training is to help PLFs enact their own autonomy with confidence. Specific learning outcomes have been articulated for the PLF training program. The PLFs completed pre-semester training on January 12 and 13 for the Spring 2012 semester, and August 16 and 17 for the fall 2012 semester. This included sessions on expectations, administrative logistics, group learning, team-building (update), and an overview of the STEM Gateway program. They began working in the classroom during the first week of class each semester. PLF's met individually and weekly with the PLF coordinator throughout the spring semester. During the spring term, PLFs also completed various Professional Development trainings. These included research and review assignments on STEM in higher education, attending events and conferences from on-campus constituencies like Career Services and Office of Support for Effective Teaching, active learning, and specialized training on issues of race and sexuality at UNM, as well as discipline/subject-specific trainings (in collaboration with the Center for Academic Program Support.) In the Fall semester, the PLF coordinator added weekly in-service training sessions for the PLFs. Topics for these sessions included: Undoing Racism, Active Learning, Understanding STEM Student Achievement Data, goal-setting, test anxiety and How to Apply to Graduate School. In the Fall 2012, the PLF coordinator participated in the training of Faculty members who utilize the PLF program. In the Spring of 2013, the PLF coordinator will oversee the training of new PLF instructors and will coordinate all trainings for PLF instructors starting in the Fall of 2013.

Assessment. In the Spring of 2012, the PLF coordinator conducted classroom observations for all 15 class sections and all 27 PLFs utilizing an observation rubric. In the Fall of 2012, the PLF coordinator conducted classroom observations for all 23 class sections and all 40 PLFs. This information helped the coordinator evaluate the PLFs effectively in class, improve one-on-one supervision, design future training sessions and plan for PLF/faculty partnering in future semesters. In addition to the class observations, the PLF coordinator also deployed in-class satisfaction survey of students in all 15 class sections in the Spring and Fall of 2012. Results from the Spring survey indicate the following observations: (1) the students (overall) rated their PLFs as helpful and crucial to effective classroom production and those respondents who said they did not require the PLFs as much appreciated having them in class and knowing they were there, and (2) some of the responses said they never attended out-of-class office hours hosted by the PLFs, yet these same students asked for more "study groups" with the PLFs. One possible solution for this problem is to better market or to re-define the office hours. Faculty members and PLF's are also surveyed each semester regarding their perceptions of the program.

Collaboration. The PLF coordinator has established collaborative partnerships with various personnel and organizations across campus, including: Residential Education, UNM's College of Education, the LGBTQ Resource Center, the Men of Color Initiative, the Center for Academic Program Support, the Chemistry departments at UNM and CNM, the Accessibility Resource Center, the Graduate Resource Center and the UNM Center for Academic Program Support.

Outcomes. Findings from the PLF program have been very promising. During the first semester of implementation, we found that student successful completion rates increased from 57.6% prior to STEM Gateway PLF implementation (Fall 2011, all sections) to 61% after implementation (Spring 2012, PLF-supported sections only). For Hispanic and low-income students, success rates increased from 53.71% to 58.4%. In addition to their effectiveness, these courses are also *well-targeted* to improve success of our key demographics. Within the Spring 2012 PLF-supported sections, 47% of enrolled students were Hispanic, compared to the UNM average of 37%. Also within these supported sections, 69% of enrolled students were either Hispanic or low-income. Based on these successes, and on her personal experiences working with Peer Learning Facilitators, PLF Coordinator Mary Romero presented best practices related to the PLF program at the UNM Mentorship Conference in October 2012. She has proposed to present PLF findings at the New Mexico Higher Education Assessment and Retention Conference in February 2013.

A.3. Performance Measure		Measure Type	Quantitative Data			
Objective A.3: Increase student retention and success in STEM gateway courses by developing and piloting STEM Student Interest Groups (SSIGs) to shadow sections of at least four gateway courses (two courses during the first year); implementing at least 700 students (100 students in the first year)	PROJECT		Target		Actual Performance Data	
			Raw Number	Ratio	Raw Number	Ratio
			100	/	91	/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
Increase student retention and success in STEM gateway courses by developing and piloting STEM Student Interest Groups to shadow sections of at least four (4) Gateway courses (two (2) courses during the first year)	Eight (8) SSIG sections were offered in the Fall of 2012. These sections were connected to two (2) shadow courses: CHEM 121 and MATH 180. SSIGs served students exploring the following majors: Biology, Engineering, and Earth Sciences. Enrollments for SSIGs were lower than anticipated with 91 students enrolled in Fall 2012 sections (22 students in full-semester sections and 69 students in late-start sections).	We met our goals regarding the number of sections offered and the number of companion courses shadowed. However, enrollments were slightly below our original goals.
During years 2-5 of the grant, 15 SSIG sections will be completed by at least 150 Hispanic and/or low-income students.	This outcome is scheduled to be reported at the end of Year Two.	To measure progress towards this goal, we are reporting Year One data. 50.5% of the students enrolled in the SSIGs are Hispanic. This compares favorably to the UNM average of 37% for degree-seeking students. 71.4% of the enrolled students are either Hispanic or low-income. This strategy, while struggling to find an audience, does appear to serve our key demographics.
Anonymous surveys of students in SSIG sections show at least 80% of students identify SSIG experience as supportive in pursuit of STEM degrees and success in STEM-Gateway courses	N/A	Since half of the SSIG sections were late-start courses, the surveys will be conducted near the end of the Fall 2012 semester. The results from these surveys will be reported in the Year Two Annual Performance Report.

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: This data was collected from the Student Information System (BANNER) and from STEM Gateway program files. Data was collected November 2012.

PRELIMINARY FINDINGS: We have encountered significant difficulty generating high enrollment numbers for these courses. Likewise, drop-rates for the SSIGs have been higher than expected. We are currently collecting more data to evaluate the second semester of implementation (Spring 2012). We are also expanding marketing strategies to attract more students, and we are working with instructors to improve student engagement. If these options fail to improve enrollment and student success, we will review other options for redesigning the SSIG model. This effort will be completed in cooperation with the UNM SSIG Advisory Council.

DATA UTILIZATION FOR IMPROVEMENT: Course enrollment data will be utilized to better predict which SSIG sections are most needed/wanted by students. Course success data will be utilized in determining which SSIGs need improvement, and which sections can be leveraged to strengthen the others.

A.4. Performance Measure		Measure Type	Quantitative Data			
Objective A.4: As a consequence of the above objectives (A.1 – A.3), the number of Hispanic and other low-income students receiving Bachelors degrees in life/physical sciences, engineering, and mathematics will increase.	PROJECT		Target		Actual Performance Data	
			Raw Number	Ratio	Raw Number	Ratio

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
As a consequence of the above objectives (A.1 – A.3), the number of Hispanic and other low-income students receiving Bachelors degrees in life/physical sciences, engineering, and mathematics will increase.	These outcomes were not designed to be reported during the first year of the program, as impact will not likely be apparent until year three when 2012 peer learning facilitators begin to graduate. The largest impact will occur when 2012 freshmen begin to graduate at the end of year four (4).	To measure progress towards this goal, we are reporting baseline data from the academic year 2011-2012. BASELINE, Number of Hispanic or Low-Income students earning Bachelors degrees in STEM = 164 (50% of all STEM Bachelors degrees earned)

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: This data was collected from the student information system (BANNER), and analyzed and reported by the STEM Gateway institutional researcher. Data collected November 2012.

PRELIMINARY FINDINGS: While it is too early to assess whether this grant will be met by the end of the third year, the number/percentage of Hispanic and Low SES students involved in the program supports our optimism that the goal will be met.

DATA UTILIZATION FOR IMPROVEMENT: Enrollment data will be used to ensure that grant strategies are designed and improved to continue serving primarily Hispanic and low SES students.

STEM STUDENT INTEREST GROUP PROJECT:

Design. The syllabus for the STEM Student Interest Groups (SSIG) was developed by the Office of Support for Effective Teaching (OSET), and includes three primary goals: (1) connecting gateway core courses to academic degrees in the experiences of first and second year students, (2) introducing students to the STEM degree programs and departments they are most interested in, and (3) developing soft skills that will help students succeed in their STEM courses. SSIGs make heavy use of active-learning techniques. Once designed, the syllabus was submitted to the UNM Curriculum Committee for consideration.

Fall Options. For the fall 2012 semester, twelve (12) full-semester SSIGs were created, and eight (8) late-start SSIGs were created. These included options for the following majors: Biology, Engineering, Earth & Planetary Sciences, Environmental Science and Chemistry. They shadowed the following gateway courses: CHEM 121 (General Chemistry 1), MATH 150 (Pre-calculus Mathematics), MATH 180 (Elements of Calculus 1) and PHYC 151 (General Physics). These courses were available for online student registration, and are listed in the Freshman Academic Choices catalog. Information on these courses was presented to students at New Student Orientations, and to advisors at the annual UNM Advisor Institute.

Advisory Council and Partnerships. To strengthen the SSIGs and promote institutionalization, the Project Director assembled a SSIG Advisory Council during the Fall 2012 semester. This group has met twice so far, and will meet at least twice per semester in future years. This group reviewed the sections offered and recruitment methods used in Fall 2012 and provided feedback and suggestions for Spring 2013. This group included members who represent the key STEM and advising stakeholders at UNM. In addition to the SSIG Advisory Council, we also involved participation from key UNM stakeholders who can support the SSIG sections. Among them: College Enrichment and Outreach academic advisors (attended staff meeting); El Centro de La Raza academic advisors (attended staff meeting); American Indian Student Services academic advisors (attended staff meeting); Engineering Student Services academic advisors (attended staff meeting); UNM collected academic advisors (interactive presentation at Advisor Institute); Individual meetings with Director of University Advising, Director of Arts & Science Advising, Director of El Centro, Director of Engineering Student Services, Associate Department Chair for Biology, Graduate student Coordinator for Biology, Academic Advising Coordinator for Biology. In aligning SSIGs with similar UNM programs, Grant Staff work regularly with staff from University College and the Office of Scheduling, and meet frequently with the Interim Dean of University College.

Activities and Progress. Activities for SSIGs can be categorized as: (1) creation of sections, (2) selection of teaching assistants, (3) recruitment of students, (4) training and coordination of teaching assistants, (5) curriculum development, and (6) management of sections.

1. **CREATION OF SECTIONS:** Sections were created by Gary Smith, PI and Director of the UNM Office for the Support of Effective Teaching in consultation with Tim Schroeder. Killer course data was used in cooperation with the original grant application to create the list of spring SSIG sections.
2. **SELECTION OF TEACHING ASSISTANTS:** Postings were sent out to departmental faculty/staff and listserves to collect applicants for most SSIG Teaching Assistant (TA) positions. Interviews for the Engineering, Environmental Science, and Earth and Planetary Science TAs were conducted by Tim Schroeder in May of 2012. Biology TAs were hired directly through the Biology department.
3. **RECRUITMENT OF STUDENTS:** Numerous methods were employed to recruit students, including the following:
 - a. Brochures printed and distributed across campus
 - b. SSIG Inclusion in Freshman Academic Choices book
 - c. Individual meetings with advising directors (Engineering, Biology, University, A&S)
 - d. Presentation at UNM Advising Institute
 - e. Brochure and announcement sent out over UNM advising listserve
 - f. Meeting with staff from UNM American Indian Student Services

- g. Meeting with staff from UNM College Enrichment and Outreach Program
- h. Meeting with staff from UNM El Centro
- i. Meeting with staff from UNM Engineering Student Services
- j. Booth at New Student Orientation sessions
- k. Attendance at CEOP orientation luncheons
- l. Posters with tear-offs in STEM buildings
- m. Email sent to all students in companion courses from STEM Gateway
- n. Email sent to all students in companion chemistry courses from instructor
- o. Brochures distributed to students in the dorms
- p. Advertising on campus plasma screens
- q. Limited first week visits to companion courses

4. **TRAINING OF TEACHING ASSISTANTS:** Audriana Stark (the STEM Gateway graduate assistant for OSET) worked with Gary Smith to supervise training and coordination of Teaching Assistants. They organized a one-day workshop where TAs learned about active learning and created curriculum modules for the semester. Stark also convenes and oversees monthly meetings of the TAs where they collaborate on best practices and de-brief on their teaching experiences. These meetings have also led to additional student recruitment strategies. Stark also coordinated a re-tooling meeting to redesign curriculum for an eight-week delivery format.

5. **CURRICULUM DEVELOPMENT:** Stark and five of the SSIG teaching assistants worked with OSET Director Smith during summer 2012 to develop instructional modules for the SSIG seminars. Stark developed a collection of "learning-to-learn" modules for use in all seminars while the TA's used their discipline expertise to develop activity-based exercises for linking Gateway courses with topics in specific major fields. Stark organized an internet resource page where instructors can access all modules and provide edits and feedback for future implementation.

6. **MANAGEMENT OF SECTIONS:** Enrollments have been disappointing for nearly all SSIG sections. One week before the Fall semester began, enrollments for eight (8) of the twelve (12) sections were three (3) students or fewer. These sections were canceled, and were changed to late-start sections. In order to increase the pool of possible students, the late-start sections were built as independent sections with no connection to specific companion courses. For instance, where a full-semester section was offered (and canceled) for engineering majors who are also enrolled in CHEM 121, a late-start section was offered simply for engineering majors who were still taking their STEM core courses. The curriculum was tailored to achieve the same outcomes (specifically, the connection between degree programs and STEM core courses). Initial enrollment for the remaining four sections ranged from six to nineteen, and these were allowed to continue. However, as of 10/15/12, enrollments for these sections ranged from four to eight. As of this same date, enrollments for the late-start SSIG sections ranged from three to nineteen. Two (2) of the six (6) late-start sections were canceled prior to the start of the second eight (8) weeks of the semester. In all sections, enrollments for biology majors were higher than the other two (2) categories (Engineering and ENV/S/E&PS). Also disappointing were the high drop rates for nearly all sections of the SSIGs (ranging from 22% to 71%). For the Spring section, five (5) sections of full-semester SSIGs have been scheduled, and four (4) of the late-start SSIGs have been scheduled. Grant Staff are currently recruiting students for the Spring semester courses. If these sections fail to draw larger student enrollments, then the Project Director will propose significant changes in the SSIG program to the Program Officer at the Department of Education. These changes will focus SSIG efforts on Biology majors and will expand our involvement in other UNM-wide course initiatives where we can incorporate SSIG outcomes.

A.5. Performance Measure	Measure Type	Quantitative Data			
		Target		Actual Performance Data	
		Raw Number	Ratio	Raw Number	Ratio
Objective A.5: Improvement of student persistence and degree attainment in the STEM fields will improve campus-wide retention and graduation rates as STEM aspirants represent a significant proportion of incoming students.	PROJECT				
			/		/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
Improvement of student persistence and degree attainment in the STEM fields will improve campus-wide retention and graduation rates as STEM aspirants represent a significant proportion of incoming students.	These outcomes were not designed to be reported during the first year of the program, as impact will not likely be apparent until year three (3).	To measure progress towards this goal, we are reporting baseline data from the academic year 2011-2012. BASELINE: Fall 2011 cohort 3rd Semester Retention Rate = 76.6% BASELINE: Fall 2011 cohort 3rd Semester Retention Rate for Hispanic Students = 76.12%

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: Baseline data was collected from the Student Information System (BANNER) by the STEM Gateway Institutional Researcher in November 2012. The development of a consistent definition for "graduation rate" is a current institutional objective. Traditionally graduation rates have been reported using different definitions for different programs. A cross-campus committee has been created to write a single consistent definition for reporting the graduation rates at UNM. STEM Gateway has representation on this committee. Graduation rate baseline data will be reported in the Year Two Annual Performance Report.

PRELIMINARY FINDINGS: The need to establish consistent university-wide definitions and better articulated measures is strongly supported by administrators and staff members across campus.

DATA UTILIZATION FOR IMPROVEMENT: This data undergirds the entirety of the STEM Gateway grant. This information will be used to assess the effectiveness of grant strategies, drive the institutionalization of grant programs and improve specific grant-sponsored services.



U.S. Department of Education
Grant Performance Report (ED 524B)
Project Status Chart

OMB No. 1894-0003
Exp. 04/30/2014

PR/Award # (11 characters): P031C110184

SECTION A - Performance Objectives Information and Related Performance Measures Data (See Instructions. Use as many pages as necessary.)

2. Project Objective ☐ Check if this is a status update for the previous budget period.

B.1. Performance Measure	Measure Type	Quantitative Data			
		Target		Actual Performance Data	
		Raw Number	%	Raw Number	%
Objective B.1: CNM and UNM departments will concur on learning outcomes and assessment of learning achievement for essential STEM-Gateway courses in order to improve curriculum alignment for transferring students.	PROJECT				/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
CNM and UNM departments will concur on learning outcomes and assessment of learning achievement for essential STEM-Gateway courses in order to improve curriculum alignment for transferring students.	This outcome is not designed to be completed or reported until year five (5) annual report.	UNM faculty are partnering with CNM faculty on all three (3) course reform initiatives. This goal is currently in progress and on track for completion at the end of Year Five (5). In addition, the STEM-Gateway program is closely aligned with the STEM UP program (HIS Collaborative Grant), helping to strengthen the transfer pathway between CNM and UNM

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: Data is collected from STEM Gateway files (course reform applications) and STEM UP meeting minutes. Data collected November, 2012.

PRELIMINARY FINDINGS: This is a particularly challenging objective as it involves shifting institutional culture at two (2) large institutions. The two (2) strategies for achieving this goal have been widely supported by administrators at both UNM and CNM. During the first year of the program, the priority has been on building relationships between institutions and on developing a great understanding of the gaps that exist between schools. Both of these approaches are on track and progressing solidly.

DATA UTILIZATION FOR IMPROVEMENT: Data collected will be used in designing collaborative approaches that will align STEM learning between CNM and UNM and that will strengthen the transfer pathways for Hispanic and low income STEM students.



**U.S. Department of Education
Grant Performance Report (ED 524B)
Project Status Chart**

OMB No. 1894-0003
Exp. 04/30/2014

PR/Award # (11 characters): P031C110184

SECTION A - Performance Objectives Information and Related Performance Measures Data (See Instructions. Use as many pages as necessary.)

2. Project Objective ☐ Check if this is a status update for the previous budget period.

C.1. Performance Measure	Measure Type	Quantitative Data			
		Target		Actual Performance Data	
		Raw Number	Ratio	Raw Number	Ratio
Objective C.1: To develop sustainable capacity to track student achievement, by race/ethnicity and income level (measured by Pell Grant or similar parameter), through the STEM-majors curricula and based on courses taken at UNM or other institutions.	PROJECT		/		/

OUTCOMES EXPECTED IN YEAR ONE	YEAR ONE STATUS	COMMENTS
Establish by Grant Year One end, query structures in enrollment data needed to build/analyze data sets for: 1. Final-grade-achievement distribution of students in STEM Gateway Courses *Where in course-by-course progress toward a STEM degree, students change to non-STEM major or depart UNM 2. Course-retaking patterns of students withdrawing or failing Gateway courses with prior course grades and entrance-exam scores 3. Success of declared or aspirant STEM majors among transfer students (with focus on Hispanic, low-income and students transferring from CNM) in subsequent STEM courses at UNM to identify needs for inter-institutional curricular and assessment adjustments and to guide articulation and transfer agreements.	The first two (2) of these outcomes have been achieved in Year One (1). The third outcome has been clearly articulated, and data has been pulled. However, analysis will not be complete until early Spring 2013.	The majority of this objective has been completed. We are on track to complete the final component soon.

Explanation of Progress (Include Qualitative Data and Data Collection Information)

DATA COLLECTED: This data was collected through individual meetings with the STEM Gateway Institutional Researcher and participation in university-wide data collection/analysis working teams. Data collected November, 2012.

PRELIMINARY FINDINGS: The efforts of the STEM Gateway Institutional Researcher are closely aligned with the overall IR needs of UNM faculty and administrators. As such, this initiative has drawn strong support across campus.

DATA UTILIZATION FOR IMPROVEMENT: This data will drive all aspects of STEM Gateway program design and improvement. It will also be utilized by UNM for improving other STEM-related programs and services.

DATA DRIVEN PRIORITIZATION PROJECT:

Building Infrastructure. During the first year of the STEM Gateway program, we have focused on building the infrastructure necessary to explore the research questions posed in the grant application. Access to databases within the Office of Institutional Research (OIR) has been secured. Technology required to access and analyze this data has been purchased, installed and aligned with OIR. The definitions and baseline foundations needed to track student enrollment and achievement patterns were constructed.

Institutional Alignment. The STEM Gateway Institutional Researcher is active on numerous campus committees that are assessing and improving institutional effectiveness regarding student achievement (including STEM students, Hispanic students and low-income students). The efforts and data collection/analysis measures used by the STEM Gateway program are being aligned with those of the UNM community in order to ensure sustainability of grant initiatives, and to strengthen the impact of the STEM Gateway program.

Year-One Analyses. In order to better understand the context surrounding the research questions posed in the grant applications, Grant Staff are conducting the following studies:

- **Math Course Completion and STEM Degrees at UNM:** In order to measure the impact of Pre-Calculus Math on STEM achievement at UNM, we examined the math course completion patterns for all recent STEM graduates. We observed students who started at UNM as first-time full-time freshman and then graduated from UNM with STEM degrees in 2010-2011. We then broke these students out according to the degrees they received, and then listed the number of students taking each math course offered at UNM. For instance, of the 176 students who earned B.S. degrees in Biology, 132 (75%) completed MATH 180 (Elements of Calculus 1). From this study, we learned that more than 18% of UNM STEM degree recipients completed MATH 120 (Intermediate Algebra) and more than 41% completed MATH 121 (College Algebra). Clearly, for many students MATH 120 and 121 are gateway courses to STEM degrees. Once the data for this study was collected, we assembled focus groups composed of Faculty, Staff and Administrators at UNM to answer three (3) questions: (1) what are the limitations of this study? (2) what are the implications of this study? (3) and what new questions are prompted by this study? Focus group responses were summarized and combined with data tables into a formal report submitted to the UNM Provost and his staff, to STEM Deans and to key STEM stakeholders. The final report was submitted on September 26, 2012.
- **Predictors and Trigger Points for Student Achievement in STEM Degrees at UNM:** Why do some UNM students complete their STEM degrees, while others switch majors or drop out of UNM? At what points are students most likely to turn away from their STEM goals? These questions formed the basis for our first comprehensive research question. In answering these questions, we looked at first-time full-time freshman from 2005-2007 who indicated intent to pursue STEM degrees upon entering UNM. We divided these students into four cohorts: (1) students who graduated with STEM degrees, (2) students who switched to non-STEM majors, (3) students who stopped attending UNM before completing their STEM degree, (4) and students who are still enrolled in their STEM programs. In exploring predictors, we looked at the differences between these cohorts based on the following factors: degree program/major, ethnicity, gender, Pell-eligibility, high school GPA, ACT exam scores, first-generation status, and cumulative college GPA. In exploring trigger points for students changing majors or stopping out of UNM, we looked at the differences between cohorts based on the following factors: number of credits completed at time of shift/stop, number of semesters completed at time of shift/stop, cumulative college GPA at time of shift/stop, number of semesters to matriculation into degree program, remediation in reading, math or writing, and lottery scholarship eligibility. As expected, a preliminary analysis of predictors indicates that academically prepared students perform better in college, and that students who perform better in college are more likely to stick with their STEM majors and graduate with STEM degrees. In addition, the following implications/findings have already been noted:

- Hispanic students are over-represented in students who stopped attending UNM (38.1% compared to an expected 35.46%), and represented as expected in students who changed majors out of STEM (35.8% compared to 35.46%) and are under-represented in students who graduated with STEM degrees (28.1% compared to 35.46%). Hispanic students are slightly less likely to approach STEM disciplines than expected, are more likely to drop out of UNM than expected, and are significantly less likely to graduate with STEM degrees than expected.
- Pell-Eligible students are over-represented in students who stopped attending UNM (27.3% compared to an expected 22.7%), and slightly over-represented in students who changed majors out of STEM (23.6% compared to 22.7%), and are significantly under-represented in students who graduated with STEM degrees (13.5% compared to 22.7%). Pell-Eligible students are also over-represented in students who are still enrolled at UNM (27.9% compared to 22.7%). Pell-Eligible students appear to be more likely to drop out of UNM, and appear to take longer to complete their degrees.
- Biology (n=488) and Engineering (all disciplines combined, n=695) represent the two largest sets of STEM students in this study. Together, they account for 79% of these students.
- Biology had fewer students stop attending UNM than average (27% compared to an average of 29.5%) and Engineering had more students stop attending than average (31.8% compared to 29.5%).
- Biology had fewer students graduate than average (20.7% compared to an average of 22.2%) and Engineering had more students graduate than average (23.6% compared to 22.2%).
- Biology had more students switch majors than average (48% compared to an average of 42.5%), and engineering had fewer students switch majors than average (37.8% compared to 42.5%).
- The ethnicities that pursue STEM degrees at lower rates than expected from the general UNM population are Hispanic and Black/African American. The ethnicities that pursue STEM degrees at higher rates than expected from the general UNM population are American Indian, Asian/Pacific Islander/Native Hawaiian and White/Non-Hispanic.
- STEM students are disproportionately male. Women are significantly under-represented in this STEM population.
- On average, students who leave UNM do so after 3.5 semesters. This may align with their entry into upper division major courses (especially considering that a disproportionate number of these students need additional remediation courses during their first year). However, further research is needed to determine if this is indeed the case.

Beginning in January, 2013, focus groups of faculty, staff, students and administrators will be assembled to analyze this data. Their responses will be collected into a final report, which will then be distributed to the UNM President, Provost, STEM Deans, STEM faculty and other key STEM stakeholders. Results may be presented at upcoming conferences, depending upon acceptance of presentation proposals.

- **Grade Distribution Patterns in Gateway STEM courses at UNM:** How do individual STEM courses impact degree attainment in STEM disciplines for students at UNM? This question formed the basis for our second comprehensive research question. Utilizing the same cohorts of students from the “Predictors and Trigger Points” study, we examined grade distribution patterns from 46 courses that serve as gateways to STEM degree programs. These courses included the following subject areas: Biology, Chemistry, Environmental Science, Earth & Planetary Science, Mathematics and Physics. We examined grade distribution patterns (percent of students who earned A-B-C-D-F-I-CR-NCR-AU-W grades) based on the following subgroups: completion (students who graduated, students who switched majors, students who stopped attending UNM), ethnicity, and Pell-eligibility. We are also currently in the progress of collecting data that details repeat patterns for these courses, and grade-distribution patterns for UNM students who took these courses at the nearby community college (Central New Mexico Community College). Once data collection is complete, focus groups will be assembled to analyze this data. Their responses will be collected into a final report, which will then be distributed to the UNM Provost, STEM Deans, STEM faculty and other key STEM stakeholders.

- **Qualitative Research into Hispanic Student Experience in STEM at UNM:** Starting in the summer of 2012, Grant Staff began developing a qualitative study to better understand the experiences faced by UNM's Hispanic students in STEM disciplines. This study examines the perceptions of three (3) distinct populations of former students: (1) students who began STEM at UNM, and then graduated with STEM degrees from UNM, (2) students who began STEM at UNM, but then switched to other majors at UNM, and (3) students who began STEM at UNM, but then dropped out of UNM. Grant staff will conduct comprehensive interviews of at least five students in each of these cohorts. Staff will then code student responses and identify common themes. The results of this study will be shared with STEM stakeholders at UNM in order to strengthen STEM instruction and support services. Results will also be used to refine future studies of STEM student enrollment/success patterns culled from institutional databases. The design for the study was created in the Summer of 2012 and submitted to the Institutional Research Board (IRB) in August 2012. Approval was received from IRB in early Fall, and Grant Staff have begun conducting interviews. Interviews will be completed in the Spring of 2013, with findings published by Summer 2013.
- **Upcoming Studies:** Beginning in January 2013, we will use the previous studies to drill down further into institutional data that documents the STEM student experience for Hispanic and low-income students. Specifically, we will ask and answer the following questions: (1) How are individual STEM Gateway programs impacting student achievement for Hispanic and low-income STEM students, beyond the broader data reported annually? (2) What UNM support systems are most significant in empowering Hispanic and low-income STEM students to graduate, and what institutional barriers are most significant in deterring graduation?

**Grant Performance Report (ED 524B)**
Project Status Chart

PR/Award # (11 characters): P031C110184

SECTION B - Budget Information (See Instructions. Use as many pages as necessary.)

Budget Overview		
Total First Year Budget		\$608,175.00
Total Expenditures October 1, 2011 – September 30, 2012		\$469,012.48
Carry Forward		\$139,162.52

CARRY-FORWARD JUSTIFICATION. The STEM Gateway program will carry forward \$139,162 from Year One into Year Two (see chart below).

BUDGET vs SPENT	Y1 BUDGET	Y1 ACTUAL	DIFFERENCE
Personnel	\$534,035.00	\$426,549.61	\$107,485.39
Supplies & Materials	\$39,667.00	\$33,966.36	\$5,700.64
Travel	\$7,000.00	\$8,496.51	-\$1,496.51
Subcontracts	\$27,473.00	\$0.00	\$27,473.00
TOTAL	\$608,175.00	\$469,012.48	\$139,162.52

Personnel: This carry-forward comes from delays in program start-up. The Project Director did not begin until February 23, 2012. As a result of the Director's late start, STEM Student Interest Groups were implemented in the Fall of 2012, rather than in the Spring of 2012. In addition, the administrative assistant position for the STEM Gateway program has been vacant for the past six months while we search for a replacement. Each of these have resulted in salary savings, and was reflected in a budget revision request approved on August 24, 2012.

Supplies & Materials: The cost for supplies and materials was lower than originally anticipated, resulting in savings.

Travel: The cost for travel has been slightly higher than originally anticipated, and this amount was adjusted in the August 24, 2012 budget revision.

Subcontracts: Originally, Central New Mexico College (CNM) faculty participants on the course-reform teams were to be paid through a subcontract with CNM. However, CNM then requested that they be hired and paid directly by UNM. The cost for direct payment to CNM employees was \$9,120 plus benefits, rather than the \$27,473 originally budgeted. This change resulted in a savings and was reflected in the August 24, 2012 budget revision.

PROPOSED CARRY-FORWARD PLAN. We propose to utilize these funds accordingly:

- Expand the institutional research capability of the STEM Gateway Program. The STEM Gateway program routinely collects student achievement data connected to program initiatives. For instance, course completion and retention data are collected for Hispanic and low-income students in all sections supported by the Peer Learning Facilitator program. These are collected by an institutional researcher each time they are needed. This method is quite inefficient and does not allow other UNM programs to benefit from grant data collection models. Rather, we propose to build a Data Mart around the STEM Gateway reports. Through this Mart, we would create customizable reports that would be applicable to other programs within UNM. For instance, the STEM Gateway program would build a query and report that measures Hispanic and low-income student achievement in any combination of UNM courses/sections, selected from a drop-down menu. For the STEM Gateway program, this report would specify those sections supported by the grant. But other administrators and faculty would then be able to specify other sections to gather similar data for their own programs. In this way, STEM Gateway creates a data collection infrastructure that empowers us to make quicker and better decisions regarding program services, while at the same time improves the ability of UNM personnel to collect and utilize student data in their own decision making processes. Total cost for one year to build the Data Mart for STEM Gateway would be \$58,187. These funds would be allocated through personnel lines (salaries and benefits), and would extend only through Year Two of the grant unless otherwise requested of the Program Officer. This proposal will further institutionalize the STEM Gateway grant.
- Expand Course-Reform Initiatives. Course-reform projects have been successful during the first year of the program. We propose increasing the number of projects funded to four (4) in year two (2). Total cost for one year would be \$35,500. These funds would be allocated through personnel lines (salaries and benefits) and would extend only through Year Two of the grant unless otherwise requested of the Program Officer. This proposal will further expand the impact of the STEM Gateway grant.
- Expand the number of Peer Learning Facilitated sections. Peer Learning Facilitator sections have proved effective at improving course completion for STEM students. They are also popular options for STEM faculty members. We propose increasing the number of Peer Learning Facilitators to 55 in the spring. Total cost for one (1) year would be \$40,975. These funds would be allocated through personnel lines (student salaries and benefits) and would extend only through Year Two (2) of the grant unless otherwise requested of the Program Officer. This proposal will further expand the impact of the STEM Gateway grant.
- Travel. For Year Two, \$7,000 was originally allocated to travel for Year Two. After covering the overages in travel from Year One, this leaves \$5,503.49 for Year Two travel. As proposed in the original grant, this funding covers the following travel:
 - Travel for speakers at the UNM OSET 2-day Course Design Institute (see pages 16-17 of the original grant application for descriptions).
 - Anticipated expense = \$1500, including air transportation, hotel and per diems
 - Two (2) travelers to attend the Department of Education Project Director meeting in DC (Tim Schroeder, Project Director and Gary Smith, Director of OSET and STEM Gateway PI) = \$4,000 total, including air transportation, registration, hotel and per diems for two (2) travelers.
- In addition, we request to fund the following additional travel for Year Two (\$4,500 total)
 - Association of Hispanic Serving Institution Educators Annual Conference (website: <http://ahsie.unm.edu/ahsie-home/index.php>) March 10-13, 2013, Jersey City, NJ. We propose that Mary Romero (STEM Gateway PLF Coordinator) and Vicky Duerer (Sr. Institutional Researcher at UNM and former STEM Gateway institutional researcher) attend to present. Mary Romero would propose to present her findings regarding the PLF program, and Vicky Duerer would present findings on STEM degree completion at UNM. Estimated cost = \$3,000, including air transportation, hotel and per diem for two (2) travelers.

- Conference on Excellence in Gateway Course Completion, sponsored by the John Gardner Institute for Excellence in Undergraduate Education. (Website <http://www.jngi.org/gateway/>) April 14-16, Indianapolis, IN. Project Director Tim Schroeder has proposed presenting the findings from the STEM-Gateway sponsored research project "Gateway Course Impacts on STEM Degree Completion at the University of New Mexico." Traveler: Tim Schroeder, Project Director. Estimated cost = \$1500, including air transportation, registration, hotel and per diem for one traveler

SECTION C - Additional Information (See Instructions. Use as many pages as necessary.)

N/A