### Project Title

**Student-Paced Algebra Program for the ‘At Risk’ Student**

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<th>FUNDING CATEGORY &amp; AWARD</th>
<th>ELIGIBLE PROGRAM</th>
<th>PROJECT CATEGORY</th>
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<td>Loan = $22,440</td>
<td>E --- Improvement in Trad. Instruction Prog</td>
<td>Curriculum Model</td>
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<tr>
<th>PROJECT PRODUCT</th>
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<th>PROJECT DIRECTOR</th>
<th>PROJECT SUPERVISOR</th>
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<tr>
<td>Elaine Whittlesey, Fara Eskandari, James Sullivan, Instructors</td>
<td>Fred McElroy, Dean Science &amp; Technology</td>
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**PROPOSAL DESCRIPTION**

Algebra is a barrier to matriculation of students. To solve this critical problem the Math Department will experiment with an Individualized Learning Program (ILP) which will target “at risk” algebra students. The project’s objectives will all the college to make an informed decision concerning the type of ILP in which to invest space and financial resources. The objectives include: research and develop a method to identify “at risk” algebra and enroll them in the ILP; provide one instructor and two instructional aides (peer tutors, when available) for each of six ILP classes, collect data to use in studying the success rates of ILP and lecture classes taught the same year and the previous year. [See also 91-0028.]
A Student Paced Algebra Program for the “At Risk” Student

The educational program involved in this proposal is the entry level mathematics program. In particular, the algebra program.

The algebra classes offered at Sierra college have been the traditional teacher paced, lecture style class. The success rate in these classes (the percentage of students passing with a C or better). Thus the number of students who must repeat algebra classes is high and no other method of instruction has been available for the struggling algebra student.

Furthermore there are very few tutoring hours available at sierra College for the one thousand algebra students each semester. Experience in algebra is important to most academic programs as well as vocational/technical areas. The low success rate indicates that algebra has become a barrier for many students. Failure in algebra stops students from obtaining AA degrees, transferring to four year schools, and pursuing careers. Failure also causes students to pass on negative attitudes about math to their siblings and to their own children.

The Problem:
ALGEBRA IS A BARRIER TO MATRICULATION OF STUDENTS. WHAT PROGRAM SHOULD SIERRA COLLEGE USE TO PROVIDE A SUPPORTIVE LEARNING ENVIRONMENT FOR “AT RISK” STUDENTS?

To solve this critical problem the Mathematics Department wishes to experiment with an Individualized Learning Program, (ILP), which will target the population of “at risk” algebra students. The expected outcomes of our project’s objectives will allow Sierra College to make an informed decision concerning the type of ILP in which to invest space and financial resources.

Unlike most other “individualized” or student paced math programs, our experiment will offer the student several teaching styles and learning strategies within the same classroom. Mastery learning techniques will be used and the class will be open entry --- open exit to allow for different learning styles.

The proposal’s objectives include: research and develop a method to identify “at risk” algebra students and enroll them in ILP, provide one instructor, two instructional aides (peer tutors, when available) for each of six ILP classes, collect data to use in studying the success rates of
ILP classes taught the same year and the previous year. The impact of the project’s activities, the results of the study, and the evaluation findings will make very clear the benefits of providing a supportive environment for the “at risk” algebra students. Furthermore the dissemination of the results will provide a model of an ILP that can be used by other colleges.

Budget: The grant request is for $164,779, of which $93,453 is from local funds and $66,326 is from the Fund for Instructional Improvement.
A Student Paced Algebra Program for the “At Risk” Student

1. Specific Educational Program Being Addressed
2. Specific Problems Being Addressed
3. Population To Be Served
4. Objectives
5. Workplan Narrative
6. Expected Outcomes
7. Evaluation Plan
8. Dissemination Plan
9. Budget Narrative