IDC Grant Proposal

MATH1130K and MATH1710K
Enhanced Five-Hour Classes

Fall, 2010

Submitted by
Nancy Pevey
Associate Professor of Mathematics

Department Chair’s Signature: ______________________________
**Project Description:**
This proposal is to develop and offer three pilot sections of MATH1130 and MATH1710 that include the content of DSPM0897, DSPM 0898 and DSPM0899 in a single semester course for fall, 2010. This enhanced course will be targeted towards students who have only a few weaknesses in the developmental math concepts, as indicated by their ACT math scores of between 19 and 22. These students will be encouraged to enroll in order to review and master DSPM concepts, while being introduced to college algebra and precalculus extensions of those topics. New and returning students who have been away from college for a period of time will find this course to be a supportive transition into their collegiate studies. Development of these pilot sections is also a direct response to the anticipated TBR A-100 directive that the current DSPM 0890 course be dramatically restructured and reduced beginning in spring, 2011. The proposed pilot courses will also serve as templates for future courses to be offered once implementation begins. Students who have been remediated to the level of module six, or who placed into one of the last three modules, modules seven, eight or nine, will be eligible to enroll in entry-level general education mathematics courses.

The design of the combination classes will be similar to that of the past successful ones (MATH1130 combo courses offered 2003 – 2007), while incorporating new technologies and supports that were not available nor needed when the course was first envisioned. Integrating MyMathLab, the computer homework practice and support tool, into both courses will enable the student to practice new concepts and revisit old ones for improvement as he or she individually needs to do. The student progress tracking and unlimited practice capability will allow students to maximize their mastery of developmental and college-level math concepts. The Supplemental Instruction (SI) program will be expanded and tailored to support these enhanced courses and add the peer-led study sessions as a vital and interactive part of both courses.

**Format:**
Both courses would cover all of the syllabus content of both classes in a “just-in-time” presentation of the prerequisite material by the instructor. A trained peer SI Leader will conduct study and tutoring sessions on a regular basis. The courses will meet five days per week, as in the past, to allow for the smooth presentation of the course concepts and for extra time to practice skills and applications of concepts. The MATH1130K class will use the currently adopted MATH1130 textbook, *College Algebra With Modeling and Visualization, 4th Edition* by Gary Rockswold, with the additional requirement of MyMathLab. The new fall textbook adoption of Blitzer’s *Precalculus Essentials, 3rd Edition* will be required for the pilot MATH1710K and also include the MyMathLab support program. The full range of both programs will be utilized. Another computer support program, MyMathTest, will also be used to help remediate students with individual skill deficiencies from DSPM modules 3 through 9 as determined by a pretest assessment of those skills needed for each unit of the MATH1130K or MATH1710K.

It is envisioned that the courses will build on the high school algebra skills that are currently taught in modules 7, 8 and 9 and extend them to the techniques and critical thinking skills required for the analysis in the college-level courses. Three days will consist of an interactive lecture in a traditional classroom, where material is efficiently presented and practiced in an instructor-led, student-engaged lecture. The fourth class meeting of the week will be held in a computer lab that contains individual computer workstations, such as AL228 or ER315. During that time, small-group tutoring, mini-lectures and computer practice of individual skills will be addressed for each student. The fifth class meeting of the week would be held in a computer lab. Students will work on individual skills on the computer or attend small group tutoring sessions conducted by a Supplemental Instruction (SI) Leader.
Support and Training:
The new NEXT classroom will be an ideal setting for the combination classes on the Pellissippi Campus. The new technologies available only in that room would enable both students and instructors to use the latest tools available to keep pace with the challenges of the new course.

One Supplemental Instruction Leader will be assigned to each pilot section and attend every class meeting. The group of SI Leaders will be trained for an average of one hour per week by Nancy Pevey.

Project Evaluation:
The effectiveness of this project will be measured by:
1. Comparing scores on a common pretest/posttest of combination students with those of traditional lecture students in MATH1130 and MATH1710. The pretest/posttest will be the common final exam for the course.
2. Comparing the course retention rates of combination and traditional students enrolled in MATH1130 and MATH1710.
3. Tracking the success of combination students as they take subsequent math classes.
4. Conducting a student satisfaction survey at the end of the semester.
5. Using other assessment techniques as determined by the instructors.

The pilot courses, with improvements incorporated, will be implemented college-wide in spring, 2011. It is anticipated that all DSPM0890 students who are currently required to take MATH1130 or MATH1710 will follow this enhanced course pathway.

Budget for fall, 2010: Due to the small window of time between the pilot and the implementation of the new A-100 guidelines, the course materials will primarily be developed during the fall semester.

1. Additional assigned classroom time for 3 pilot faculty:
   
   
   2 additional hours x adjunct rate + office hour pay = 2 ($535) + $150 = $1,220
   $1220 · 3 faculty = $3660

2. Course development of the D2L, MyMathLab, MyMathTest components of both courses by Becky Blackwell:
   
   3 hours x adjunct rate + office hour pay = 3 ($535) + $150 = $1755

3. Additional instructor release hour for individual planning and pilot collaboration:
   
   $535 · 3 faculty = $1605

TOTAL PROJECT COST: $7,020

Anticipated Additional Costs Not Included in this Proposal:
1. Three Supplemental Instruction Leaders for each pilot section:
   
   3 Leaders x 8 hours per week x $8.50 x 15 weeks of the semester = $3060

2. Three release hours for hiring, training, and evaluating the Supplemental Instruction Leaders by Nancy Pevey as Student Success Coordinator for Mathematics:
   
   3 hours x adjunct rate + office hour pay = 3 ($535) + $150 = $1755

3. Secretarial Support and Supplies: $700

4. Travel to similar programs, such as MTSU, Austin Peay or University of Alabama Tuscaloosa: $500