

2005-2006 TECH PREP MINI-GRANT ABSTRACTS

Handheld Computers to Enhance Nursing Care/Tompkins Cortland Community College/ \$7974.40: Janet Morgan

Handheld computers are valuable resources to nurses working in any setting. With a handheld computer a nurse can have instant access to databases of critical nursing information such as drug compatibilities, side effects, and contraindications. Nurses can verify the normal values of laboratory tests, locate information about complementary therapies a patient may be using, and select an appropriate nursing diagnosis using information stored in a handheld computer. The nursing program at TC3 will use Tech Prep funding to purchase twelve handheld computers and nursing-specific software for student practice in the on-campus lab. The computers will also be available for faculty to take into patient care settings for supervised use by nursing students and agency staff. While there is no one health care agency acting as co-applicant for this grant, TC3 nursing faculty and students will make the handheld computers available to nurses in the more than thirty area health care agencies in Tompkins and Cortland counties used by the TC3 nursing program for clinical experiences. This is a way to further collegial relationships among nurses and introduce nurses in a variety of settings to handheld computers as a mean of improving and efficiency of nursing care.

Digital Media and DVD Authoring/Candor High School/ \$9,213.20: John D. Benjamin

This interdisciplinary project will join the Technology Education and Fine Arts Departments at Candor, as well as offer support for the English Language Arts Department. John Benjamin (Technology) and Jonna Smith (Fine Arts) will co-teach the course. Debra Craig (English Language Arts) will provide project input. The course will provide students with the knowledge and resources to produce and edit multimedia presentations and author their own DVDs. By creating a mini-production studio within the high school, students will have the ability to document their work by videotaping presentations and projects for use in their classes and portfolios. Candor HS has provided the space for a multimedia studio where student productions can be created. The Tech Prep grant allows the purchase of camcorders, computers, and supplies to make the course possible, as well as, contribute to the multimedia studio. This course will be part of the Communications and Media Arts Tech Prep Pathway; teachers will continue to attend Tech Prep workshops on video and audio production.

Mock Trial/Dryden High School/ \$2,605.00: Jill Weiss

This project will be used to fund materials and time for Business Law teachers in the Tompkins County component schools who will meet & choose at least one new case for use in our annual cooperative mock trial activity and then coordinate the actual activity. Monies will also fund the purchase of new case materials for the schools, videotapes for taping the trials (students will use later to critique), lunches for the judges, adult jurors and participating teachers and parking permits for judges.

DNA Electrophoresis Activity/OCM BOCES-McEvoy/ \$5555.80: Theresa Mitchell

This money will be used to enhance and build activities in science for students who are going on to college for careers in health care, environmental science, completing a fourth year of science, and in Criminal Justice, Health Occupations, and Child Care to help complete the new Guidelines for a third years of science in order to graduate from high school. The teacher will work with career area teachers and students to gain an understanding of the concepts, skills needed, and how the data is used in today's society.

New Digital Electronics Course/ Newfield High School/ \$6677.68: John Fahs

This course is an introduction to Digital Electronic signals and combinational logic circuits. Basic logic circuits will be designed and simplified using Boolean algebra and Quartus Design Software. The designs are then downloaded to CPLD's and the results observed and tested. Arithmetic circuits and data conversion I.C.'s are also studied. Practical design and trouble shooting is stressed. The equipment and supplies used in this project is four computers with Digital Trainers and I.C.'s. This course is based upon TC3's course and is being reviewed for dual credit. The teacher has already received some training and supplies from Tech Prep for the course.

Digital Imagery & Workplace Computer Publications/Dryden High School (with McGraw, Groton, & Trumansburg)/ \$1640.00: Linda Bruno

The project money will be used to purchase digital cameras and fund summer curriculum development time for the Tech Prep Business teachers in four consortium schools: Dryden, McGraw, Groton, and Trumansburg High Schools. The digital cameras and computer technology will be incorporated to support the contextual learning and dual credit aspects of the Tech Prep Business program. In order to successfully integrate the digital imagery component into the existing syllabus, teachers in each school will work closely to develop curriculum to support the necessary workplace skills. Students will be engaged with contextual learning activities that apply digital photography, image manipulation (editing, importing, exporting) and computer technology to transition skills from the classroom to workplace and college environments. Examples for the planned transition from classroom theory to "real world" application of these skills include student training sessions to learn camera operation and related computer technology and preparation of digital images displayed in Tech Prep News articles (written by students), TC3 Tech Prep web pages (designed by students), and Microsoft PowerPoint presentations (created by students) shown at Tech Prep Seminars.

College Success Course/Marathon High School/ \$1350.80: Debbie James

The Marathon Central School College Success course is to provide an opportunity for senior students to explore and practice skills vital to postsecondary success. Through class discussion, Internet research, and field trips to a local community college and four-year institution(s), students will clarify their own priorities, skills, and proficiencies with the expectations demanded at the postsecondary level of study. Funds from the Tech Prep award will be used for instructional resources for students and field trip transportation costs. This course was developed from a Tech Prep workshop series and is now being reviewed for dual credit with TC3.

**Global Positioning Systems for Technical Mathematics/OCM BOCES-McEvoy/
\$2279.69: Kay Kraatz**

This project is on Global Positioning Systems for technical math program for criminal justice and auto technology. The criminal justice field currently utilizes GPS for crime scene and accident reporting. The two-year workforce preparation students will become familiar with reading a GPS receiver and plotting locations on a topographical map. The automotive field currently has GPS readers as equipment on selected vehicles. The two-year workforce preparation students of auto technology will become familiar with the handheld instrument to better understand the equipment. Additionally, other students in OCM's workforce prep programs will be exposed to GPS systems to enhance their appreciation of mathematics applied in everyday careers.

MOUS Certification Exams/McGraw High School/ \$1920.00: Pamela Coombs

This project money will be used to fund and implement additional MOUS certification exams. McGraw High School received a Tech Prep grant the past two years to acquire, train, and implement the software to become a certified MOUS testing center. Many students have taken advantage of the program and many more are interested in becoming MOUS certified. Each component of Microsoft Office requires one examination. Students in the Computer Application Course (CAPS) are currently developing high levels of competency in Microsoft Office. Students apply their knowledge of Word, Access, Excel, PowerPoint to complete an integrated marketing/management plan for a virtual business. Implementation of the MOUS certifications meet national industry standards and help assist our students in preparing to meet challenges of post secondary study and the workforce. Students in these CAPS courses are eligible for dual credit with TC3.

Technology Education/Art Education Curriculum Collaboration/Dryden High School/ \$5775.00: Sue Gilcher

This award will support the continuation and expansion of the Civil Engineering and Architecture (CEA) Community Collaboration project supported by Tech Prep in 2003-2004 and 2004-2005. A collaborative initiative between the Technology Education and Art Departments at Dryden High School and the Architectural Drafting program at TC3 is proposed which will provide an integrated contextual learning experience for students of both genders and with different interest in the field of Architecture, Engineering, and Construction. This course is part of Project Lead the Way and is being considered for TC3 dual credit; it is already part of Tech Prep's Pre-Engineering Pathway.

Contextual Applied Science/OCM BOCES-McEvoy/\$9428.90: Theresa Mitchell & other science teachers

The grant will be used to enhance and build activities in science in each of the career and technical classes at McEvoy (Automotive Tech, Auto Collision, Construction Tech, Child Care, Cosmetology, Criminal Justice, Culinary Arts, Graphic Communications, and Health Occupations) so that students can earn the third science credit needed for high school graduation. The science teacher has met with each career area teacher and developed curriculum for activities that would provide their students with hands-on science activities that relate to each of the technical areas.

Success @ CCS/Candor High School/ \$7047.00: Toby Foster

This program is geared towards ninth grade students at Candor High School and was funded by Tech Prep last year. The goal of the program is to provide students a general understanding of career skills based on the WORKplus and Tompkins Cortland Community College's "College Success" course structures. As a result of taking interest inventories and exposure to other career programs offered at the school each student will be exposed to numerous career choices. The students will then get a great base of knowledge of a desired career path in which they may want to pursue later on in life. Finally, this program will be used as a gateway to other career programs offered at school. This will greatly benefit the students because they will be able to gain college credit and earn certificates that make them more marketable to colleges and work forces in the future. New this year, Tech Prep will support the incorporation of IC³ (computer technology certification) for all 9th grade students. All students will receive a National Certification after completion of course.

Digital Electronics Facility Upgrade/Trumansburg High School/ \$3632.60: James Perkins

The 2004-05 school year marked the second year of TC3 Dual Credit Digital Electronics instruction at Charles O. Dickerson High School. Students involved in the first year of instruction achieved a 92% success rate for dual credit with TC3. Our hope is to raise the success rate to 100% in 2005-06 by initiating some changes in the delivery of curriculum and by offering Web-based resources and related career-based field trips, and in-class activities. This will be facilitated in some part by the purchase of requisite equipment, textbooks, and trainers to meet the needs of the student's in class, and with the assistance and guidance of our community partner Michael Collins, owner of Infinite Solutions, Incorporated. Mr. Collins' experience in computer networking, Webpage design and digital electronics applications has partnered him with several local businesses with whom students may draw from for field trips, in-class visitations, job shadowing, and real-world immersions. This course has been supported since 2003 by Tech Prep via workshops and funding.

A New View of New Visions: The Environmental Classroom/ \$6456.00: Michele Sutton

Awarded funds will support the purchase of probeware technology, comprised of handheld units, sensors for the detection and measurements of different environmental phenomena, and software for the collection, management, analysis, and presentation of numerical data. This technology will provide a value-added, mobility component that directly interfaces, complements, and strengthens the recent purchase of wireless routers and laptops by Tech Prep for the course. The New Visions Environmental and Agricultural Sciences Program (NVEAS) is uniquely suited to the utilization of this interactive and learning-opportunistic technology through its proximity and access to ongoing, multidisciplinary research at Cornell, its real-world, skill-based teaching mission, the program's inherent mobility and flexibility, and the caliber and diversity of its students.

Biotechnology Careers Education/TC3/\$3,081.00: James R. Jacob, Ph.D.

This award supports development of a Biotechnology lecture series enlightening high school students on careers in the Biotechnology industry. Funds will be primarily used to purchase a thermal cycler and associated reagents. This piece of equipment is essential to perform polymerase chain reactions (PCR), a molecular technique used exhaustively in the biotechnology industry. Faculty of TC3 will travel to participating high schools and direct a hands-on laboratory on the use and application of PCR. A lecture on career opportunities in related biotech industries will be discussed during the laboratory exercise. The goal of this project is to show real world application of a molecular technique with the objective of enticing students to continue their education in science, technology, engineering, and math.

College Success Seminar in English 12/ McGraw High School/ \$846.00: Michele Whalen

Students will be introduced to the College Success course with the resources of TC3. In 12th grade English, students will work towards achieving 3 main goals:

1. to develop academic skills for a college setting
2. to ease the transition and adjustment of students from high school to college
3. to provide orientation for the college environment

College Experience: Strategies for Success, 6th edition, will be the only textbook for the course. The class will also rely on case studies, research, first-hand experiences through college visits, and guest speakers. Also Bryant & Stratton and USA Today will provide more career information through their program “Experience Today.”