

California University of Pennsylvania

California University of Pennsylvania is well positioned to be a strategic partner in the Fayette-Washington Keystone Innovation Zone.

Facilities/incubators/equipment – identify labs, unique equipment, incubator projects, R&D that are aligned with economic and workforce development.

- Applied Engineering and Technology Department
 - Agile Robotics Education Training Facility (EBE)
 - Computer Aided Drafting/Design Lab (EBE)
 - Digital/Embedded Systems Lab (EBE)
 - Analog Electronic Circuit Analysis Lab (EBE)
 - V-TEL Distance Education Facility (HSL)
 - Materials Testing Lab (EBE)
 - Metrology Lab (EBE)
 - Computer Engineering Technology Lab (EBE)
 - Graphics & Multimedia Digital Color Printing Press Lab (HSL)
 - Graphics & Multimedia Technology Lab (HSL)
 - Pre-Press Design Lab (Mac Systems – HSL)
 - Material Processing/Production Lab (HSL)
 - Hesel CADD/Communication Systems Lab (HSL)
 - Bio-Technology Lab (COO)
 - Transportation Systems Lab (COO)
- Business & Economics Department
 - Business Computing Applications Lab (WAT)
- Chemistry and Physics Department
 - Atomic Force Microscope, tissue-grade UV/Fluorescence and visual microscopes, and Nuclear Magnetic Resonance Spectrometers (200 and 400 MHz)
- Earth Science Department
 - Tourism Research Center - emphasis on the development and planning of tourism
 - Crime Mapping Center
 - Broadcast Meteorology/Television Studio
 - Cal U Weather Center
 - Geo-Environmental Water Analysis Lab
 - Geology/Hydrology Lab
- Eberly Science and Technology Center
 - Two V-Tel Distance Education Facilities
 - Teaching of Science Facility

- California University of PA **Robotics Engineering Technology Curriculum Development**

A partnership between Cal U, Carnegie Mellon University, and the Department of Defense (DoD), is evidence of the University's important role in meeting workforce needs in both the public and the private sectors. Cal U and Carnegie Mellon have received nearly \$1.8 million to date and have an additional \$950,000 pending from the U.S. Department of Defense (DOD). The DOD's goal in providing the funding is to have

one-third of the military's ground force vehicles "robotics automated" or unmanned by 2015. This is expected to dramatically reduce the loss of human life during times of war. Carnegie Mellon's role is to design robotics systems and provide expertise to aid Cal U in the development of a STEM (Science, Technology, Engineering, Mathematics) related robotics curriculum and training facility to prepare technicians who will be producing, installing and maintaining those systems.

Cal U is well positioned to address the U.S. future in robotics by implementing an integrated curriculum that will train those who will meet military and national workforce demands in this area. The robotics curriculum is being created not only for those going into the technology field, but also for those in other academic majors who prefer a hands-on approach to learning science and math. Along with the eventual development and testing of four agile robotics-related classes, we will be developing STEM-related associate degree program in Robotics Engineering Technology and the University will be sharing in the cost of a \$500,000 robotics training facility in our Eberly Science and Technology Center. Work on the space has already begun and is expected to be completed by the fall of 2009.

An additional component of this project are an on-going parallel 2+2+2 pipeline grants sponsored by the PA Department of Community and Economic Development as well as an NSF funded Advanced Technology Education grant as outreach efforts to link our robotics curriculum with secondary level programs in order develop a strong career pathway and enrolment stream from secondary level to college; eventually addressing workforce needs for certificates, technicians (associate) and technologists (baccalaureate) degrees in this field.