

INTRODUCTION TO THE ENGINEERING and TECHNOLOGY PATHWAYS GUIDE

This Engineering and Technology Pathways Guide is designed to identify:

- 1) significant employment opportunities in a variety of engineering and technician pathways;
- 2) the skills needed by students who will stay in the area (not just high achievers who will leave for college and employment elsewhere);
- 3) the variety of engineering and technician educational opportunities available at the four-year and two-year colleges and at the comprehensive and vocational high school levels.

It is a major resource for the Pioneer Valley region because this information has not been available in one place before.

The Engineering and Technology Pathways Guide has been developed by the Pioneer Valley STEMNET as a work in progress that will be distributed to high schools and colleges in the Pioneer Valley. It is designed to be easily updated and to provide high school guidance counselors, college admissions personnel, parents and students with an overview of all aspects of engineering programs available at the high school and college levels in the region. The Pioneer Valley STEMNET welcomes your input on this guide. This document is also available on the Pioneer Valley STEMNET website: <http://umassk12.net/pvnet>.

The Pioneer Valley Pre K – 16 Science, Technology, Engineering and Mathematics Regional Pipeline Network (PV STEMNET) was funded in 2004 by the Massachusetts Board of Higher Education with money from the 2003 Economic Stimulus Trust Fund legislation. The Pioneer Valley is seen as a fertile place for STEM activities, and during this past year, PV STEMNET, which is housed at the School of Education, University of Massachusetts Amherst, under the direction of Professor Allan Feldman, and Kathleen Baker, Project Manager, oversaw a variety of activities designed to integrate engineering principles into classroom instruction. These activities included:

- professional development programs for teachers at UMass Amherst, Smith College, Westfield State College, and the Hampshire Education Collaborative,
- summer “camps” for students at Smith College, Springfield College, and Greenfield Community College,
- engineering career fairs for high school and middle school students held by Tri-County Tech Prep and Tech Prep 21 Consortia at Holyoke Community College and Springfield Technical Community College,
- a weekly series of seminars sponsored by the UMass STEM Educational Institute,
- an academic year enrichment program for middle school students at Western New England College,
- and this Engineering and Technology Pathways Guide that has been developed through a collaboration of UMass Amherst, Tri-County Tech Prep and Tech Prep 21 Consortia.