

## PROJECT OBJECTIVES FOR TEPP

TEPP is a three-year effort to attain the following project objectives:

1. Create a replicable model, the **STEM Vertical Alignment Model**, which delineates and explains the actions of the project and its deliverables.
2. Develop, by adoption and adaptation, a set of 30 **STEM curricular units** (400 hours) for the first year (11<sup>th</sup> grade exploratory technology) of a two-year program.
3. Develop, by adoption and adaptation, a set of 30 **STEM curricular units** (400 hours) for the second year (12<sup>th</sup> grade technician education) of a two-year program.
4. Develop a **two-year program** for high school students to **earn** 15 college credits in five STEM courses (ES 125 Intro to Engineering [2 credits]; MA151 Intermediate Algebra [4 credits], SC161 Intro to Physics I [3 credits], SC162 Intro to Physics II [3 credits], EL129 Semiconductor and Fiber Optics Technology [3 credits]), while earning up to seven high school credits in STEM subjects.
5. Develop, by adoption and adaptation, eight electronics **curricular product modules** for the community college level, reorienting FMCC's ET courses so they become student centered, systems based, and workplace oriented.
6. At the community college level, conduct a detailed **comparison of ten consumer products** in function and operation (well-known consumer items such as DVD players, iPods, digital thermostats, and compact fluorescent bulbs).
7. At the community college level, create an **innovative learning environment** based on projection and touch technology, significant wall writing spaces, and small group-centered seating to immerse students in analytical learning.
8. Accomplish widespread **dissemination** of the TEPP model, products, and results.

The STEM Vertical Alignment Model will detail and explain how to vertically link high school and community college STEM coursework, identify and resolve problems and remove the barriers to progress that are bound to arise. TEPP actions, such as recruitment and selection of 11<sup>th</sup> grade students from the 15 component schools, will be documented and communicated. The model will be published in monograph form to promote replication/dissemination and show others how to:

- address standards-driven technological concepts and skills
- provide a strong foundation in STEM subject areas by immersing students in exploration of a broad range of current and emerging engineering technology fields.
- encourage students to continue their education in the engineering technology programs at two-year or four-year colleges.

Refinement of the project deliverables (model, curricular units and product modules) will occur mainly in-house. The curriculum developers will test and improve the materials with the help of their own students. Additional feedback for improvement will come from teachers from other Region 3 BOCES (see Appendix Item 3: Partnership of Other BOCES with H-F-M BOCES), and from instructors recruited during project presentations at meetings and conferences.

