# Technology Education Implementation:
# Options and Related Costs

This document was created at the request of the Curriculum Instruction and Technology Committee to address questions regarding the proposed implementation of the recently created technology education planned instruction. For the purposes of looking at this document with similar understanding, it is important to understand the following points:

- Chapter 4 of the Pennsylvania Code outlines the districts obligations in what to teach at different levels within our organization. I have included the section of Chapter 4 that pertains to this topic as an attachment on Board Docs called "Chapter 4".

- The Pennsylvania Academic Standards are included in Chapter 4 and provide specific benchmarks of student achievement expected by the State at different levels of a child's school career. Planned instruction is designed to meet the Pennsylvania Academic Standards. I have included the Academic Standards that include Technology Education as an attachment on Board Docs called "Academic Standards".

- The dollar figure used to calculate staffing for 07-08 is $46,500. There are different perceptions as to what this number should reflect. It can be changed to whatever the Committee wishes. Please know that it is consistently applied throughout the document.

- Class size guidelines of 25 were applied as staffing was projected. Class sizes based on October 06 enrollment figures are provided on Board Docs in the Excel document titled "Tech Ed Data for Report".

- Current middle level course requirements were taken into consideration while looking at the feasibility of this implementation. Although the requirements are in policy, they are also included on Board Docs in the Excel document titled "Tech Ed Data for Report"

| | Implementation Costs 07-08 | Implementation Costs 08-09 | |
|---|---|---|---|
| | | Related to implementation of two additional electives | Related to overall implementation |
| **Status Quo**<br><br>Based on what we are doing today – baseline of 06-07 | Facilities - $0<br>Equipment –$0<br>Supplies (one time start up) – $0<br>Supplies (recurring annually) - $7000<br>Staffing - $199,950<br>Training - $1500 –Grant $<br><br>Total Cost -$208,450 | | Facilities - $0<br>Equipment –$0<br>Supplies (one time start up) – $0<br>Supplies (recurring annually) - $7000<br>Staffing - $206,400<br>Training - $1500 –Grant $<br><br>Total Cost -$214,900 |
| **Plan A**<br><br>Implement "Mandatory" courses – planned instruction for 6th, 7th, 8th and 9th grade courses by 07-08 | Facilities - $240,000<br>Equipment –$30,000<br>Supplies (one time start up) – $123,000 –Grant $<br>Supplies (recurring annually) - $12,000<br>Staffing - $232,500<br>Training - $1500 –Grant $<br><br>Total Cost -$639,000<br><br>Total Additional Cost Over Projected 07-08 Status Quo: $430,550 | Not mandatory | Facilities – no additional cost<br>Equipment - $45,000<br>Supplies (one time start up) – $37,000<br>Supplies (recurring annually) - $12,000<br>Staffing - $240,000<br>Training - $1500 –Grant $<br><br>Total - $335,500<br><br>Total Additional Cost Over Projected 08-09 Status Quo: $120,600 |
| **Plan B**<br><br>Implement "Recommended" courses by 08-09<br><br>(6th, 7th, 8th, 9th, Manufacturing Technology, Design & Manufacturing Enterprise, Engineering Design & Applications, and Innovation & Invention in 07-08) (Add Designs in Bio-Related Technology and Multimedia Technology in 08-09) | Facilities –$240,000<br>Equipment –$30,000<br>Supplies (one time start up) – $123,000 –Grant $<br>Supplies (recurring annually) - $15,000<br>Staffing - $290,625<br>Training - $1500 –Grant $<br><br>Total Cost – $700,125<br><br>Total Additional Cost Over Projected 07-08 Status Quo: $491,675 | Facilities – no additional cost<br>Equipment – no additional cost<br>Supplies (one time start up) – no additional cost<br>Supplies (recurring annually) - $5000<br>Staffing - $0-23,225 – we are guessing with electives<br>Training – no additional cost<br><br>Total Maximum Add on for two electives - $28,225 | Facilities – no additional cost<br>Equipment - $45,000<br>Supplies (one time start up) – $37,000<br>Supplies (recurring annually) - $15,000<br>Staffing - $300000<br>Training - $1500 –Grant $<br><br>Total - $398,500<br><br>Total Additional Cost Over Projected 08-09 Status Quo: $183,600 |

The chart of page 2 shows the cost of maintaining the "Status Quo" in 07-08. The projected cost would be $208,450. This would mean that we would continue to offer the semester long 7th grade Technology Education course that we offer today in the same physical spaces with the same equipment. All Warren County School District 4th, 8th and 11th graders will take the field test for the Science and Technology PSSA this spring. The district will begin to administer the actual test in 2008.

Implementing the courses we need to meet the requirements of Chapter 4 and the Pennsylvania Academic Standards for Science and Technology is demonstrated in Plan A. Implementing Plan A would mean offering a mandatory 6th grade course that is 9 weeks in length, a mandatory 7th grade course that is one semester in length, a mandatory 8th grade course that is 9 weeks in length and a mandatory 9th grade course that is one semester in length. Costs of implementation are listed for both 07-08 and 08-09. Please note that the team of teachers working on this project has delayed the cost of some equipment and supplies until the 08-09 school year in order to spread out some of the costs of implementation. To implement Plan A in 07-08 would cost a total of $639,000.
This sum is $430,550 more than what the district is doing today. Of that amount, $124,500 is already secured grant funding that is ear marked for this purpose, leaving $306,050 unfunded at this point. All grant covered expenses are highlighted in yellow.

As noted by several Board members, if students are enrolling in Technology Education courses that were previously not required, then there must be empty seats that will be created in other courses, thus reductions in other areas. Students in 7th grade already take a semester long technology education course, so there would not be a savings in that area. Students in 8th grade are proposed to take a 9 week course, so it is most likely to impact numbers of students in study hall and music electives. Some savings will be realized, but it will not be significant. Computer Technology is an area that would definitely see a reduction in staffing for 9th graders by an estimated 1.5 FTE's, full time equivalents, for a savings of $69,750. Applying the savings from staffing in other areas of $69,750 to the difference above of $306,050 leaves $236,300.

Implementing the recommendations of the team of technology education teachers is demonstrated in Plan B. Implementing Plan B would mean offering all of the mandatory courses mentioned above in Plan A plus the following electives in the 07-08 school year: Manufacturing Technology, Design & Manufacturing Enterprise, Engineering Design & Applications, and Innovation & Invention. Designs in Bio-Related Technology and Multimedia Technology are proposed to be added in the 08-09 school year. The costs related to implementing the recommended program are best depicted on the chart, rather than through a narrative.

The facilities estimates provided by Buildings and Grounds are reposted on Board Docs with a couple slight modifications. It is important to understand that the problem with the current facilities at YHS, WAHS and EMHS has to do with the shift from a traditional industrial arts shop to technology education. Technology education requires both a classroom instructional environment with access to computers as well as a shop area with equipment. These schools are not set up properly to accommodate this need. The problem with the current facility at YEMS is that it was set up for a computer simulated technology education environment with no shop area at all. The grants available to the district at this time cannot cover the costs of updating the facilities.