

CAREER & TECHNICAL EDUCATION

Primary Goal - To use academic concepts and practical skills in applications related to life skills and the world of work.

	<u>Staff</u>	<u>Students</u>	<u>Budget</u>	<u>Cost Per Student</u>
(Fam. & Cons.)	6.55	1,320	\$ 584,177	\$443
(Technology)	10.90	1,765	\$1,006,890	\$570

Family and Consumer Science 7 - 12

Noteworthy activities at Shaker Junior High included:

Home and Careers Skills faculty worked to realign the seventh and eighth grade curriculum with all New York Education standards and National standards. Changes to the presentation of the curriculum also reflect the new format that New York State will follow. Topics and activities were refined to incorporate current information, such as the new food pyramid and dietary guidelines. Changes will be implemented beginning with the fall term of 2006. In addition, junior high school faculty and classes worked on some outstanding programs including:

- Students designed and constructed fleece hats, mittens and neck warmers that were donated to an agency for distribution to homeless children.
- Elementary visitation and activities.
- Following Hurricane Katrina, the students sewed drawstring bags and stuffed animals to be sent to children affected by the storm. Students also included donated children's books in the bags.
- A luncheon to host a veteran, Mrs. Demeter's father, was prepared and served by students. Mr. Demeter was unable to attend, but Mrs. Demeter stood in and spoke with the students about her father's service. A quilt made by the students for Mr. Demeter was presented.
- Six quilts were constructed and awarded to veterans in recognition of the contributions they have made to our country and community.

At Shaker High School, noteworthy activities included:

The Family and Consumer Science faculty began review and realigned course outlines with New York State standards. This process will continue through the 2006-2007 school year.

CAREER AND TECHNICAL EDUCATION (cont.)

The Child Development course, which was offered this year in conjunction with Hudson Valley Community College, was well received. The course had an enrollment of 23 students. All students successfully completed the course, and 19 of the students received the college credit. In addition, high school faculty and classes worked on some outstanding programs including:

- Integration of a wide variety of instructional software and technology, including a new 3-D interior design software program; and MacDiet, a nutrition and diet software, was also introduced. A number of new Internet-based research projects were also introduced this year.
- A new project involving researching the various life cycle stages was implemented, and as a result students were involved in a number of community service activities including: learning about heart disease and then creating “Hug a Hearts” for the Albany Medical Center, Cardiac Care Unit, creating greeting cards for a nursing home and collecting household goods for the Merillac Shelter.
- Students organized a Make-a-Wish basketball game that raised \$1,188 for the foundation.
- The FACS student organization volunteered assistance with the Project Equinox Thanksgiving Dinner for the needy.
- A student scrapebooking club met and was very well attended.

Family and Consumer Science teachers continue to incorporate academic subjects into their curriculum. Examples include math skills in food preparation, buying/renting housing and family budgeting. Science is supported in food preparation courses, as well as clothing fibers and health careers. Social studies is reinforced throughout the history of clothing, history of housing and international foods studies.

Students continue to perform well on local performance assessments. In addition, the feedback we have received from colleagues in our district, as well as parents and students, indicates that program and course objectives continue to be met.

Technology 7 - 12

The faculty at the junior high school continues to design and develop methods of instruction and supporting activities which convey the middle level Technology Education modules in a manner that captures student interest while building problem solving and analytical skills. For example, when discussing future trends in technology and innovation the students were challenged to propose a technical solution to a daily concern and model that solution. Students wrote about their designs and made a presentation to the class on the product solution they devised. In addressing structural

CAREER AND TECHNICAL EDUCATION (cont.)

integrity and safety, students researched vehicle design including aerodynamics and structural safety. The resulting models of their designs were tested on a carefully designed crash course using laser alignment to control the impact of two vehicles. The impact and resulting damage was examined and the findings reported in written form. The junior high administrators joined the students in the testing of the vehicles, helping to validate for the students the importance and relevance of what they were learning.

Eighth grade students were provided a very tangible example of complex machines through an activity incorporated with instruction on the role of mechanization in the production process. The lab activity called upon students to devise a multi-stage machine which would simulate a variety of manufacturing functions resulting in an end product. Students employed problem-solving skills to address transporting, manipulating and machining the raw materials to result in the desired product. In addition, students participated in a unit of study on video editing story boarding, and filming videotape presentations intended to assist students transitioning from grade six to the junior high. Mr. Wheeler continues to work with interested students to produce and broadcast morning announcements at the junior high. These projects have resulted in a significant number of students who have pursued similar interests when selecting elective courses and activities at the high school.

Extra-curricular activities were also provided including an after school CADD group, a Robotics club, a Radio Controlled Vehicle club, and plans are being made to offer a Lego/Mind Storm club and competition for next year.

Shaker High School

The high school Technology Department provided its first college in the High School course after a review and updating of the Manufacturing Processes course. Provided in conjunction with Hudson Valley Community College, students received the content instruction they would receive on campus enhanced with the addition of hands-on activities designed to clarify the concepts covered and provide a sense of content relevance. The department is collaborating with Hudson Valley to offer students college credit for successfully completing the Broadcast Media course being redesigned for the 2006-2007 school year.

With growing student interest in the various fields of engineering, as well as the growing industrial demand for employees with engineering skills, a pre-engineering sequence of courses is being designed and will be infused over the next three years. This initiative was undertaken with input from district resources including science, math and guidance and building resources as well as external input including schools of engineering, college in the high school programs, and similar high school programs. Course offerings will include, Design, CADD, Analog and Digital Electronics, Computer Integrated

CAREER AND TECHNICAL EDUCATION (cont.)

Machining, Materials Processing and Principles of Engineering culminating with an individualized research and development project called the Capstone course. The initiative will begin with the training of three of our faculty to instruct in the use of Inventor, a three dimensional design and drawing software package. This will become the basis for our Design and Production course transforming what has been a paper and pencil course to a computer- based course with limitless potential for students to express and develop their technical design ideas. The C103 classroom at the high school will become a compute- based instructional space offering the latest in design and instructional technology software and tools including video projection and SMART board technology.

Student photographic projects were displayed at the Colonie Town Library for the first of what is planned to be a bi-annual show each year. The IRP Technology classes for grade eleven students began a two-year project involving the design and construction of a fully operational motorcycle. Each of the two classes design a motorcycle researching the structural, power train and operational consideration required. Patterns were developed from the students' drawings and parts manufactured. Final production and assembly is currently scheduled to be completed by the students in their IRP 4 class next year. Podcasting, establishing wiki-sites and creating on-line learning sites were just a few of the topics and projects explored by the Telecommunications and Networking students this year, while students in the Residential Construction class completed construction of a storage shed purchased by a resident in the community.

Students participated in after school activities including a broadcast media club which produced an electronic yearbook, as well as a variety of documentaries on school events including parents' night, sporting events and an interview with Dr. Jackson as he prepared to retire. The robotics club worked on designing a robotic school mascot which will be available for sporting events and other school functions. The group plans to complete construction next year. Groups of students worked on architectural, photographic and wood based projects.

There was one accident at the high school in 2005-2006. While injuries are rare, attention to this area remains a priority. Student supervision, machine placement and up-to-date safety guards are areas of close scrutiny and improvements are being made as concerns are identified.