**Welcome to 7th and 8th Grade Applied Technology**

This program has been developed and adjusted over the years to be:  **Progressive**, *Interactive and* Individualized in a sense as well as being cooperative.

7th grade is utilized as an introductory year exposing students to the basic concepts of Applied Technology. In 8th grade we review the basics from the prior year and work more toward applying our skills with integration into more collaborative projects. The state of Pennsylvania deems Technology Education as:

**Technology Education**

Technology Education is the means by which we teach Technology which is found in the *Academic Standards for Science and Technology*. Technology Education is a body of knowledge separate from but related to the sciences, with specific content, curriculum and specific certification requirements. Technology is the **application of tools, materials, processes and systems by humans to solve problems and provide benefits to humankind**. We use technology in an attempt to improve our environment. These improvements may relate to survival needs (e.g., food, shelter, defense) or they may relate to human aspirations (e.g., knowledge, art, control). They can include unexpected benefits, unexpected costs and unexpected risks. Technology Education involves **a broad spectrum of knowledge and activities**. Effective Technology Education **combines knowledge of content, processes and skills to provide students with a holistic approach to learning**. Technology Education offers unique opportunities to **apply numerous academic concepts through practical minds-on/hands-on applications**. Instructional Technology on the other hand, deals specifically with **use of computers and different software to solve problems and communicate effectively**. **Knowledge of content, processes and skills should be used together to effectively engage students and promote a complete understanding of the sciences, related technologies and their interrelationship**. The relationship between science and technology is one where science builds principles or theories and technology provides the practical application of those principles or theories. [Pennsylvania Department of Education](http://www.education.state.pa.us/portal/server.pt/community/technology_education/14635)

These 2 courses have been built off of the above concept as well as the ISTE’S (International Society for Technology in Education) Educational Technology Standards for Students and Standards for Technological Literacy:

**Standards for Students**

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision-Making
5. Digital Citizenship
6. Technology Operations and Concepts

[www.iste.org/Content/NavigationMenu/NETS/ForStudents/NETS\_for\_Students.htm](http://www.iste.org/Content/NavigationMenu/NETS/ForStudents/NETS_for_Students.htm)

**Standards for Technological Literacy**

1. Abilities for Technological World
2. Technology and Society
3. Design
4. Designed World
5. Nature of Technology

[www.iteconnect.org/TAA/PDFs/xstnd.pdf](http://www.iteconnect.org/TAA/PDFs/xstnd.pdf) pg 220

***Grading*** is acquired in a variety of methods and is only FINAL by the Quarters End. Students always have the opportunity to resubmit a final project with corrections for further points. Grades taken at mid-term are only based on what has been turned in at that time compared to where the class instruction is at that time. A student may still be working **diligently** on finalizing their first project as the class instruction has continued onto project two. The students work will not be docked any points for being “late” since the intent is to get the best **QUALITY** work from students instead of just meeting a dead line with sub-par effort.

***PROJECTS***- Since these are both project based courses, there are no tests or quizzes to deal with. Students may work in the mornings before school begins instead of waiting in the gymnasium and during flex or instructional lab time as their teachers allow if they feel they have fallen behind.

***Classwork***- Each project is broken into steps and stages and can be found on the appropriate Applied Technology Web Site. Each skill the students will need to display independently is first demonstrated then practiced within the class under teacher guidance. The practice work is checked for correctness and completion. The students then apply this independently to their overall project where it is graded as a whole. Students receive credit for their practice work as well as the overall final project score.

***Homework***- The only assignment is bringing in a folder to keep information and papers together and materials for projects as the students decide to repurpose and reuse resources.

***OUR CLASS TIME***

* The First 2 days are set up for reviewing school navigation process and introducing to the concept of Applied Technology.
* Each cycle thereafter are broken into assignments based on the processes and needs for each project; be it back ground knowledge, brainstormed to access prior knowledge or hypothesizing on the possible solutions to a problem prior to beginning the hands on application
* Each grade does 3 graded projects and sometimes a 4th exploration non graded activity as time allows

***Curricular Goals***:

National STANDARDS

* + Social, ethical, and human issues
    - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
  + Technology productivity tools
    - Students use technology tools to enhance learning, increase productivity and promote creativity
    - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
  + Technology problem-solving and decision-making tools
    - Students use technology resources for solving problems and making informed decisions.
    - Students employ technology in the development of strategies for solving problems in the real world.
* Physical Science:
  + Properties And Changes Of Properties In Matter (5-8)
  + Motions And Forces (5-8)
  + Structure And Properties Of Matter (9-12)
  + Motions And Forces (9-12)
* Science As Inquiry:
  + Abilities Necessary To Do Scientific Inquiry Science and Technology:
  + Understanding About Science and Technology

STANDARDS FOR TECHNOLOGY LITERACY:

* + students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study
  + students will develop an understanding of the cultural, social, economic and political effects of technology
  + students will develop an understanding of the role of society in the development and use of technology
  + students will develop an understanding of and be able to select and use information and communication technologies
  + students will develop an understanding of the attributes of design
  + students will develop an understanding of engineering design
  + students will develop and understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving
  + students will develop the abilities to apply the design process
* The Nature of Technology:
* Students will develop an understanding of the characteristics and scope of technology.
* Students will develop an understanding of the core concepts of technology.
* Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.
* Design:
* Students will develop an understanding of the attributes of design.
* Students will develop an understanding of engineering design.
* Abilities of a Technological World:
* Students will develop abilities to apply the design process.
* The Designed World:
* Students will develop an understanding of and be able to select and use transportation technologies.
* Students will develop an understanding of and be able to select and use construction technologies.

***Web Site Resources:***

* Goodsearch.com
* Dictionary.com
* Then sites specific for each project (as found on the projects web page)

**Vocabulary of Interest**:

computer, mouse, keyboard, printer, projector, interactive board, directory, drive, network, open, print, save, save as, header, spread sheet, data, word processing, user name, log on, log in, password, log off, log out, shut down

Then specific information for each project as found on the projects web page

**Teacher Contact Information:**

Mrs. Catherine Mentzer

School phone: 642-2005

School E-Mail: [mentzerc@fairfield.k12.pa.us](mailto:mentzerc@fairfield.k12.pa.us)

Teacher’s School Web Site:

<http://www.fairfieldpaschools.org/13982010618260670/site/default.asp?13982010618260670Nav=|&NodeID=600>

This is accessed by progressing from the District page to the Middle School page to Teachers Page to Mentzer, Catherine courses are listed in the left hand menu option

**Documents of interest:**

Student’s will be utilizing several programs throughout both years as well as saving the work to the school network so that it may be accessed and continue their work over time: 7th grade work with drawing aspects and chart displays in word, taking images from web sites, print screen capabilities, and spread sheets for calculating math; 8th grade work with power point, wiki spaces as well as audio video applications.

***Example of Schedule of class:***

Times are estimates only to reflect the progression of how the class moves

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday |
| 1. Intro to Applied Tech | 2. Continue Intro, Review Procedures and Practices | 3. Intro First Project | **PHYS ED** | 4. 7th gr🡪 What is Technology  8th gr🡪 Engineering Careers |
| 5. 1st project continues | 6. 1st project continues | **PHYS ED** | 7. 1st project continues | 8. 1st project continues |
| 9. 1st project continues | **PHYS ED** | 10. 2nd project begins | 11. 2nd project | 12. 7th gr🡪 House Design  8th gr🡪 TOWER POWER |
| **PHYS ED** | 13. 2nd project | 14. 2nd project | 15. 2nd project | **PHYS ED** |
| 16. 2nd project | 17. 2nd project | 18. 2nd project | **PHYS ED** | 19. 3rd project  7th gr🡪 Simple Machines  8th gr🡪 Rube Goldberg |
| OTHER PROJECTS as time allows🡪 7th grade, manufacturing and transporter; 8th grade, bridging the gap or transporter | | | | |

**Class Expectations:**

* Arrive on Time, when the door shuts the teacher sees the hall is clear and all students should be in the room
* Bring required materials to class: writing utensil, folder, agenda
* Students remain in the room unless it is an emergency; use the facilities **PRIOR** to arriving.
* Students are allowed and encouraged to help and assist their neighbors when the teacher is not instructing. HOWEVER, helping is NOT doing for another person, helping and assisting does NOT require one student to touch another student’s work station. Explaining, showing, demonstrating are all good methods of helping someone learn for themselves.
* There are not assigned seats unless the students prove the need by being disruptive or interfering with the academic environment of another or not demonstrating the ability to progress at a reasonable pace so the teacher may monitor individually to try and ascertain a reason for the delay. This aids in proving that the students are able to properly navigate the school network system and save their work accordingly. This is also done so that students are able to demonstrate the ability to choose responsibly by sitting next to people whom will allow them to complete their work.
* Computer settings are to remain as they have been set prior to the class. If there is an issue on the computer or with any of the equipment (headphones) the students need to let the instructor know so it may be dealt with accordingly.