

Eighth Grade Technology Education Information for Students and Parents

Course Description:

The eighth grade Technology Education course is designed to expose students to broad ideas that are used in many different areas of our technological society. This is accomplished through both communication and production technology. The communication section introduces students to the software, hardware, and tools used in a computerized desktop environment. The structural challenge introduces students to technology literacy and topics pertaining to the universal systems model, construction, and materials. It also presents the basic engineering concepts of the design process, as well as how to investigate and solve design problems.

Communication Technology:

Understanding how to use communication technology and apply basic design concepts to communicate an idea or message to an audience is important. This section of the course will teach students the copyright laws, fundamentals of design, visual communication, and Adobe Photoshop. Activities will focus on idea generation and refinement using thumbnail and rough layouts, graphic design, and software to create and manipulate images. Students will also learn basic design principles, typography, and how illustration is used to persuade, communicate, identify, attract attention, or create action in a layout.

Students will utilize graphic techniques to create a bumper sticker. Groups of two or three students will work together to sketch, create, and produce a bumper sticker. By actually working, experimenting, making mistakes, and creating with the computer, students will demonstrate basic design principles.

Structure Challenge:

The structure challenge is a concept used to examine structural engineering. Students will design and create a tower that will reach maximum structural efficiency. The towers are built using balsa wood. Since balsa wood is low density the student cannot simply rely on the materials for strength; students are required to use open-ended problem solving techniques. Students must engineer structural integrity into their structure; rather than relying solely on using a lot of material. Students must determine what known information is relevant and analyze options for solutions if engineering problems occur.

Specific Skills or Knowledge Students Will Learn:

1. The parts of a simple system and their relationship to each other
2. How to use the technological design process to solve problems
3. The physical technologies of structural design, analysis and engineering, financial affairs, structural production, and design
4. The different forms of stress and how a structure reacts when it is under a compressive load
5. Communication skills necessary in the field of engineering and employ an individual and team approach while solving engineering problems

Daily Required Materials:

In order to be successful in class, students should bring the following items everyday:

1. Pen or pencil (preferred)
2. Technology notebook
3. Any work which was completed at home or during a former class
4. Assignment book – no passes will be issued without your assignment book

Attendance: What should I do when I return from an absence?

1. Check with Mr. Schmell to find out what assignments you missed.
2. If you are absent on the day of a quiz please see Mr. Schmell as soon as you return so that you can schedule a time to make up the quiz.
3. Quizzes not made up by the end of the art cycle will become 0's.
4. If you are absent on the day of a demonstration or missed some work periods it may be necessary for you to come to the Tech Ed Lab during eighth period or possibly after school to complete any make-up work.
5. Do not wait until the end of the art cycle to try to catch up, it is important to make up all missed work as soon as possible.
6. If your project is not completed at the end of the art cycle, you have one week to complete it. After one week, your grade will be calculated as is. *It is your responsibility to see Mr. Schmell to set up a time to complete unfinished work.*

Grading:

Communication Technology – 40% of your final grade

1. Thumbnail and rough sketches – 10 points
2. Completed bumper sticker – 15 points
3. Test – 15 points

Structure Challenge – 40% of your final grade

1. Worksheets – 5 points each
2. Completed tower – 15 points
3. Written Conclusion – 10 points
4. Test – 10 points

Class Participation – 20% of your final grade

1. Every student should participate daily. Participation will vary and include listening to lecture, working in groups, and building projects. Students are expected to be cooperative, work on the class's task and be respectful and not disruptive during class and participation.
2. Points are lost for not following school rules, class rules, or lab rules.

Extra Help:

I am usually available for extra help two or more days during eighth period every week. If these times are not convenient, it is your responsibility to talk to me to make other arrangements.

I am looking forward to a happy and productive school year and I am excited about the opportunity to get to know you. Please read the safety pledge sheet, sign, and return it School policy dictates that each student must return the PARENT SUBMISSION LETTER before he or she can start his or her project. *Notes are not an acceptable substitute.* If you lose your letter, see Mr. Schmell for a new copy.

Parents if you have any questions or concerns or if you would like to visit my classroom, schedule a conference, or volunteer to help, you can contact me at 610-869-3022 ext 3095 or through e-mail at Mschmell@avongrove.org

Technology Education Lab Rules

1. As you come into our class, put your books on the shelves and sit in your seat quietly. Class will not start until all are quiet. Bring a notebook and pen or pencil to class everyday.
2. Be polite at all times. Treat fellow classmates, the teacher, and their possessions with respect. Do your own work and make good use of the class time.
3. Horseplay and other inappropriate behavior are not allowed in the Technology Education Lab.
4. All tools and equipment are to be used with care and returned to the tool cabinet when you are finished with them.
5. Keep the lab neat. The floors should be free of paper, tools, and scrap wood.
6. State law requires that safety glasses be worn while working in the lab.
7. Make sure your project is in the locker at the end of the class. Projects left out might not be there when you return to class. Do not take projects home until they have been graded.
8. If you have a question or problem do not yell for the teacher. Go over to him or raise your hand. Do not ask questions about your project after clean up has started.
9. Work safely at all times. Accidents are typically caused by lack of knowledge or not paying attention. If you are not sure, ask a question. When working always concentrate on what you are doing.
10. Only operate the machines and tools, which you have permission to use. Do not play or tamper with the equipment or machines.
11. At clean-up, place your project in your locker, return your safety glasses to the cabinet, and do your clean-up job.

Machine Safety Rules

1. Remove all jewelry, eliminate loose clothing, and tie back long hair before operating any machine.
2. Check the condition of blades, belts or cutters. See the teacher to fix the machine properly.
3. Adjust the guides and guards to the proper position. All adjustments should be made with the power off.
 - Band saw guide should be positioned 1/8" above the work piece.
 - Scroll saw guide should be touching the work piece.
 - Belt sander table should be positioned 1/16" away from the sanding belt.
 - Disc sander table should be positioned 1/16" away from the sanding disc.
4. When using the drill press:
 - The long end of the wood should be to the left of the user.
 - All materials must be clamped down to the table.
 - The key must be removed from the chuck before turning it on.
 - Turn the power off if the piece gets caught in the drill. Do not stop by hand.
5. Know the work area of the machine and keep your hands out of this area when the machine is in motion.
6. Use slow controlled motions when moving your piece in the machine. Fast jerky motions can be dangerous.
7. Do not talk to or distract an individual while they are using a machine or tool.
8. Never leave a machine until it has come to a complete stop.
9. Clean the machine before and after you use it. Never clean the machine or remove scraps from the machine until it has stopped.

Avon Grove School District
Fred S. Engle Middle School
Technology Education
Mr. Schmell
Mschmell@avongrove.org
610-869-3022 ext. 3095

STUDENT TECHNOLOGY PLEDGE SHEET

Your Name (Please Print) _____

The above student will follow the technology guidelines for the Industrial Technology Department when using the lab computers. By adhering to these guidelines, educational experiences can be enhanced.

Access, transmission, or display of offensive material or messages including explicit images, cartoons, as well as abusive, profane, or threatening language, will not be tolerated.

Use of technology must occur within the parameters of school district policy 241: Acceptable Use Policy for Digital Technology. Equally, any student who violates any of the district guidelines is subject to disciplinary measures.

Introduction, transmission, or creation of any computer “virus” using School District technology is prohibited.

Any financial obligations incurred, due to misuse or abuse, by persons using District Technology is the responsibility of that user.

When using the computer, the student will access only the files designated by the teacher.

I have read and fully understand and agree to follow the District’s Technology guidelines.

Student Signature _____ **Date** _____

As the parent/guardian, I recognize that guidelines for computers exist, my child will follow those guidelines, and I approve for my child to access on-line service using school district technology.

Parent/Guardian Signature _____ **Date** _____

PLEASE RETURN THIS LETTER BY _____ OR RECEIVE A DETENTION

Avon Grove School District
Fred S. Engle Middle School
Technology Education
Mr. Schmell
Mschmell@avongrove.org
610-869-3022 ext. 3095

Dear Parent or Guardian:

_____ is enrolled in the Technology Education Program and will have the opportunity to operate various tools and power equipment.

It is understood that each student will be given proper instruction in the use of the equipment and in correct safety procedures concerning it, before being allowed to operate it himself/herself. The student must assume responsibility for following safe practices, and we therefore ask that he or she subscribe to the following safety pledge:

- Follow the teacher's safety instructions at all times. Do not behave unsafely in the technology room, lab area or around any tools or equipment.
- Pay close attention to what you are doing at all times. Do not let others distract you while you are using any tools or equipment.
- Always wear safety glasses and other eye protection when you are in the lab.
- Never use any tool or equipment without the permission of your teacher. Do not use a tool unless the teacher has instructed you in its use. Do not follow the advice of anyone other than the teacher when using tools or equipment. Remember to ask the teacher for help if you are not sure about an operational procedure.
- Do not wear loose clothing, jewelry or other items that could be caught in a tool or machine.
- Always use guards on each machine. Keep hands and fingers away from all moving parts of tools and equipment and keep hands and fingers away from all blades, belts, or cutters.
- Report all injuries to your teacher at once.

I have read and fully understand and agree to follow the safety guidelines listed above.

Student's Signature _____ **Date** _____

I hereby give my consent to allow my child to operate all tools and equipment in carrying out the requirements of the course in which he/she is enrolled.

Parent /Guardian Signature _____ **Date** _____

Please identify any health problems that may have a bearing on your child's participation in this class, even if this problem has already been reported to the nurse.

PLEASE RETURN THIS LETTER BY _____ OR RECEIVE A DETENTION