



**Portland Public Schools**  
**School Year**  
**2016 -17**

Teacher: <b>David Nally</b>		School: <b>Hosford Middle School</b>
Subject: <b>Engineering Technology</b>	Course Title: <b>Engineering : Shop</b>	Grade Level(s): <b>6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup></b>
<p>Course description: 1 semester (18 weeks)</p> <p>The goal of this course is to provide all students with an introduction to the principles of engineering and technology and its place in the modern world. This course will also help students to use technological systems effectively in their lives, thus providing a foundation for successfully integrating their own interests with potential careers with the resources of a technological society.</p> <p>Exploring technology introduces and has the student work through an engineering design process while looking at technological impacts on society. Our explorations will reinforce the areas of math, science, social studies, and language arts through practical application and / or hands- on activities.</p> <p>1st qtr. will focus on group problem solving and team building, 2nd qtr. on tools, machines and manufacturing individual projects - that will be theirs to take home.</p> <p>Exposure to related careers, work ethics and leadership skills will be important components in this course. At the end of this course, students will understand how engineering/ technology impact them and the world around them and careers available to them for their future.</p>		
<p>Priority Standards:</p> <p><b>1. Technology and Society</b></p> <ul style="list-style-type: none"> <li>A. Interaction of Technology and Humans</li> <li>B. Effects of Technology on the Natural World</li> <li>C. Effects of Technology on the World of Information and Knowledge</li> <li>D. Ethics, Equity, and Responsibility</li> </ul> <p><b>2. Design and Systems</b></p> <ul style="list-style-type: none"> <li>A. Nature of Technology</li> <li>B. Engineering Design</li> <li>C. Systems Thinking</li> <li>D. Maintenance and Troubleshooting</li> </ul> <p><b>3. Information and Communications Technology (ICT)</b></p> <ul style="list-style-type: none"> <li>A. Construction and Exchange of Ideas and Solutions</li> <li>B. <i>Information Research</i></li> <li>C. Investigation of Problems</li> <li>D. Acknowledgment of Ideas and Information</li> <li>E. Selection and Use of Digital Tools</li> </ul>		
<p><b>Schedule of topics/units covered:</b></p> <p><b>Construction:</b>  <i>Activities/projects</i> Group Problem Solving ~ Marble Roll, Marble Ride, Rube Goldberg</p> <p><b>Manufacturing:</b>  <i>Activities/projects</i> Spinning Top, Desk Organizer</p> <p><b>Power, Energy &amp; Transportation:</b>  <i>Activities/projects</i> Mechanical Car</p> <p><b>Communication:</b>  <i>Activities/projects</i> 3 Dimensional drawing,</p> <p><b>Independent Project(s)</b>  <i>Activities/projects</i> Various projects dependent upon time, materials and student skill &amp; ability/level.</p>		
<p><b>Academic Vocabulary:</b> Vocabulary germane to the subject matter. Each application/concept has its own set of terminology that students are introduced to and expected to utilize appropriately.</p>		
<p>Differentiation/ accessibility strategies and support (TAG, ELL, SpEd, other):</p> <p>*Flexible grouping *Depth and complexity extensions *Rate and level curricular adjustments</p> <p>*Tiered lessons *Diverse questioning strategies *Compacting</p>		

Essential skills to be taught or assessed:

- Read and comprehend
- Write clearly and accurately
- Listen actively and speak clearly
- Apply mathematics
- Think critically
- Personal management and teamwork
- Use technology
- Civic and Community Engagement
- Global Literacy

**Assessment/evaluation/grading policy:**

All grades will be based on a 4 point proficiency scale.

HP = Highly Proficient

PR = Proficient

CP = Close to Proficient

DP = Developing Proficiency

**Final report card grades**

**will be converted to an "A - F" grade using PPS conversion formula.**

Behavioral expectations:

It is expected that students will be present in class every day unless a note from a parent or guardian is provided and the absence is excused. Students are responsible for making up all work missed while they are absent in order to receive a grade for that work.

When students are tardy they miss the instructions and set up for the whole day's work. This is a very important time for the whole class. If you are tardy please come in quietly, and wait to get the information you missed, so as not to disturb the class any more than necessary.

Hall passes will be issued only in emergencies and not within the 10 minute periods at the beginning and end of a class.

**Every student has the right to a classroom environment that is conducive to learning and free from unnecessary disruptions. It is each student's responsibility to behave in a manner that is respectful of the rights of all members of the class.**

**Be Safe  
Be Respectful  
Be Responsible**

All other rules are related to these three expectations.

If you need to contact me my email address is :dnally@pps.net  
You can contact me by phone at 503-916-5640

**Safety issues and requirements:**

- Students are provided detailed information on lab safety, hand tool and equipment safety.
- Students must pass safety tests with 100% accuracy or prove that they understand all safety concepts by correcting tests with written or verbal responses that prove they understand the safety concept.
- Student must demonstrate to instructor the safe use of all major stationary machinery.

Students will have a **PPS** account in order to have school "Cloud" storage space on the Internet. Students will also use these accounts to meet standards for collaborating across an electronic network.