



# Energy, Power & Transportation

**Park High School**

*Course Syllabus*



## **Industrial Technology Dept.**

Energy, Power & Transportation

Jamie Isaly 586-7062

School Year 2015-2016, Period 2 - Semester 1



## **Course Summary:**

This class is designed for those students that want to learn more about the mechanical systems that our technical world revolves around, as well as the energy systems that power them. This is a “hands on” class where students will use tools and equipment to develop, test, and maintain various mechanical and electrical systems. Students will also be placed into different problem solving situations in which they will utilize tools, equipment, knowledge and various power systems to accomplish specific tasks. “Build it, power it, and watch it move.”

## **Learning targets:**

The following is a list of some of the topics that will be covered during the course of the semester:

- |                      |   |
|----------------------|---|
| Energy               | - Students will learn and understand where our energy comes from, the different types of energy, and how it is utilized. They will also compare traditional and alternative energy sources, and investigate the economic and environmental impacts of energy in general.  |
| Power & Motion       | - Students will explore the various types of power systems used today, including how they work, as well as their general applications. Students will also study world of motion, and obtain an understanding of the different methods used to transfer that motion from specific power systems to where the work is actually needed |
| Tool and Machine Use | - Students will use a wide variety of tools, machines, and resources to help design, build, and test different contraptions that utilize a number of energy, power, and transfer systems<br><b>Safety and proper maintenance of tools will be emphasized.</b>   |
| Electronics          | - Students will study basic electricity concepts, including some theory, circuitry, electrical measurement, and major applications of electricity.  |
| Problem Solving      | - Students will be involved in several problem solving activities that will ultimately utilize and apply a lot of the information and concepts learned during the course of the class.  |

### **Class Activities:**

This is primarily a “hands-on” class where most of the information and skills taught will then be reinforced through some sort of lab based activity or experience. Most activities will be problem solving based, where the skills and content taught will be applied through the finding and implementing solutions to specific problems. Other activities will be process oriented where the focus of learning is generated through the process students go through, rather than focusing on the end result. Some of these activities will be accomplished individually, others will be group oriented.

### **Student Expectations:**

My personal educational philosophy centers around the notion that the more students experience, the more involvement they have in any aspect of life, the more they learn. Knowledge comes from doing, no matter what it is we are doing. This being said, my main student expectation is that students honestly apply themselves in each of the many activities that we embark on with-in the class. This includes not only the hands-on applications, but also learning the content information taught during the application of each area of study.

*The more we do, the more we learn.*

### **Student materials needed daily:**

Pencil, Paper, and a 3-ring binder



### **Class Evaluation:**

Students’ grades will be determined from a combination of different sources including but not limited to:

Class work	Projects	Portfolios
Tests & quizzes	Lab Participation (assessed weekly)	

*This is a lab based class which results in just a small amount of written homework for the student. A larger aspect of the student’s homework responsibility centers around the student thinking about solutions or approaches to take in accomplishing specific tasks, and obtaining the necessary resources needed to implement their solutions.*

***Strong participation in class is extremely important to not only the student’s grade, but more importantly to what the student potentially can learn through-out the course of the semester.***

**Idle hands lead to Idle minds.**

### **Grading Scale:**

97-100 A+	87-89 B+	77-79 C+	67-69 D+	0-59 F
94-96 A	84-86 B	74-76 C	64-66 D	
90-93 A-	80-83 B-	70-73 C-	60-63 D-	

