

**ARROWHEAD UNION HIGH SCHOOL**  
**Physics of Analog and Digital Electronics (PLTW DE)**  
Syllabus, 2014-2015

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**Course Information:**

Physics of Analog and Digital Electronics or PLTW's Digital Electronics is a yearlong course that will provide students with information in both content and theory to work with analog and digital circuit components. Students will have the opportunity to deepen their personal understanding of LED's, resistors, capacitors, Logic gates and counters along with the diagnostic devices (Multimeter and oscilloscopes) to analyze those components. Students will demonstrate their knowledge and skills through the use of labs, quizzes, and tests in compliance with Project Lead the Way requirements.

**Course Website:**

The course website can be found at the following address: [my.pltw.org](http://my.pltw.org). Students will be given information to access the site individually once the school year starts. On the website, you will be able to find some of the following items:

- **Class Resources:** Most of everything we hand out in class can also be found online including worksheets, assignments and PowerPoint presentations.
- **Quizzes/Tests:** Some of the quizzes and tests in this course will be administered via the use of this website.

**Required Materials:**

- **Laptop Computer:** You will be electronically documenting projects.
- **Writing Utensils:** Be sure to bring something to write with. I would recommend a pencil incase you need to erase any work.

**Responsibilities and Expectations:**

*Your Responsibilities:*

As a student, you have several responsibilities to take on. Assuming these responsibilities will make learning science easier and more enjoyable. Furthermore, they will help you develop your study skills in general, helping you how to learn.

- **Be Prepared for Class:** This means coming to class with your homework complete (written and reading).
- **Participate in Class:** This applies to every part of the class: experiments, problem solving sessions, and class discussions.
- **Ask for Help:** This class can be a challenging subject. It is of dire importance that you ask questions when struggling with something. The best time to come in for help is either before or after school. Often times, a quick explanation is enough to take away the confusion and frustration. Feel free to contact me in these ways:
  - Before or after school
  - e-mail: [streufert@arrowheadschoools.org](mailto:streufert@arrowheadschoools.org) or [christian@arrowheadschoools.org](mailto:christian@arrowheadschoools.org)
  - Phone: (262)-369-3611

*My Responsibilities:*

In addition to the responsibilities listed above for you, I believe I also have some responsibilities to you:

- **Be Prepared for Class:** Contrary to popular belief, I have homework too. This isn't only lesson preparation, but also taking care of grading and other feedback in a timely manner.
- **Provide Help:** This can be a challenge course. Nothing is more frustrating than working on (and possibly

worrying about) something that just is not coming to you. Don't get yourself more frustrated, but simply put aside what you are working on and promise yourself to come in after school or before class for some assistance. However, this *does not* excuse you from making an effort with the material before seeking help. I will ask to see what you've accomplished so far.

- **Provide a Comfortable and Non-Threatening Atmosphere:** Learning comes easier in a comfortable environment. If anything (or anyone) troubles you while in class, PLEASE SEE ONE OF US outside of class. We'll work together to address your concerns.

### **Behavioral Expectations:**

In order to ensure success for all students in this class, each of you needs to do your best behaviorally. The list below includes my expectations of proper classroom behavior:

- Respect your fellow classmates at all times.
- Be in your seat and be prepared for class when the bell rings.
- It is expected that any electronic devices will be used responsibly. This includes cell phone, iPods, etc.
- You signed a safety contract, I expect you to follow it. Failure to comply with the above rules and other participation in behaviors not acceptable will result in detentions.
- Respect that you are in a place of learning.

### **Academic Integrity:**

All work you perform in this class (homework, lab reports, exams, etc.), unless otherwise stated, should be the sole work of the individual who claims it as their own. For this class, cheating is defined as:

- Giving, receiving, or using any unauthorized assistance on any academic work.
- Plagiarism, which includes copying of language, structure, or ideas of another and attributing the work to one's own efforts.
- Attempts to copy, edit, or delete computer files of another person or use of another person's computer account without permission of said file owner or account owner.

All academic work submitted for grading contains an implicit pledge by the student that no unauthorized aid has been received.

Cell phones are not to be used as calculators during quizzes or tests assessments. Any student using a cell phone during these assessments will be provided with an alternative assessment to complete. The alternative assessment will be comparable in difficulty to the original.

Any breach of the principles outlined in this section is considered an act of academic dishonesty and will be handled with a behavior referral to the office.

### **Course Requirements and Work Load:**

In order to be successful in this class, I expect you to put in about 15-25 minutes per day outside of class working on homework or studying the concepts discussed in class. You should spend time completing homework, learning the vocabulary, and/or reading the assignments. Below is a list of suggestions to help you keep up with the material in class and better prepare you for a lab activity, a quiz, or a test:

- Read assignments out of textbook or supplementary material prior to coming to class.
- Take notes during class when they are presented.
- Complete your homework on time.
- Study the material on a daily basis inside and outside of class.
- Learn and understand the vocabulary used in class.
- Ask questions whenever something is not clear to you!

## Grading Policy:

### ▪ Categories and their Percentages for the Class Work Grade:

30 %	Homework & Projects	Homework consists of practice worksheets or similar items that are usually given a day or two worth of advance notice to complete. Projects consist of the design projects, either simulations and/or actual hardwiring of the design.
50 %	Tests	Frequently, there will be unit tests on the material investigated in class.
20%	Participation	Students are required to show good work habits and will be scored accordingly through demonstration and documentation.

### ▪ Categories and their Percentages of the Semester Grades:

80 %	Class Work Grade
20 %	Final Exam

### ▪ Absence Policies:

See the Student Handbook for full explanation of policies relating to being absent and making up missed work. See the website or talk to a peer for missed work.

- **Excused Absences:** All missed work must be made up. If any student is absent for one to three days, they will have three school days to make-up missed work. Absences, from 4-9 days, will have five school days available for making up work. Credit for make-up work may be reduced for those students that exceed the timelines.

*It is the responsibility of the student and/or parent to make arrangements for all missed work!*

- **Fieldtrip:** Any work missed is the responsibility of the students. Talk about it with your instructor and set something up *prior* to an fieldtrip absence.
- **Unexcused Absences:** Any student missing work because of an unexcused absence still must make up work. Any student will follow the same timeline for excused absences, but credit for makeup work will be reduced to 50%.

Based on teacher discretion, the student may be provided with an alternative assessment if he or she missed pertinent discussions or class activities related to the original assessment.

Any assignment not turned in on time or after any of the above deadlines is considered missing, will not be accepted and will not be awarded any credit.

Students absent on the day of a quiz will be given the opportunity to makeup an alternative quiz covering the same material from the missed quiz. The time to make up quizzes will be after school the first day the student returns or before school the following day. If the student does not make up the quiz or make alternative arrangements with the instructor, the quiz will be counted as a zero.

My recommendation is: **DO NOT MISS CLASS!**

- **Extensions:**

Extensions on assignments will be granted for reasonable excuses. Requests for extensions must be made no later than 7:15 AM on the date an assignment is due. Requests must be made via e-mail or in person. The instructor has the right to approve or not allow any extension. If the assignment is not completed to a satisfactory degree prior to an agreed upon date, the assignment will be considered late and will no longer be accepted for credit.

**Miscellaneous Notes:**

At any time, I reserve the right to amend this syllabus as I see fit. You shall be given fair warning before any changes to this document take effect and will be provided, electronically, with an updated version.