Digital Electronics Syllabus

Ms. Pierce

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Room 242

**Course Description:**

 Students will learn about electricity, circuits, logic gates, Boolean Algebra, circuit building on the computer and breadboarding.

#### **Student Expectations:**

All of my students are expected to strive for excellence and achieve at a high level. To be a successful student in any course, there are three basic things that must be mastered.

1. Come to class everyday on time ready and eager to learn something new.
2. Complete all work and assignments in a timely manner with quality in mind.
3. Be courteous and respectful to others around you at all times.

**Cell Phone:**

Cell phone use is not allowed in my class. If a student has their cell phone out, or is using their phone, they will be instructed to put it in a filing cabinet. The only acceptable cell phone usage will be when using Bluetooth Probes in lab.

**Lateness/Tardiness to Class:**

Tardiness to classes will not be tolerated. Students who report to class late will be given a warning, and if the situation is not corrected, disciplinary action will be taken. Every tardy will be documented. If the student is late or misses more than 10 minutes of a given class period (unexcused) then he or she will not receive credit for being in class. It will be counted as an absence.

#### **Disciplinary Policy & Procedures:**

All students are expected to abide by the rules and regulations as set by the Allegany-Limestone School District’s student handbook. If in an event any student chooses to not follow those rules and regulations, the following protocol will be used:

1. Warning
2. Student conference
3. Phone call home
4. Teacher Detention
5. Disciplinary Referral and Parent Conference with student, teacher and or administrator

Certain offenses will NOT follow the above sequence. If a level 2 or level 3 offense occurs, the student may be directly referred to an administrator or other disciplinary action may be taken.

**Grading Policy:**

Tests and Quizzes: 40%

Acitivites: 30%

Projects: 30%

The student and parent(s) will be able to access grades through the Power-School portal at any time throughout the year. Please understand that each day the student grade may change based on that days effort by the student. Graded assignments will be updated as quickly as possible, but some assignments or exams may take several days to grade and be recorded in Power-School

**Late Policy:**

1. Students will have weekly homework due every Friday.

2. Classwork will be due at the beginning of the class the following day. If a student does not finish the classwork in the class time period, it will become their homework for the evening.

3. If a student receives a zero in the gradebook, they are allowed to make up that work if they come to me during one of my free periods, activity or after school. The made up work will be done under my supervision.

* [View Page History](https://pltw.instructure.com/courses/193086/wiki/front-page/revisions)

**Unit 1 Foundations in Electronics**

[**Lesson 1.1 Introduction to Electronics**](https://pltw.instructure.com/courses/193086/modules/677577)*Introduction to Safety, Electricity, and Components*

[**Lesson 1.2 Introduction to Circuit Design**](https://pltw.instructure.com/courses/193086/modules/677578)*Introduction to Common Analog and Digital Circuit Designs and Applications*

**Unit 2 Combinational Logic**

[**Lesson 2.1 AOI Combinational Logic Circuit Design**](https://pltw.instructure.com/courses/193086/modules/677579)*Designing AOI Combinational Logic Circuits*

[**Lesson 2.2 Alternative Design: Universal Gates and K-Mapping**](https://pltw.instructure.com/courses/193086/modules/677580)*Alternative Design Processes to AOI and Boolean Simplification*

[**Lesson 2.3 Specific Combinational Logic Designs**](https://pltw.instructure.com/courses/193086/modules/677581)*Common Combinational Logic Designs*

[**Lesson 2.4 Introduction to Programmable Logic Devices (PLDs)**](https://pltw.instructure.com/courses/193086/modules/677582)*Introduction to PLD Design Mode and Circuit Prototyping on a PLD*

**Unit 3 Sequential Logic**

[**Lesson 3.1 Sequential Logic Circuit Design**](https://pltw.instructure.com/courses/193086/modules/677583)*D Flip-Flops, J/K Flip-Flops, and Flip-Flop Applications*

[**Lesson 3.2 Asynchronous Counters**](https://pltw.instructure.com/courses/193086/modules/677584)*SSI, MSI, and MOD Asynchronous Counters Counter Design*

[**Lesson 3.3 Synchronous Counters**](https://pltw.instructure.com/courses/193086/modules/677585)*SSI, MSI, and MOD Synchronous Counters Counter Design*

**Unit 4 Controlling Real World Systems**

[**Lesson 4.1 Introduction to State Machines**](https://pltw.instructure.com/courses/193086/modules/677586)*Introduction to Sensors, Motors, and State Machine Design*

[**Lesson 4.2 Introduction to Microcontrollers**](https://pltw.instructure.com/courses/193086/modules/677588)*Introduction to Microcomputers and Microcontrollers*