AP PHYSICS II COURSE SYLLABUS – 2021

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TENTATIVE COURSE SEQUENCE

1st Trimester

1. **Geometric Optics – Lenses & Mirrors**
2. **Physical Optics – Diffraction & Interference**
3. **Fluid Mechanics – Statics and Dynamics**
4. **Thermal Physics & Gas Laws**
5. **Thermodynamics – Engines & Refrigerators**
   - **1st Law, 2nd Law, Carnot Cycle**

2nd Trimester

1. **Electrostatics – Forces, Fields, Voltage**
2. **Electrodynamics – DC Circuits**
   *** Resistors & Capacitors**
3. **Magnetism – Forces & Fields**
4. **Electromagnetic Induction**
5. **Quantum Physics – Particle Nature of Light**
6. **Special Relativity**

REQUIRED COURSE MATERIAL

1. **Notebook and folder specific to AP Physics.**
2. **Calculator with trigonometric functions. Bring to class every day.**
3. **Giancolli Text and Student Prep. Book**
4. **Ruler and protractor (Geometer)**

COURSE SET-UP

1. **Each class period will have a short assigned reading section from the material that we plan on covering that day. It is important that you do the reading even if you don't understand everything you read – that is why I am here.**

2. **Discussions and demonstrations will be used in class to present the studied material in a systematic and organized fashion. Tests and problems sets are based upon the applications of these learned concepts.**

3. **Example problems will be modeled to give students a "push in the right direction." However, students should understand that a large part of the course is based upon student's abilities to solve problems on their own. It is not enough to simply know the concept you must be able to apply.**

4. **Assigned problems from the end of each chapter will be placed on the board. These problems sets come due on the day of the test. Students are allowed to check their answers with me at any time before that due date. I expect that you will have questions concerning these problem sets. The time I am available are:**

1st Trimester	2nd Trimester	3rd Trimester
5th Hour	1st Hour	2nd Hour
Lunch Hour	Lunch Hour	4th Hour
After School	After School	After School

***** I get to school between 6:30 and 6:45 AM each day and will be available for help during that time as well. *****

5. **Questions from old AP exams will be modeled and assigned throughout the year to give students the opportunity to work questions that will help prepare them for the exam. <u>The course takes on a much less quantitative approach and requires you explain yourself in the written form</u>.**

6. **A unit test will be taken on one chapter of work, corrected that day, and covered in the next day's work. Students are welcome to check their test scores at any time during the day.**

7. **Typically one laboratory will be run that directly pertains to that chapter's work. A laboratory data sheet and write up will be required and handed in with the assigned problem work the day of the test.**

GRADING AND ASSESSMENT

1. **Your grade will be determined through the accumulation of points. Points are earned through:**

A.	**Assigned Problem Work**	**20-40 points per chapter**
B.	**Laboratory Assignments**	**10-20 points per laboratory**
C.	**Mid-chapter quizzes**	**5 points per quiz**
D.	**Unit Tests**	**100 points per tests**
E.	**Extra Credit AP Problems**	**5-10 points per chapter**

2. **Your total points earned throughout the trimester will be divided by the total number possible and a percentage will be determined. Grades will be assigned based upon the following criteria:**

GRADE	Weighted Grades	GPA Points
A	**91%**	**(5.00)**
A-	**90%**	**(4.67)**
B+	**88%**	**(4.33)**
B	**81%**	**(4.00)**
B-	**80%**	**(3.67)**
C+	**78%**	**(3.33)**
C	**71%**	**(3.00)**
C-	**70%**	**(2.67)**
D+	**68%**	**(2.33)**
D	**61%**	**(2.00)**

3. **Your grades are available on Power School at any time. If there are any discrepancies, please let me know immediately.**

CLASSROOM EXPECTATIONS

1. **You must in class to do well. Extended absences almost always result in low test scores. Material handed out the previous day is set on the desk in the front left corner by the door. It is your responsibility to learn material covered during any absence. If you need help, make sure to see me early in process.**
2. **I expect you are on time to class each day. You will be given one "free" tardy. After that, you will be required to serve 10 minutes of detention with me before school. Frequently tardy behavior will result in a call home as well as a referral to our school administration.**
3. **While in class, I except to have your full attention.**
   - ***** You may NOT do homework for other classes in physics class.*****
   - ***** You may NOT have your cell phones out for any reason in physics class*****
   - ***** You may NOT sleep in class.*****
4. **I expect you to do work outside the normal classroom hours. If you have questions on assignments, see me immediately or get help from another student in class. The work you hand in should be your own.**
5. **Anyone caught cheating on a test loses that test. It is called integrity and cheating will not be tolerated. I trust no one so expect me to check your calculator at any time.**

GOALS - 5 point assignment due the start of the2nd day of class. ____

5 pts

1. **It is a proven fact that people who have specific goals accomplish a great deal more than people who simply "fly by the seat of their pants". This is an elective class and as such, there should be a desired outcome you wish to receive from the work you do in here.**

2. **Short Term Goal (What do you wish to get accomplished in the first six weeks?)**

   _____

3. **School Year Goal (What do want to get accomplished during this school year in physics?)**

   _____

4. **Long Range Goal (What are you career aspirations? Where do you see yourself 10 years from now?)**

   _____

INFORMATION

NAME_____ **GRADE**_____

HOME PHONE NUMBER _____ **TENTATIVE CAREER PATH** _____

EXTRACURRICULAR ACTIVITIES _____ **WORK EXPERIENCE** _____

_____ _____

_____ _____