**Marian Central Catholic H S**

**2023-24 COURSE SYLLABUS**

**AP Physics 1**

Science Department

**Instructor:**  **Doug Wilbrandt**

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**Website:**  **mrwilbrandt.com**

**Learning Management System:** Google Classroom

**LMS Classroom Code:** kswxig4

**Welcome!**

Welcome to Marian Central and the Marian Science Department

**Marian Central Course Catalog Description**

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Students should have a proficient math foundation through Algebra II Honors or be concurrently enrolled in a math course.

**Course Overview**

This course provides an advanced study of the theories and laws governing the interaction of matter, energy, and the forces of nature. Content includes kinematics, dynamics, fluids, wave characteristics, light, electricity as part of the AP plan of study. Other topics covered may include magnetism, nuclear energy, optics, and relativity. The course may also cover topics such as kinetic energy, energy transfer, light, and energy waves.

**Course Objectives**

The College Board has established a curriculum framework for student science practices, enduring understandings, and essential concepts. Students and parents are encouraged to visit the AP [website.](https://apcentral.collegeboard.org/courses/ap-physics-1)

The following are some of the main ideas…

Students will be able to:

Describe and analyze linear motion using both graphs and equations.

Apply Newton’s Laws to both moving and stationary objects.

Analyze motion in two or more directions using vectors.

Explain circular motion and its applications.

Use the principle of conservation of momentum as it applies to collisions and interactions.

Explain the conceptual and mathematical relationship between work done and the change

in energy states (both kinetic and potential).

Apply Coulomb's Law to electric charges; describe the physical and mathematical nature of electric

fields, electric potential, and electric potential energy for one or more charge configurations.

Calculate the current, resistance, voltage, and power dissipated in series and parallel circuits.

**Course Prerequisites**

C or higher in Algebra 2 each semester and concurrent enrollment in Adv Math w/Trig or higher math course.

**Required Texts, Ebooks, and Materials**

[Ch. 1 Connection for AP® Courses - College Physics for AP® Courses 2e | OpenStax](https://openstax.org/books/college-physics-ap-courses-2e/pages/1-connection-for-ap-r-courses)

1 1/2 " 3-ring binder

Notebook

Marian issued Laptop with Charger

A graphing calculator acceptable for use on the ACT

Pen or pencil

Impact resistant safety glasses [Link for Glasses](https://www.amazon.com/Crossfire-Eyewear-2164-Safety-Glasses/dp/B007ROZ8YK/ref=asc_df_B007ROZ8YK?tag=bingshoppinga-20&linkCode=df0&hvadid=79989522876854&hvnetw=o)

**Supplementary (Optional) Texts and Materials**

Students may also wish to purchase an AP Physics Review book for independent review practice. Resource websites: <http://www.khanacademy.org/> <http://www.physicsclassroom.com>.

**Basis for Final Grade**

Examples of Formative assignments may include Homework, Worksheets, Minor Labs or Quizzes, Review packets.

Examples of Summative assignments may include Major Labs, large Quizzes, Projects, and Tests

**MARIAN CENTRAL STANDARD GRADING SCALE**

Grade Number Equivalent

A+ 98-100

A 93-97

A- 90-92

B+ 87-89

B 83-86

B- 80-82

C+ 77-79

C 73-76

C- 70-72

D+ 68-69

D 66-67

D- 65

F Below 65

The semester grade for a course is calculated as follows: each of the two quarter letter grades counts two-fifths and the semester exam counts one-fifth. For a student to pass a course s/he must pass two of the three segments that make up the grade. If a student fails two of the three segments, s/he will receive a grade of “F” for the course.

**Grade Dissemination**

Grades will be entered into the gradebook program approximately once a week. Most assignments will be on paper and/or in google classroom. Formative assessments will be handed back with feedback and an opportunity for correction in a timely manner. Tests will follow the Departmental remediation policy listed below.

**Course Policies: Grades**

**School-wide policy for late work (formative):**

* All assigned work is due on the date/time the teacher provides.
* An assignment is late if it is not submitted on the date/time the teacher provides.
* If a student is absent on the due date, but was present on the day it was assigned, the assignment will be considered “on time” if the student submits the work on the day they return to school.
* If the student is absent on the day the work was assigned, the assignment will be considered “on time” if the student submits the work within three days of their return to school.
* Late work will be accepted up to the date of the summative but will receive 75% of earned credit.
* Late work will not be accepted after the summative date and the grade of zero will remain.

**Departmental Remediation Policy:**

The Science Department as a whole focuses on ensuring that students understand the concepts, rather than simply memorizing facts in order to pass a test. This remediation policy only applies to tests. For labs, there will be no remediation, once the lab has been submitted. The teachers will discuss the lab format, analysis, and objective, before or after completing it, with the students prior to the assignment being submitted. It is the student’s responsibility to make any changes or corrections during this time to their lab. Once it has been submitted the grade will stand. The remediation that will be offered to students is test corrections. The department will have a uniform test correction sheet that will be utilized by all teachers. In order to ensure that the students understand the concepts, they will be required to justify the correct answer, as well as, explain their reasoning for the incorrect answer. This provides the teacher with insight to the student’s thought process. The students may earn half credit back on all the questions they have answered correctly on the corrections sheet. There will not be retakes of tests. In regards to the timeline of when the remediation will be offered, this will be based on the teacher and when they have graded the assessment. However, there will be at least 2 different times that the students will be able to take the test corrections, at least one will be before school and at least one will be after school. This will take place within a week of the assessment being graded. When remediation is offered to the students, it is required that the student have no outstanding (late or missing) assignments in order to participate in the remediation. Any student has the ability to remediate their test, when it is offered, regardless of their test score.

**Extra Credit Policy**:

Extra credit is usually not offered.

**Group Work Policy**:

Lab work is done in pairs or groups. Data collection is done with a lab partner, but the formal lab write up and analysis questions are completed individually and graded as such. Each lab partner will individually turn in a completed lab write up. Any work done in a group will have an individual grade associated with it.

**Course Policies: Student Expectations**

**Schoolwide Absence Policy**:

Marian Central Catholic recognizes the important relationship between class attendance and pupil performance. Regular attendance is a critical factor in school success for pupils. **It is the responsibility of the student to find out what class work** **was missed, complete the work as soon as possible and schedule make-up sessions with teachers; otherwise, the** **permanent grade for the work becomes a zero. Arrangements for make-up work must be made by the student immediately** **upon return from their absence.** Exceptions may be made for extended excused absences by special arrangement with the teacher.

Students will be allowed three (3) days from the date of their return to school to make up any assignments that were assigned during their absence. Students will receive full credit for the assignments made up within the allotted time period. Tests, quizzes, projects, homework, and other assignments which were pre-assigned should be made up or turned in on the first day of the student’s return to school (i.e. tests, quizzes, projects, or homework announced prior to the student’s absence). If a student is in attendance on the day a test is given, they must take the test before leaving school. Tests and quizzes are to be made up before or after school with the teacher. If a student fails to show up for a scheduled make-up test (and are present on campus) they will receive a 0% on the test. **If a student misses** **school only on the day of a test, he or she must be prepared to take the test on the day of return. An alternate form of the** **test may be given.**

**Marian Central Academic Integrity Policy**:

One of the important aspects of classroom procedures is the integrity of each student's own work. Dishonesty, cheating and plagiarism may include, but are not limited to – misrepresenting the truth, forging or falsifying school documents, accessing restricted files/information, academic dishonesty including inappropriate use of the internet or information found on the internet, or any other action intended to obtain credit for work not one’s own. If a student is found cheating, assisting another on a formative assessment or otherwise engaging in dishonest activities including plagiarism, he/she will receive a zero “0” on the assignment. If a student is found cheating, assisting another on a test or summative assessment, or otherwise engaging in dishonest activities including plagiarism, he/she may be asked to retake or resubmit the work and receive up to 50% of earned credit, per teacher discretion. Either way, he/she will also be disciplined in accordance with the Infraction/Consequence Matrix found in Appendix D of the student handbook. When such a situation arises, the teacher must notify the student's parents and will inform them of the actions taken, including appropriate disciplinary action..

**Education Technology and Use of School Issued Laptop Devices**

All students are bound by the Acceptable Use Policy both the student and parent(s) signed at the beginning of

the school year. A copy of the Acceptable Use Policy can be found on the Marian Central website at

[www.marian.com](http://www.marian.com/). Some key points to remember including:

* During the school day, at school, students are only allowed to use the school-issued HP laptop. No other personal devices, phones, tablets, or computers are to be used during school.
* Students are to come to school with their school-issued device fully charged and ready for use daily.
* Students are responsible for the care and maintenance of school-issued devices and may be charged for damage or missing accessories.
* Cell phones are to be turned off and put away during school hours. If caught using a cell phone in class, the phone may be confiscated and the student subject to additional consequences.
* Students should use technology respectfully and responsibly, for educational purposes.

Any forms of online access which apply to this class utilizing the student device will be determined at the appropriate time.

**Important Dates to Remember**

All the dates and assignments are tentative and can be changed at the discretion of the instructor.

End of Quarter 1: October 18, 2023

**Semester 1 Exams**

December 18, 2023 Periods 1 & 3

December 19, 2023 Periods 4, 5/6/7, & 8

December 20, 2023 Periods 9 & 10

End of Quarter 3: March 11, 2024

**AP Exams**

AP Physics 1 May, 17th, 2024

**Semester 2 Exam**

May 20, 2024 Periods 1 & 3

May 21, 2024 Periods 4, 5/6/7, & 8

May 22, 2024 Periods 9 & 10

**Contact Information**

I am available before or after school, students are welcome to come for help. If my door is closed but the light is on, just ring the doorbell (I'm not kidding). I want you to feel free to come in for assistance. My email address is [dwilbrandt@marian.com](mailto:dwilbrandt@marian.com). I will answer emails as soon as I can. I truly want you to succeed so please don't hesitate to ask for help.