



Mountain Range High School
 12500 Huron Street • Westminster, CO 80234
 Office: (720) 972-6300 • Fax: (720) 972-6529
<http://www.mountainrange.adams12.org>

School Year		2020-2021	
Course Name		CP Physics	
Course Description		Physics is the study of the physical world: energy, matter, and how they are all related. A working knowledge of algebra, trigonometry, and geology will be used to explore physics more indepthly.	
Unit of Study	Content Standards/Grade Level Expectations	Approximate Time Spent or Percent of time Spent	Targeted Date of Assessment

Unit 1 – Kinematics	1.1 - Students will be able to define displacement, velocity, and acceleration. 1.2 - Students will be able to solve problems using kinematic equations. 1.3 - Students will be able to interpret distance, velocity, and acceleration vs. time graphs.	15-days	9/11
Unit 2 – Newton’s Laws	2.1 - Students will be able to define force and understand the difference between contact and field (long-range) forces. 2.2 - Students will be able to describe how the weight and mass of an object are related in all gravitational environments. 2.3 - Students will be able to explain the meaning of Newton’s first law and understand forces in equilibrium. 2.4 - Students will be able to apply Newton’s third law in applications involving: tension, collisions, gravity, etc. 2.5 - Students will be able to recognize the significance of Newton’s second law and use it to solve motion problems.	15-days	10/2
Unit 3 – Friction	3.1 - Students will be able to describe and differentiate between static and kinetic friction. 3.2 - Students will be able to complete calculations for friction problems not involving an incline. 3.3 - Students will be able to complete calculations for friction problems on an incline.	11-days	10/16
Unit 4 – Projectiles	4.1 - Students will be able to describe the vertical and horizontal components of projectile motion 4.2 - Students will be able to perform calculations involving projectile motion	11-days	10/30



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<p>Unit 5 – Circular Motion & Gravity</p>	<p>5.1 - Students will be able to recognize the direction of centripetal acceleration. 5.2 - Students will be able to perform centripetal motion calculations and interpret relationships. 5.3 - Students will be able to describe and perform calculations involving gravitational force. 5.4 - Students will be able to describe the forces involved and perform calculations involving satellite motion.</p>	<p>12-days</p>	<p>11/16</p>
<p>Unit 6 – Momentum</p>	<p>6.1 - Students will be able to complete problems involving conservation of momentum and interpret the relationships between momentum, mass, and velocity. 6.2 - Students will be able to perform calculations involving impulse and momentum and interpret the relationships between impulse and momentum.</p>	<p>14-days</p>	<p>11/30</p>
<p>Unit 7 – Work & energy</p>	<p>7.1 - Students will be able to solve work and energy problems and conceptually describe work and energy. 7.2 - Students will be able to apply the law of conservation of energy and perform conservation of energy calculations.</p>	<p>12-days</p>	<p>TR 1/23</p>
<p>Unit 8 – Waves & sound</p>	<p>8.1 - Students will be able to define the properties of a wave, such as; period, frequency, amplitude, wavelength, Interference, etc. 8.2 - Students will be able to describe the Doppler effect and complete Doppler effect problems. 8.3 - Students will be able to understand and do calculations concerning the relationship between velocity, frequency, and wavelength of a wave. 8.4 - Students will be able to describe how changes in a medium affect the speed of sound and perform calculations involving sound.</p>	<p>10-days</p>	<p>TR 2/06</p>
<p>Unit 9 – Properties of light</p>	<p>9.1 - Students will be able to describe how light will be transmitted when meeting a boundary (transparent, translucent, opaque, and polarized) and understand color formation both additive and subtractive. 9.2 Students will be able to differentiate between refraction and reflection and complete problems involving the speed of light and the critical angle.</p>	<p>14-days</p>	<p>F 2/285</p>
<p>Unit 10 – Lens & mirrors</p>	<p>10.1 Students will be able to identify different lenses and mirrors, (concave, convex, converging, & diverging) their properties (focal length & radius of curvature) and what causes the bending of the light. 10.2 Students will be able to draw ray diagrams for lens and mirrors 10.3 Students will be able to use the lens/mirror equation to solve problems.</p>	<p>14-days</p>	<p>TR 3/19</p>



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<p>Unit 11 – Static Electricity</p>	<p>11.1 Students will be able to identify when charged particles will attract and repel, including calculating the net force from multiple charges 11.2 Students will be able to convert from # of electrons/protons into Coulombs. 11.3 Students will be able to describe electric fields and differentiate between induction and conduction. 11.4 Students will be able to complete calculations and recognize relationships among the variables in Coulomb's law. 11.5 Students will be able to complete calculations concerning electric fields, voltage, and parallel plates.</p>	<p>13-days</p>	<p>TR 4/16</p>
<p>Unit 12 – Electric Circuits</p>	<p>12.1 Students will be able to understand the concepts of and make calculations involving charge, current, voltage, resistance, electric power, and the relationships between them. 12.2 Students will be able to conceptually understand how series and parallel circuits operate. 12.4 Students will be able to draw series, parallel, and combination circuits including the correct symbols for electronic devices. 12.5 Students will be able to do calculations involving series, parallel and mixed circuits to determine voltage, current, resistance, and power.</p>	<p>21-days</p>	<p>F 5/15</p>

Course Grade Scale	
A	89.5 - 100
B	79.5 – 89.4
C	69.5 – 79.4
D	59.5 – 69.4
F	0 – 59.4

Assessment/Practice Proficiency Levels	
4	Advanced Understanding of the Standard
3	Meets the Standard
2	Approaches the Standard
1	Does not Meet the Standard

Grade Reporting Criteria/Weights	
Disciplinary Core Ideas (Content)	60%
Science Engineering Practices	15%
Communication	15%
Practice	10%
Grades are based on achievement of Content Standards and Grade Level Expectations. *Weekly progress grades are posted at https://ic.adasm12.org/campus/portal/adams12.isp	

General Expectations



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- Grades are based upon the demonstration of proficiency on units associated within specific grade reporting criteria.
- **Assessment: 90%** Assessments are a means to determine a student's mastery and understanding of information, skills, concepts, or processes.
- **Practice: 10%** Practice includes opportunities for students to receive clear, specific, and timely feedback as they are developing knowledge and skills, prior to Assessments.
- Assessments will be graded based on teacher/district/state rubrics.
 - Multiple opportunities will be offered on some assessment through the practice of looping content.
 - There will be no multiple opportunities on assessments that are considered finals.
 - Multiple opportunities does not mean endless opportunities.
 - Attendance policy will be followed in the administration of assessments.

Class Expectations

Missing or incomplete assignments/assessments for this course:

Superintendent Policies 6280 Homework and 6281 Make-Up Work will be followed for this course. They state that it is the student's responsibility to request and obtain missing work. When a student has an excused absence, the student has the same number of days they were absent plus one day to make up assignments. *Example: A student is **excused** absent, Monday and Tuesday. The student would have Wednesday, Thursday and Friday to make up the work, which would then be due at the beginning of the period on Monday.* Students who are unexcused may not be able to receive feedback from Practice prior to required Assessments.

In order to preserve test security, students may be required to take a missed test immediately upon return from an authorized absence if that student has had the opportunity to access all learning prior to the absence. Students missing a group or individual presentation may also be required to give that presentation upon return. *Example: A test is given on Thursday and a student is absent on that day (authorized, excused), but was present the days prior. This student may be required to take the test on Friday.* In Geology for Scientific Practices and Communication, at least 2 opportunities each semester will be given and the best score will be taken for each category.

Plagiarism/Cheating: Students are held to the Academic Integrity Policy for Mountain Range High School. Plagiarism means to present, as one's own, the work, writing, words, ideas or computer information of someone else. These sources could be either published or unpublished. Cheating is supplying, receiving or using inappropriate devices to improve performance on a test or assessment. Students who engage in plagiarism or cheating will be disciplined according to the school discipline matrix.

Weekly Progress: Current grades are accessible through Infinite Campus. A link to Infinite Campus can be found on the Mountain Range website: <http://www.mountainrange.adams12.org/>

Time Frame for Assignments: The teacher will clearly delineate the due date and time frame for all assignments and students will record this information accordingly in their student planners. Students are encouraged to be engaged and motivated in the completion of their assignments.