

Crook County School District

where students dream, learn, & succeed



<u>School</u> : Crook County High School		<u>Instructor</u> : Jeff Lowenbach
<u>Course</u> : AP Physics A/B		<u>Email</u> : jeff.lowenbach@crookcountyschools.org
	<i>Trimester #1</i>	<u>Phone</u> : 541-416-6900 x3146
	<i>Trimester #2</i>	<u>Other Communication Info</u> : Parents can request access to the AP Physics Google Classroom
	<i>Trimester #3</i>	
<u>CCHS Course Description</u>: This is an advanced placement physics course designed to prepare all students for the AP Physics exam on Friday, May 16th 2025 at 8:00 AM. The course is designed to meet the requirements of a one semester college general physics class with a focus on mechanics. The course is a rigorous math-based course, with a strong laboratory component. It is intended for students who have demonstrated a willingness to commit considerable time to studying and completing assignments outside of class and who have successfully completed prior courses in biology, chemistry, algebra, and geometry during high school. Klamath Community College Course Description: Introductory physics (algebra based) for science majors, pre-medical, pre-dental, pre-chiropractic and pre-physical therapy students. Topics include mechanics including statics, forces and motion energy, collisions, circular motion, and rotational dynamics. Credit Hours –Lecture (4); Lab (1) Prerequisites – MTH 111 Students taking AP Physics A can earn dual credit for PHY 201/L from Klamath Community College free of charge. Registration will need to be completed during the first week of each class.		

Learning Standards/Targets:

AP Physics 1 Course Course Topics/ Learning Outcomes

KINEMATICS

- Reference Frames and Displacement
- Average Velocity and Instantaneous Velocity
- Motion at Constant Acceleration
- Falling Objects
- Adding Vectors by Components
- Projectile Motion: Projectiles fired horizontally and at an angle
- Graphical Analysis of Motion

DYNAMICS

- Forces
- Free-Body-Diagrams
- Newton's Laws of Motion
- Mass and Weight
- Applications Involving Friction, Inclines

CIRCULAR MOTION AND GRAVITATION

- Kinematics of Uniform Circular Motion
- Dynamics of Uniform Circular Motion
- Newton's Law of Universal Gravitation
- Gravity Near the Earth's Surface
- Satellites and "Weightlessness"
- Kepler's Laws

ENERGY

- Work
- Kinetic Energy and the Work-Energy Theorem
- Potential Energy: Gravitational and Elastic
- Mechanical Energy and its Conservation
- Power

MOMENTUM

- Impulse and Change in Momentum
- Conservation of Momentum
- Conservation of Energy and Momentum in Collisions (1 dimension)
- Conservation of Momentum in Collisions

SIMPLE HARMONIC MOTION

- Simple Harmonic Motion
- SHM Graphs: position, velocity, acceleration, energy
- Energy in SHM
- Mass-Spring Systems
- Simple Pendulum

TORQUE AND ROTATIONAL MOTION

- Torque
- Center of Mass (qualitative)
- Rotational Kinematics
- Rotational Dynamics and Rotational Inertia
- Rolling Motion (without slipping)
- Rotational Kinetic Energy
- Angular Momentum and its Conservation

Instructional Materials:

- College Physics a strategic approach – Knight 3rd Edition (2015)
- Supplemental Materials

Bozeman Science AP Physics

<http://www.bozemanscience.com/ap-physics-1-video-list>

Khan Academy AP Physics

<https://www.khanacademy.org/science/ap-college-physics-1>

AP Central - AP Classroom

<https://apcentral.collegeboard.org/>

Crash Course Physics

<https://thecrashcourse.com/topic/physics/>

PHET Online Simulations

<https://phet.colorado.edu/>

Student Materials:

- Spiral or Composition Notebooks: These notebooks will become your very own Interactive Notebook and will contain notes, handouts, assignments, and other class materials.
- 1 Quadrille Ruled (graph paper) Lab Notebook:
- Scientific Calculator (recommended) .

All Instructional Materials must comply with CCSD School Board [Policy IIA](#) & [Policy IIA-AR](#). A copy of core and supplemental curriculum will be available in the curriculum office for review.

A classroom teacher receiving a complaint regarding instructional materials shall try to resolve the issue informally through the discussion of the original assignment or the opportunity for an alternative assignment.

Notification of the Right to Object to the Use of Material:

Any resident of the district may raise objection to instructional materials used in the district's educational program despite the fact that the individuals selecting such materials were duly qualified to make the selection and followed the proper procedure and observed the criteria for selecting such material.

The first step in expressing objection to materials is consultation with the classroom teacher or library staff and providing a written complaint. The district official or staff member initially receiving a complaint shall explain to the complainant the district's selection procedure, criteria and qualifications of those persons selecting the material. A classroom teacher receiving a complaint regarding instructional materials shall try to resolve the issue informally through the discussion of the original assignment or the opportunity for an alternative assignment. The materials shall remain in use unless removed through the procedure in section 4. F. (2) of this regulation.

The teacher or library staff receiving the initial complaint shall advise the principal of the initial contact within 24 hours, whether or not the complainant has apparently been satisfied by the initial contact. A written record of the contract shall be maintained by the principal and sent to the superintendent's office.

In the event that the person making an objection to material is not satisfied with the initial explanation or an alternative assignment, the person raising the questions will meet with a building administrator who will provide a Request for Reconsideration form.

For more details, see [CCSD School Board Policy IIA-AR](#).

Citizenship, Classroom Rules, Behavior Expectations:

- *The Board expects student conduct to contribute to a productive learning climate. Students shall comply with the district's policies, administrative regulations, school and classroom written rules, pursue the prescribed course of study, submit to the lawful authority of teachers and school officials and conduct themselves in an orderly manner during the school day and during district-sponsored activities.*

Careful attention shall be given to procedures and methods whereby fairness and consistency without bias in discipline shall be assured to each student. The objectives of disciplining any student must be to help the student develop a positive attitude toward self-discipline, realize the responsibility of one's actions and maintain a productive learning environment.

- *See [CCSD Board Policy JFC](#) for more details.*
- **Attendance:** This class will follow Crook County High School attendance and tardy policies. **You must be present to be successful in AP Physics A & B.** If you are planning on missing class often (hunting, family vacations, illness) chemistry A & B will be much more difficult.
- **Participation:** Physics is a lab-based class. NO FOOD OR DRINK WILL BE PERMITTED IN THE CLASSROOM. Bottled Water is the exception. No cell phones or other electronic devices are to be used during class time.

Grading System:

- *The district's grading system shall be based on Board-adopted course content and is designed to enable the student and parent to clearly know how well the student is achieving course requirements at the student's current grade level or course content level, and be based on the student's progress toward mastery of a continuum of knowledge and skills outlined in Oregon State Standards. Absenteeism or misconduct shall not be the sole criterion for the reduction of students' grades. Behavioral performance shall be reported separately. The district will use letter grades (A,B,C,D,F) that can be converted into a 4 to 0 reporting system in grades 6-12. All AP courses are graded on a 5.0 grading scale.*

- *Grades will be based on many factors, such as: basic instructional assignments, both oral and written; results from various assessment instruments, including critical content short cycle assessments as well as quizzes and exams; class participation; special assignments; research; activities of various types of kinds and special contributions.*
- *See CCSD School Board [Policy IKA](#), [Policy IK](#), & [Policy IK-AR](#) for more details.*

Grading Scale:

- A+: 100-98 A: 97-93 A-: 92-90
- B+: 89-88 B: 87-83 B-: 82-80
- C+: 79-78 C: 77-73 C-: 72-70
- D+: 69-68 D: 67-63 D-: 60-62
- F: 59-0

Course Grading Criteria/Weighting

- Assessment, Projects, Quizzes, Assessments of Learning Standards: 80%
- Daily Homework & Practice Assignments: 20%

**[Policy IK-AR](#): Achievement of learning standards will be assessed separately from behavior.*

Grading Procedures: To earn credit this trimester, the student must have a minimum class average of 60%. The grade will be calculated based on points earned in three categories:

- Major Exams (60% of grade): Exams will be given, on a minimum, at the end of each unit of study.
 - **No retesting will be offered for this class, but students will be given the opportunity for test corrections at the conclusion of each unit exam. The required format for these corrections is designed to reinforce content that the student struggled with and allow them to demonstrate proficiency for the content required by College Board and Klamath Community College.**
- Labs Reports (25% of grade): Graded as purpose, procedure, data, data analysis, error analysis and conclusion
- Daily Grades (15% of grade): Classwork and homework will be assigned. There will be weekly quizzes that will cover a small section of the unit of study for that particular week.

Make Up Policy:

- 1) **Assessment Retakes:** [Policy IK-AR](#) *Teachers will provide students with multiple opportunities to demonstrate mastery of each standard. Students will be provided with at least two opportunities to retake assessments. A student who retakes an assessment will not be penalized. Teachers can modify assessments (more rigorous to account for greater time allowed for preparation.) Teachers will determine student requirements for assessment retakes that align with Policy IK-AR.*
- 2) **Homework/Daily Work:** *Achievement of learning standards will be assessed separately from behavior (i.e. attendance, disruption, late work, tardiness, preparation, effort, attitude, etc.). Teachers may set guidelines around submission timelines, as this category is tied to learning progress, please refer to policy IK-AR.*

**For all courses that articulate with a college or university, it is required that the syllabi match the accrediting institution, rather than the CCSD syllabus model.*

Please sign and return your Syllabus. Parents/Guardians if you have any questions or concerns please contact your student's teacher.

Student Name: _____ Date: _____

Parent Name: _____ Date: _____

Parent Signature: _____