



**KENOSHA UNIFIED SCHOOL DISTRICT NO. 1  
CURRICULUM AND INSTRUCTIONAL SERVICES**

**COURSE SYLLABUS FOR CONCEPTUAL PHYSICS  
(441011 & 441012)**

**Number of Credits:** 1      **Locations:** Bradford, Harborside, Hillcrest, Indian Trail, Lake View Tech, Reuther, Tremper

**Prerequisites:** Successful completion of Biology and Algebra 1

**Course Description**

This course focuses on concepts and applications of physics, including laboratory investigations, and the use of basic algebra skills. The students will gain a great understanding of the laws of physics that surround them. Students will develop an understanding of the concepts underlying the phenomena of motion, force, energy, matter, sound, electricity, magnetism, light and the atom. Upon successful completion of this course with a final grade of B or higher, the student may earn 3 Gateway Technical College credits for course 806-128 Descriptive Physics. Note: This course is not open to students who have successfully completed Physics-Honors.

**Course Standards**

- Standard A: Science Connections
- Standard B: Nature of Science
- Standard C: Science Inquiry
- Standard D: Physical Science
- Standard G: Science Applications
- Standard H: Science in Social and Personal Perspectives

Explanations of standards and most essential benchmarks can be viewed at [www.kusd.edu](http://www.kusd.edu)

**Lifelong Learning Standards**

- Knowledgeable person
- Effective communicator
- Quality producer
- Complex thinker
- Self-directed learner
- Contributing citizen

Lifelong learning benchmarks may be viewed at: [www.kusd.edu](http://www.kusd.edu).

**Course Outline**

- I. Mechanics
  - a. Motion and Vectors
  - b. Newton's Laws and Forces
  - c. Momentum and Collisions
  - d. Work, Energy, and Power
  - e. Circular Motion and Rotation
- II. Temperature and Heat

- a. Temperature and Heat Transfer
- b. Phase Changes and Thermal Expansion
- III. Periodic Motion, Waves, and Sound
  - a. Periodic Motion, SHM, and Pendulums,
  - b. Wave Motion and Wave Properties
  - c. Sound: Properties and Effects
- IV. Light and Optics
  - a. Light: Speed, Experiments, and Theories,
  - b. Electromagnetic Spectrum and Color
  - c. Reflection, Geometric Optics: Mirrors
  - d. Refraction and Total Internal Reflection
  - e. Geometric Optics: Lenses
  - f. Applications of Geometric Optics
- V. Electricity and Magnetism
  - a. Atomic Structure, Electric Charge,
  - b. And Electrostatic Laws
  - c. Electric Fields and Capacitance
  - d. Electric Current and Ohm's Law
  - e. Electric Circuits: Basic Components,
  - f. Series Circuits, Parallel Circuits and
  - g. Compound Circuits
  - h. Magnetism and Magnetic Fields
- VI. Special Topics
  - a. Instructor's Choice of additional review of above topics or
  - b. Special topics (i.e. Relativity, Atomic/Nuclear Physics, Astrophysics, or others as deemed relevant to current events)

### **Board-Approved Instructional Materials**

Hewitt, Paul G. (2006). *Conceptual Physics*. Pearson - Prentice Hall.

### **Methods of Assessment**

Final exams should be cumulative in nature, emphasizing the most essential benchmarks for the course. Results of the final exam represent 20 percent of the final grade, but this single measure **may not** drop a student's grade by more than one letter grade. In courses that rely heavily on a major project, performance exhibition, etc., the project should be divided into stages or components and each of those should be graded separately, providing students with frequent and specific feedback.

## **Board-Approved Grading Scale**

Excerpts taken from School Board Rule 6452

### **GRADING SCALE**

A+=98-100 percent

A=93-97 percent

A-=90-92 percent

B+=86-89 percent

B=83-85 percent

B-=80-82 percent

C+=76-79 percent

C=73-75 percent

C-=70-72 percent

D+=66-69 percent

D=63-65 percent

D-=60-62 percent

F=0-59 percent

### **MAKE-UP WORK**

Students submitting work up to ten school days late without prior approval may receive up to two grades lower on the work than they would have received if the work had been submitted on time (i.e., B+ lowered to a D+). Student work submitted after ten school days without prior approval shall not be accepted for credit and shall be recorded with a score of zero.

Upon returning to school after an absence, a student has the responsibility within the number of days equal to the length of the absence or suspension to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. A truant student has the responsibility on the first day he or she returns to the course/class to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. Lower grades may not be given for late work due to excused absences, suspension, or truancy unless the work is submitted later than agreed upon deadlines.

**See Rule 6452 in its entirety at: [www.kusd.edu](http://www.kusd.edu).**