Course Information Form (CIF)

Course Code: PHY 120 (IAI P1 901)
Course Title: How Things Work

Department: Natural Sciences
PCS Code: 1.1 - Baccalaureate/Transfer
CIP Code: 40.9996
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 3-0-3
Credit Hour Distribution:

Lecture: 3	Lab: 0	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Conceptual course for non-science majors exploring everyday phenomena: musical instruments, photography, flight, electricity, bicycles, engines, etc. to examine how they work. Students needing a physical science lab course may take PHY 120 and PHY 129 to fulfill this requirement.

General Course Objectives

To give non-science majors an appreciation for and understanding of the physical world by exploring everyday phenomena using an inquiry approach.

Minimum Placement Levels

English	Reading	Math
None	Placement out of CCS 098	None

Prerequisites

None

Methods of Evaluation

7-9 objective quizzes, 7-9 interactive pre-lectures, 7-9 exploratory learning activities, 1 semester project, and 1 cumulative final exam.

Instructional Materials and Additional Supplies

None.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Laws of Motion	1. Identify differences in inertia. 2. Distinguish between constant velocity and changing velocity. 3. Relate height and time in free fall motion. 4. Describe accelerated motion. 5. Identify Third Law force pairs.	4	0	0
Equilibrium	1. Identify systems of equilibrium. 2. Classify scenarios as being equilibrium or non-equilibrium.	3	0	0
Energy	1. Identify different types of energy. 2. Describe mechanic and potential energy.	4	0	0
Momentum	1. Apply momentum conservation to different systems. 2. Relate impulse and momentum. 3. Compare impulses in different scenarios.	4	0	0
Fluids	1. Describe the relationship between pressure, volume, and temperature. 2. Compare differences in pressure based upon depth. 3. Identify requirements for an object to float. 4. Describe the relationship between pressure and velocity.	4	0	0
Phases	1. Classify the phases of matter. 2. Describe the physical makeup of each phase.	3	0	0
Heat	1. Classify objects as insulators or conductors. 2. Identify forms of heat flow.	3	0	0
Electricity	1. Describe power. 2. Identify components necessary for electricity flow. 3. Explain how safety components work.	4	0	0
Magnetism	1. Describe the Earth's magnetic field. 2. Identify magnetic objects. 3. Identify the use of electromagnets.	4	0	0
Sound	1. Relate frequency and wavelength. 2. Contrast different musical instruments.	4	0	0
Light	1. Describe how eyes respond to light. 2. Identify efficiency in light production. 3. Explain how optical equipment works.	4	0	0
Thermodynamics	1. Explain how air conditioners work. 2. Describe why heat engines are inefficient. 3. Identify different types of engines.	4	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	0	0