

## **PHYS-1115 SURVEY OF PHYSICS 3 CREDITS**

### **SYLLABUS**

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#### **CATALOG DESCRIPTION**

Overview of the concepts and basic phenomena of physics. This course provides a largely descriptive and qualitative treatment with a minimum use of elementary mathematics to solve problems. No previous knowledge of physics is assumed. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science

Prerequisites: C or better in HS Algebra I or MATH 096

Semester Offered: Fall, Spring

#### ***COMMON STUDENT LEARNING OUTCOMES***

*Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...*

##### **BROAD AND SPECIALIZED LEARNING**

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

##### **CRITICAL THINKING**

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

##### **CULTURAL AND CIVIC ENGAGEMENT**

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

##### **EFFECTIVE COMMUNICATION**

Students will exchange ideas and information with clarity in multiple contexts.

##### **INFORMATION LITERACY**

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

##### **INTEGRATING TECHNOLOGIES**

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

#### **COURSE LEARNING OUTCOMES**

*Upon successful completion of the course, the student will be able to...*

1. Apply concepts of classical mechanics (such as velocity, acceleration, force, inertia, momentum, torque, work, energy) to simple static and dynamic systems.
2. Apply concepts of thermodynamics (such as heat, temperature, internal energy, entropy) to simple processes.

A copy of this approved syllabus is on file in the dean's office.  
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3. Apply concepts of electricity and magnetism (such as fields, potential, charge conservation, static and dynamic induction) to simple circuits, motors, and other simple electrical contrivances.
4. Apply simple geometric and wave optics in simple situations.

Optional Student Learning Outcomes:

1. Apply quantum theory in simple situations such as the Bohr model of the atom, dual nature of light, atomic spectra.
2. Apply simple concepts of relativity.