

SLO Presentation

PHYS

Date: 09-15-2022

ISLO

Civic Engagement

- Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

- Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

- Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

- Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

- Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Science, Engineering, and Math
PHYS
Physics--ADT <ul style="list-style-type: none">• Students analyze a problem or experimental data in terms of related physical concepts• Students apply units and dimensions in physics problems• Students present real-world experimental data, including significant figures and units, in a correct format.• Students solve physical non-analytic problems using numerical methods.• Students use mathematical and problem solving techniques to solve physics problems
CSLO
PHYS50 - Principles of Technology <ul style="list-style-type: none">• Students demonstrate an understanding of physic principles applied to electricity.• Students demonstrate an understanding of physic principles applied to fluids.• Students demonstrate an understanding of physic principles applied to mechanics.
PHYS100 - Elementary Physics <ul style="list-style-type: none">• Students critically examine and analyze mechanics related physical phenomena. This includes the mechanics of particles and rigid bodies.• Students solve physics problems that are appropriate for Physics 100.• Students communicate effectively in a technical sense.• Students use physics laboratory equipment that is appropriate to this course.
PHYS101 - General Physics <ul style="list-style-type: none">• Students will analyze a physical situation using concepts of work and energy• Students will analyze a physical situation with multiple constant forces acting on a point mass using Newtonian mechanics

- Students will analyze real-world experimental data, including appropriate use of units and significant figures
- Students will analyze static and dynamic extended systems using the concepts of torque and angular acceleration
- Students will relate the results of experimental data to the physical concepts discussed in the lecture portion of the class
- Students will use knowledge of heat transfer and thermal properties to solve related problems
- Students will utilize properties of waves and oscillatory motion to understand and solve related problems about wave motion and sound.
- Students will predict the future trajectory of an object in two dimensions with uniform acceleration

PHYS102 - General Physics

- A. Analyze real-world experimental data, including appropriate use of units and significant figures
- B. Relate the results of experimental data to the physical concepts discussed in the lecture portion of the class
- C. Demonstrate an understanding of units and dimensions presented in PHYS 102
- D. Solve problems in electromagnetism
- E. Solve problems in optics
- F. Solve problems in modern physics

PHYS201 - Engineering Physics

- Students will analyze a physical situation with multiple forces acting on a point mass or extended object using concepts of work and energy
- Students will solve advanced problems in Gravity
- Students will solve advanced problems in Fluid dynamics
- Students will solve these problems numerically as well as algebraically
- Students will analyze real-world experimental data, including appropriate use of error propagation, units and significant figures.
- Students will relate the results of experimental data to the physical concepts discussed in the lecture portion of the class
- Students will understand units and dimensions
- Students will predict the future trajectory of an object moving in two dimensions with uniform acceleration
- Students will analyze a physical situation with multiple constant forces acting on a point mass using Newtonian mechanics
- Students will solve advanced problems in Mechanics

PHYS202 - Engineering Physics

- Students will analyze real-world experimental data, including appropriate use of units and significant figures
- Students will relate the results of experimental data to the physical concepts discussed in the lecture portion of the class
- Students will solve these problems numerically as well as algebraically
- Students will understand units and dimensions not presented in Physics 201
- Students will solve advanced problems in electromagnetic radiation
- Students will solve advanced problems in magnetism
- Students will solve advanced problems in electrodynamics

PHYS203 - Engineering Physics

- Students will analyze real-world experimental data, including appropriate use of units and significant figures.
- Students will relate the results of experimental data to the physical concepts discussed in the lecture portion of the class.
- Students understand units and dimensions not presented in Physics 201 or 202.
- Students solve advanced problems in Thermodynamics.
- Students solve advanced problems in Optics.
- Students solve advanced problems in Modern Physics.
- Students solve problems numerically as well as algebraically.