

# PHYS COURSE STUDENT LEARNING OUTCOMES

## PHYS 100 - Introductory Physics

Students will be able to apply conceptual models to solve non-mathematical questions about physical phenomena.

Students will be able to use quantitative methods to solve simple analytic problems in physics.

## PHYS 151 - General Physics I

Students will be able to choose which conceptual and quantitative techniques are relevant when presented with different applications of classical dynamics.

Students will be able to construct graphs and diagrams to represent phenomena of classical dynamics.

Students will be able to quantitatively solve introductory level problems of classical dynamics.

## PHYS 152 - General Physics II

Students will be able to choose which conceptual and quantitative techniques are relevant when presented with different applications of electromagnetism.

Students will be able to construct graphs and diagrams to represent phenomena of electromagnetism.

Students will be able to quantitatively solve introductory level problems of electromagnetism.

## PHYS 180 - Physics for Scientists and Engineers I

Students will be able to choose which conceptual and quantitative techniques are relevant when presented with different applications of classical dynamics.

Students will be able to construct graphs and diagrams to represent phenomena of classical dynamics.

Students will be able to quantitatively solve introductory level problems in classical dynamics.

## PHYS 180L - Physics for Scientists/Engineers Lab I

Students will be able to do experiments requiring them to choose which conceptual and quantitative techniques are relevant when presented with different applications of classical dynamics.

Students will be able to do experiments requiring them to construct graphs and diagrams to represent phenomena of classical dynamics.

Students will be able to do experiments requiring them to quantitatively analyze introductory level problems of classical dynamics.

## PHYS 181 - Physics for Scientists and Engineers II

Students will be able to choose which conceptual and quantitative techniques are relevant when presented with different applications of electromagnetism.

Students will be able to construct graphs and diagrams to represent phenomena of electromagnetism.

Students will be able to quantitatively solve introductory level problems of electromagnetism.

## PHYS 181L - Physics for Scientists/Engineers Lab II

Students will be able to do experiments requiring them to choose which conceptual and quantitative techniques are relevant when presented with different applications of electromagnetism.

Students will be able to do experiments requiring them to construct graphs and diagrams to represent phenomena of electromagnetism.

Students will be able to do experiments requiring them to quantitatively solve introductory level problems in electromagnetism.

## PHYS 182 - Physics for Scientists and Engineers III

Students will be able to quantitatively solve problems from a variety of modern physics topics.

Students will be able to use conceptual models to answer qualitative questions from a variety of modern physics topics.

## PHYS 182L - Physics for Scientists and Engineers Lab III

Students will be able to do experiments requiring them to quantitatively solve problems from a variety of modern physics topics.

Students will be able to do experiments requiring them to use conceptual models to answer qualitative questions from a variety of modern physics topics.

## PHYS 198 - Special Topics in Physics

Students will be able to exhibit knowledge of the specific substantive area of physics being studied.

Students will be able to synthesize existing knowledge, abilities and skills with new practical skills while gaining theoretical understanding of the substantive area of physics being taught.