PHYS-PHYSICS (PHYS)

PHYS 110G. The Great Ideas of Physics
4 Credits (3+3P)
Conceptual, quantitative, and laboratory treatments of the great ideas and discoveries that have influenced lives and changed perceptions of nature, from Johannes Kepler's laws of planetary motion and Isaac Newton's and Albert Einstein's laws of motion and gravity to the modern concepts of the quantal structure of nature and the big bang universe.

PHYS 120G. Introduction to Acoustics
4 Credits (3+2P)
Lecture, demonstration, and laboratory treatment of the general properties of waves, the production, transmission, and reception of sound waves, including musical and vocal sounds, and characteristics of the human ear and several kinds of sources.

PHYS 150. Elementary Computational Physics
3 Credits (2+2P)
Introduction to computational techniques for the solution of physics-related problems.
Prerequisite(s): a C- or better in MATH 121G.

PHYS 203. Supplemental Instruction to PHYS 213
0.5-1 Credits (.5-1)
Optional workshop as a supplement to PHYS 213. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credits.
Corequisite(s): PHYS 213.

PHYS 204. Supplemental Instruction to PHYS 214
0.5-1 Credits (.5-1)
Optional workshop as a supplement to PHYS 214. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credits.
Corequisite(s): PHYS 214.

PHYS 205. Supplemental Instruction to PHYS 215G
0.5-1 Credits (.5-1)
Optional workshop as a supplement to PHYS 215G. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credits.
Corequisite(s): PHYS 215G.

PHYS 206. Supplemental Instruction to PHYS 216G
0.5-1 Credits (.5-1)
Optional workshop as a supplement to PHYS 216G. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credits.
Corequisite(s): PHYS 216G.

PHYS 211G. General Physics I
3 Credits
Non-calculus treatment of mechanics, waves, sound, and heat. Knowledge of simple algebra and trigonometry is required.

PHYS 211GL. General Physics I Laboratory
1 Credit
Laboratory experiments in topics associated with material presented in PHYS 211G.
Prerequisite(s)/Corequisite(s): PHYS 211G.

PHYS 212G. General Physics II
3 Credits
Non-calculus treatment of electricity, magnetism, and light.
Prerequisite(s): PHYS 211G or PHYS 221G.

PHYS 212GL. General Physics II Laboratory
1 Credit
Laboratory experiments in topics associated with material presented in PHYS 212G.
Prerequisite(s)/Corequisite(s): PHYS 212G.

PHYS 213. Mechanics
3 Credits
Newtonian mechanics. Pre/
Corequisite(s): MATH 191G.

PHYS 213 L. Experimental Mechanics
1 Credit
Laboratory experiments associated with the material presented in PHYS 213. Science majors. Pre/
Corequisite(s): PHYS 213.

PHYS 214. Electricity and Magnetism
3 Credits
Charges and matter, the electric field, Gauss law, the electric potential, the magnetic field, Ampere's law, Faraday's law, electric circuits, alternating currents, Maxwell's equations, and electromagnetic waves. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): MATH 192G. Prerequisite(s): a C- or better in PHYS 213 or PHYS 215G.

PHYS 214 L. Electricity and Magnetism Laboratory
1 Credit
Laboratory experiments associated with the material presented in PHYS 214.
Prerequisite(s)/Corequisite(s): PHYS 214. Prerequisite(s): a C- or better in PHYS 213L or PHYS 215GL.

PHYS 215G. Engineering Physics I
3 Credits
Calculus-level treatment of kinematics, work and energy, particle dynamics, conservation principles, simple harmonic motion. May be repeated up to 3 credits.
Prerequisite(s): a C- or better in MATH 191G.

PHYS 215GL. Engineering Physics I Laboratory
1 Credit
Laboratory experiments associated with the material presented in PHYS 215G. Students wishing to use the PHYS 215G-216G sequence to satisfy the basic natural science general education requirement must register for either PHYS 215GL or PHYS 216GL. Pre/
Corequisite(s): PHYS 215G.

PHYS 216G. Engineering Physics II
3 Credits
A calculus-level treatment of topics in electricity, magnetism, and optics. May be repeated up to 3 credits.
Prerequisite(s): a C- or better in PHYS 213 or PHYS 215G and
MATH 192G.

PHYS 216GL. Engineering Physics II Laboratory
1 Credit
Laboratory experiments associated with the material presented in PHYS 216G.
Prerequisite(s)/Corequisite(s): PHYS 216G. Prerequisite(s): A C- or better in PHYS 213L or PHYS 215GL.

PHYS 217. Heat, Light, and Sound
3 Credits
Calculus-level treatment of thermodynamics, geometrical and physical optics, and sound. May be repeated up to 3 credits.
Prerequisite(s): a C- or better in PHYS 213 or PHYS 215G.
PHYS 217 L. Experimental Heat, Light and Sound
1 Credit
Laboratory experiments associated with the material presented in PHYS 217. Science majors.
Prerequisite(s)/Corequisite(s): PHYS 217. Prerequisite(s): a C- or better in PHYS 213L or PHYS 215GL.

PHYS 221G. General Physics for Life Sciences I
3 Credits
This algebra-based introduction to general physics covers mechanics, waves, sound, and heat. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.
Prerequisite(s): a C or better in MATH 120 or higher.

PHYS 221GL. Laboratory to General Physics for Life Science I
1 Credit
Laboratory experiments in topics associated with material presented in PHYS 221G.
Prerequisite(s)/Corequisite(s): PHYS 221G. Restricted to Las Cruces campus only.

PHYS 222G. General Physics for Life Sciences II
3 Credits
This algebra-based course covers electricity, magnetism, light, atomic physics, and radioactivity. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.
Prerequisite: PHYS 211G or PHYS 221G.

PHYS 222GL. Laboratory to General Physics for Life Sciences II
1 Credit
Laboratory experiments in topics associated with material presented in PHYS 222G.
Prerequisite(s)/Corequisite(s): PHYS 222G. Restricted to Las Cruces campus only.

PHYS 223. Supplemental Instruction to PHYS 221
1 Credit
This optional workshop supplements Physics for Life Sciences I. The tutorial sessions focus on reasoning and hands-on problem solving.
Corequisite(s): PHYS 221G.

PHYS 224. Supplemental Instruction to PHYS 222
1 Credit
This optional workshop is a supplement to Physics for Life Science II. The tutorial sessions focus on reasoning and hands-on problem solving.
Corequisite(s): PHYS 222G.

PHYS 280. Independent Study
1-3 Credits
Individual analytical or laboratory studies directed by a faculty member. May be repeated for a maximum of 6 credits.
Prerequisite: consent of instructor.

PHYS 290. Special Topics
1-3 Credits
Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.