

PHYS - PHYSICS

Course Student Learning Outcomes (<https://catalog.tmcc.edu/cslo/phys/>)

PHYS 100 - Introductory Physics

Units: 3

An introductory course covering the basic concepts of physics for non-science majors. Topics include a broad range of topics from both classical and modern physics. Includes four required lab experiences. Satisfies UNR Science core curriculum requirements.

Enrollment Requirements: Prerequisite: MATH 120 or higher or qualifying ACCUPLACER, ACT/SAT test results.

Term Offered: Spring and Fall

PHYS 151 - General Physics I

Units: 4

An algebra based course in introductory Newtonian Mechanics covering vectors, one and two dimensional kinematics, work and energy, momentum and impulse, rotational dynamics, oscillations, fluids, sound and heat.

Enrollment Requirements: Prerequisite: MATH 127 or MATH 128 (Taught at other NSHE Institutions).

Term Offered: Spring and Fall

PHYS 152 - General Physics II

Units: 4

The second semester of an algebra based introductory physics course. The second semester focuses on electromagnetism covering topics of electrostatics, electric fields, electric potential, capacitance, electrodynamics, simple circuits, magneto-statics, magnetic fields, electromagnetic induction, electromagnetic waves, and physical optics.

Enrollment Requirements: Prerequisite: PHYS 151

Term Offered: Spring

PHYS 180 - Physics for Scientists and Engineers I

Units: 3

A calculus based course in introductory Newtonian Mechanics covering vectors, one and two dimensional kinematics, particle dynamics, work and energy, momentum and impulse, rotational dynamics, oscillations, gravitation, fluids, wave properties and sound.

Enrollment Requirements: Prerequisite: MATH 181; Corequisite: PHYS 180L.

Students must co-enroll in both PHYS 180 and PHYS 180L to receive credit.

Term Offered: Spring and Fall

PHYS 180L - Physics for Scientists/Engineers Lab I

Units: 1

Laboratory experiments to accompany PHYS 180.

Enrollment Requirements: Prerequisite: MATH 181; Corequisite: PHYS 180.

Students must co-enroll in both PHYS 180 and PHYS 180L to receive credit.

Term Offered: Spring and Fall

PHYS 181 - Physics for Scientists and Engineers II

Units: 3

The second semester of a calculus based introductory physics course. The second semester covers topics in electromagnetism and thermodynamics including electrostatics, electric fields, electric potential, capacitance, electrodynamics, simple circuits, magneto-statics, magnetic fields, electromagnetic induction, Maxwell's equations, electromagnetic waves, physical optics, thermodynamic laws and kinetic theory.

Enrollment Requirements: Prerequisite: PHYS 180 Corequisite: PHYS 181L.

Students must co-enroll in both PHYS 181 and PHYS 181L to receive credit.

Term Offered: Spring

PHYS 181L - Physics for Scientists/Engineers Lab II

Units: 1

Laboratory experiments to accompany PHYS 181.

Enrollment Requirements: Prerequisite: PHYS 180 Corequisite: PHYS 181.

Students must co-enroll in both PHYS 181 and PHYS 181L to receive credit.

Term Offered: Spring

PHYS 182 - Physics for Scientists and Engineers III

Units: 3

An introductory course in modern physics covering light and optics, relativity, quantum physics, atoms and molecules, nuclear physics and radioactivity, and the Standard Model and elementary particles.

Enrollment Requirements: Prerequisite: PHYS 181 Co-Requisite: PHYS 182L.

Students must co-enroll in both PHYS 182 and PHYS 182L to receive credit.

Term Offered: AS NEEDED

PHYS 182L - Physics for Scientists and Engineers Lab III

Units: 1

Laboratory experiments to accompany PHYS 182.

Enrollment Requirements: Prerequisite: PHYS 181 Co-Requisite: PHYS 182.

Students must co-enroll in both PHYS 182 and PHYS 182L to receive credit.

Term Offered: AS NEEDED

PHYS 198 - Special Topics in Physics

Units: 1-6

Various short courses and experimental classes covering a variety of subjects. The course will be a variable credit of one-half to six credits depending on the course content and number of hours required. The course may be repeated for up to six credits.

Term Offered: AS NEEDED