Physics (PHY) Courses

PHY1011 General Physics I
This course is the first in a two-part introductory physics course sequence using algebra-based approaches to analyze physical phenomena. Students are introduced to vector algebra and the basic principles of classical mechanics, applying the concepts of work, energy, linear momentum and angular momentum to physical phenomena. This course must be taken concurrently with General Physics I Laboratory.
Prerequisite(s): MATH1020 or math placement, Corequisite: PHY1016.
Offered at Charlotte, Online, Providence
3 Semester Credits

PHY1016 General Physics I Laboratory
This is an introductory algebra- and inquiry-based physics laboratory course coordinated with PHY1011 General Physics I. Small teams of students work together to solve practical Newtonian physics problems by conducting a sequence of observations and tests. Students are responsible for developing their own experiments and task assignments as they work within collaborative team structures, using the collected data to construct original models of physical phenomena. Students practice skills employed by professional engineers and scientists. The laboratory exercises reinforce theories discussed in class, including error analysis, vector algebra, kinematics, conservation of energy, momentum and rotational motion.
Prerequisite(s): MATH1020 or math placement, Corequisite: PHY1011.
Offered at Charlotte, Online, Providence
1 Semester Credit

PHY1022 General Physics II
This course is the second in a two-part introductory physics course sequence using algebra-based mathematical approaches to analyze physical phenomena. Students are introduced to heat, wave propagation, wave energy, reflection, refraction, electricity, magnetism, circuits and semiconductors. This course must be taken concurrently with General Physics II Laboratory.
Prerequisite(s): MATH1020, PHY1011, PHY1016, Corequisite: PHY1026.
Offered at Charlotte, Providence
3 Semester Credits

PHY1026 General Physics II Laboratory
This course is an introductory algebra- and inquiry-based physics laboratory coordinated with PHY1022 General Physics II. Small teams of students work together to solve practical Newtonian physics problems by conducting a sequence of observations and tests. Students are responsible for developing their own experiments and task assignments as they work within collaborative team structures, using the collected data to construct original models of physical phenomena. Students practice skills employed by professional engineers and scientists. The laboratory exercises reinforce theories discussed in class, including error analysis, heat transfer, electric and magnetic fields, circuits, digital instruments and optics.
Prerequisite(s): MATH1020, PHY1011, PHY1016, Corequisite: PHY1022.
Offered at Charlotte, Providence
1 Semester Credit

PHY2011 Physics I
PHY2011 is the first of a two-part introductory physics course sequence using calculus-based approaches to analyze physical phenomena. It introduces students to vectors and the basic principles of classical mechanics, applying the concepts of work, energy, linear momentum and angular momentum to physical phenomena. This course must be taken concurrently with Physics I Laboratory.
Prerequisite(s): MATH1040 (or concurrent), Corequisite: PHY2016.
Offered at Providence
3 Semester Credits

PHY2016 Physics I Laboratory
PHY2016 is an introductory calculus-based physics laboratory class that meets three hours per week. It is an inquiry-based laboratory course coordinated with PHY2011 Physics I. Small teams of students work together to solve practical Newtonian physics problems by conducting a sequence of observations and tests. Students are responsible for developing their own experiments and task assignments as they work within collaborative team structures, using the collected data to construct original models of physical phenomena. Students practice skills employed by professional engineers and scientists. The laboratory exercises reinforce theories discussed in class, including error analysis, vector algebra, kinematics, conservation of energy, momentum and rotational motion.
Prerequisite(s): MATH1040 (or concurrent), Corequisite: PHY2011.
Offered at Providence
1 Semester Credit

PHY2022 Physics II
PHY2022 is the second of a two-part introductory physics course sequence using calculus-based mathematical approaches to analyze physics phenomena. It introduces students to heat, wave propagation, wave energy, reflection, refraction, electricity, magnetism, circuits and semiconductors. This course must be taken concurrently with Physics II Laboratory.
Prerequisite(s): MATH1040, ((PHY1011, PHY1016) or (PHY2011, PHY2016)), Corequisite: PHY2026.
Offered at Providence
3 Semester Credits

PHY2026 Physics II Laboratory
PHY2026 is an introductory calculus-based physics laboratory class that meets three hours per week. It is an inquiry-based laboratory course coordinated with PHY2022 Physics II. Small teams of students work together to solve practical Newtonian physics problems by conducting a sequence of observations and tests. Students are responsible for developing their own experiments and task assignments as they work within collaborative team structures, using the collected data to construct original models of physical phenomena. Students practice skills employed by professional engineers and scientists. The laboratory exercises reinforce theories discussed in class, including error analysis, heat transfer, electric and magnetic fields, circuits, digital instruments and optics.
Prerequisite(s): MATH1040, ((PHY1011, PHY1016) or (PHY2011, PHY2016)), Corequisite: PHY2022.
Offered at Providence
1 Semester Credit