PHYSICS, B.A.

Program Learning Outcomes

Graduates of the program will demonstrate:

- an ability to identify, formulate, and solve complex problems by applying principles of science and mathematics.
- an ability to apply physical principles, mathematical reasoning, and computational techniques to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- an ability to communicate effectively with a range of audiences.
  - Students will effectively communicate complicated technical information in writing.
  - Students will effectively communicate complicated technical information orally.
  - Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand.
- an ability to recognize ethical and professional responsibilities and make informed judgments, which must consider the impact of scientific solutions in global, economic, environmental, and societal contexts.
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use scientific judgment to draw conclusions.
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Code	Title	Units
Lower-Division Requirements		
CHE 1052 and CHE 1052L	General Chemistry I (GE) and General Chemistry I Lab (GE)	5
EGR 1003 and EGR 1003L	Introduction to Engineering I and Introduction to Engineering I Lab	3
EGR 1023 and EGR 1023L	Introduction to Engineering II and Introduction to Engineering II Lab	3
EGR 1043 and EGR 1043L	Introduction to Computer Programming and Introduction to Computer Programming Lab	3
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4
MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
MTH 2074	Calculus III	4
PHY 2044 and PHY 2044L	University Physics I (GE) and University Physics I Lab (GE)	4
PHY 2054 and PHY 2054L	University Physics II and University Physics II Lab	4
Upper-Division Requirements		
MTH 3033	Differential Equations	3
PHY 3003 and PHY 3003L	Modern Physics and Modern Physics Lab	3
PHY 3043	Analytical Mechanics: Dynamics	3
PHY 3062	Electricity, Magnetism, and Waves I	2
PHY 4013	Thermodynamics	3
PHY 4053	Quantum Mechanics	3
PHY 4072	Senior Project I	2
Elective Courses		
Choose one (1) course from the following:		3
PHY 3083	Electricity, Magnetism, and Waves II	
PHY 4063	Solid State Engineering	
Total Units		**56**

Recommended:

Code	Title	Units
CHE 1053 and CHE 1053L	General Chemistry II and General Chemistry II Lab	4
EGR 3003	Python and UNIX	3
MTH 2033	Linear Algebra	3
PHY 4082	Senior Project II	2