

PHYSICS (BS)

Program Requirements

Code	Title	Hours
Shared Physics Base		49
PHYS 121 & 121L	Physics I and Physics I Lab	5
PHYS 122 & 122L	Physics II and Physics II Lab	5
PHYS 180	Physics Skills Seminar	1
PHYS 280	Physics Pathways Seminar	1
MATH 157	Calculus and Analytic Geometry I	4
MATH 258	Calculus and Analytic Geometry II	4
CPSC 121	Computer Science I	3
PHYS 201	Mathematical Methods	3
PHYS 222	Electronics	2
PHYS 224	Modern Physics	3
PHYS 321	Classical Mechanics	3
PHYS 322	Electricity and Magnetism	3
PHYS 323	Statistical Mechanics	3
PHYS 324	Quantum Mechanics	3
PHYS 325	Computational Physics	2
PHYS 441	Advanced Laboratory I	2
PHYS 442	Advanced Laboratory II	2

Physics majors are also encouraged to take:

MATH 259	Calculus and Analytic Geometry III
MATH 260	Ordinary Differential Equation
MATH 339	Linear Algebra
Additional CPSC courses	

Concentrations

Select one of the following five concentrations: 13-18

Fundamental Physics
Medical Physics
Applied Physics
Astrophysics
Materials Physics

Total Hours 111-116

Fundamental Physics Concentration

Code	Title	Hours
CPSC 222	Introduction to Data Science	3
PHYS 424	Advanced Quantum Mechanics	3
PHYS 451	Fields, Oscs, and Relativity	3
Select two of the following:		6
PHYS 452	Optics	
PHYS 453	Solid State Physics	
PHYS 454	Nuclear and Particle Physics	
PHYS 455	Cosmology and Astrophysics	
PHYS 456	Biophysical Systems and Modeling	
Total Hours		15

Medical Physics Concentration

Code	Title	Hours
CHEM 101 & 101L	General Chemistry I and General Chemistry I Lab	4
BIOL 105 & 105L	Information Flow in Biological Systems and Information Flow in Biological Systems Lab	4
HPHY 241 & 241L	Human Anatomy and Physiology and Human Anatomy and Physiology Lab	4
PHYS 454	Nuclear and Particle Physics	3
PHYS 456	Biophysical Systems and Modeling	3
Total Hours		18

Recommended (not required): BIOL 106 Energy Flow in Biological Systems & HPHY 242 Human Anatomy and Physiology II / HPHY 242L Human Anatomy and Physiology Lab II

Applied Physics Concentration

Code	Title	Hours
CPSC 222	Introduction to Data Science	3
MATH 321	Statistics for Experimentalist	3
PHYS 452	Optics	3
PHYS 453	Solid State Physics	3
PHYS 456	Biophysical Systems and Modeling	3
Total Hours		15

Astrophysics Concentration

Code	Title	Hours
PHYS 105	Astronomy	2
CPSC 222	Introduction to Data Science	3
PHYS 451	Fields, Oscs, and Relativity	3
PHYS 454	Nuclear and Particle Physics	3
PHYS 455	Cosmology and Astrophysics	3
Total Hours		14

Materials Physics Concentration

Code	Title	Hours
CHEM 101 & 101L	General Chemistry I and General Chemistry I Lab	4
MENG 221	Materials Engineering	3
PHYS 424	Advanced Quantum Mechanics	3
PHYS 453	Solid State Physics	3
Total Hours		13