

Master of Science in Natural and Applied Sciences - Physics Concentration



Stephen F. Austin State University

Students can pursue in Masters degree in Natural and Applied Sciences with a Physics Concentration. The a 36 credit hour requires a student to take 18 hours in physics providing a firm foundation in the principles of classical and quantum physics and their application in atomic, molecular, nuclear and solid-state physics. The remaining 18 hours can be used to study tertiary disciplines, which offers a truly unique graduate degree that can be tailored to meet your future needs. Graduate Teaching Assistantships are available and provide a **full tuition waiver**.

Physics Required Courses:	
PHYS 5312	Atomic Structure
PHYS 5431	Classical Mechanics
PHYS 5432	Electromagnetic Waves
PHYS 5451	Advanced Quantum Mechanics
PHYS 5311/5334/5350	Nuclear Physics/Solid State Physics/or Intro to Quantum

Below are optional degree plans blending 18 hours of graduate physics training with coursework outside the department.

Option 1: Physics and Mathematical Sciences

Year	Fall Semester			Spring Semester		
	Year 1	PHYS 5431	Classical Mechanics	4	PHYS 5432	Electromagnetic Waves
	PHYS 5311/5334/5350	Nuclear Physics/Solid State Physics/or Intro to Quantum	3	MATH 5330	Numerical Methods	3
	STAT 5340	Statistical Analysis I	3	STAT 5341	Statistical Analysis II	3
		Hours	10		Hours	10
Year	Fall Semester			Spring Semester		
	Year 2	PHYS 5312	Atomic Structure	3	PHYS 5451	Advanced Quantum Mechanics
	STAT 5342	Regression Analysis	3	PHYS 5390	Thesis Writing	3
	PHYS 5389	Thesis Research	3			
		Hours	9		Hours	7

Option 2: Physics and Spatial Science

Year	Fall Semester			Spring Semester		
	Year 1	PHYS 5431	Classical Mechanics	4	PHYS 5432	Electromagnetic Waves
	PHYS 5311/5334/5350	Nuclear Physics/Solid State Physics/or Intro to Quantum	3	GISC 5351	Introduction to GIS and Geospatial Analysis	3
	FORS 5317	Biometrics	3	GEOL 5335	Non-Seismic Methods	3
		Hours	10		Hours	10
Year	Fall Semester			Spring Semester		
	Year 2	PHYS 5312	Atomic Structure	3	PHYS 5451	Advanced Quantum Mechanics
	GEOL 5336	Seismic Methods	3	PHYS 5390	Thesis Writing	3
	PHYS 5389	Thesis Research	3			
		Hours	9		Hours	7

Option 3: Physics and Chemistry

Year	Fall Semester			Spring Semester		
	Year 1	PHYS 5431	Classical Mechanics	4	PHYS 5432	Electromagnetic Waves
	PHYS 5311/5334/5350	Nuclear Physics/Solid State Physics/or Intro to Quantum	3	CHEM 5341	Advanced Physical Chemistry	3
	CHEM 5311	Advanced Organic Chemistry	3	CHEM 5331	Advanced Inorganic Chemistry	3
		Hours	10		Hours	10
Year	Fall Semester			Spring Semester		
	Year 2	PHYS 5312	Atomic Structure	3	PHYS 5451	Advanced Quantum Mechanics
	PHYS 5389	Thesis Research	3	PHYS 5390	Thesis Writing	3
	CHEM 5321	Advanced Analytical Chemistry	3			
		Hours	9		Hours	7

Option 4: Physics and Secondary Education

Year	Fall Semester			Spring Semester		
	Year 1	MTED 5355	An Overview of Trigonometry	3	MTED 5366	Survey of Calculus
	MTED 5358	Introduction to Concepts of Calculus	3	PHYS 5432	Electromagnetic Waves	4
	MTED 5362	Probability and Statistical Reasoning	3	PHYS 5311/5334/5350	Nuclear Physics/Solid State Physics/or Intro to Quantum	3
		Hours	9		Hours	10
Year	Fall Semester			Spring Semester		
	Year 2	PHYS 5312	Atomic Structure	3	PHYS 5451	Advanced Quantum Mechanics
	PHYS 5431	Classical Mechanics	4	PHYS 5390	Thesis Writing	3
	PHYS 5389	Thesis Research	3			
		Hours	10		Hours	7