



**Bachelor of Science in Physics (PHYS)**

**First Year**

**Fall Semester**

Code	Title	Credits	Prerequisites	Corequisites
CSCI200	Introduction to Computers	3	ENGL051	
MATH225	Linear Algebra with Applications	3	MATH160-ENGL051-MATH161	
PHYS210	Mechanics	3	PHYS161-MATH161-PHYS160-MATH160-ENGL051	
ARAB200	Arabic Language and Literature	3		
MATH210	Calculus II	3	MATH161-MATH160	
ENGL201	Composition and Research Skills	3	ENGL151	
Total		18		

**Spring Semester**

Code	Title	Credits	Prerequisites	Corequisites
PHYS250L	Thermodynamic and Waves Lab	1		PHYS250
MATH220	Calculus III	3	MATH210	
MATH270	Ordinary Differential Equations	3	MATH210	MATH225
PHYS250	Thermodynamic and Waves	3	PHYS210	
PHYS280L	Electricity and Magnetism Lab	1		PHYS280
ENGL251	Communication Skills	3	ENGL201	
PHYS280	Electricity and Magnetism	3	PHYS250	
Total		17		

**Second Year**

**Fall Semester**

Code	Title	Credits	Prerequisites	Corequisites
PHYS330	Electromagnetic Fields and Waves I	3	PHYS280-PHYS250	PHYS300
CHEM200	General Chemistry	3	ENGL101-CHEM160	
	Elective	3		
PHYS300	Mathematical Physics	3	MATH270-MATH225-MATH220	
PHYS340	Modern Physics	3	PHYS250	
PHYS340L	Atomic Physics Lab	1	PHYS250	PHYS340
Total		16		

**Spring Semester**

Code	Title	Credits	Prerequisites	Corequisites
CSCI250	Introduction to Programming	3	CSCI200	ENGL101-CSCI250L

PHYS380	Electromagnetic Fields and Waves II	3	PHYS300-PHYS330	
CSCI250L	Introduction to Programming Lab	1	CSCI200	ENGL101-CSCI250
PHYS360	Analytical Mechanics	3	PHYS210-MATH270-MATH220	
PHYS350L	Physical Optics Lab	1	PHYS250	PHYS350
	Elective	3		
PHYS350	Physical Optics	3	PHYS250	PHYS350L
Total		17		

### Third Year

#### Fall Semester

Code	Title	Credits	Prerequisites	Corequisites
	Elective	3		
PHYS430	Thermal Physics I	3	PHYS340-PHYS330	
MATH375	Numerical Methods for Scientists & Engineers	3	MATH270-MATH225	
MATH305	Programming Languages for Scientist	3	MATH220	
PHYS420	Quantum Mechanics	3	PHYS360-PHYS340	
Total		15		

#### Spring Semester

Code	Title	Credits	Prerequisites	Corequisites
PHYS470	Advanced Quantum Mechanics	3	PHYS420	
	Elective	3		
CULT200	Introduction to Arab - Islamic Civilization	3		
PHYS490	Physics Seminar	1	PHYS380-PHYS340-ENGL251	
PHYS450	Solid State Physics	3	PHYS430-PHYS420	
PHYS480	Thermal Physics II	3	PHYS430	
Total		16		

### Major Elective Courses

Code	Title	Credits	Prerequisites	Corequisites
PHYS370	Nuclear Physics	3	PHYS340	
PHYS375	Electronics	3	PHYS280	
PHYS390	Astronomy	3	PHYS280-PHYS250	
PHYS415	Molecular Spectroscopy	3	PHYS340	
PHYS465	Selected Topics in Undergraduate Physics	3	PHYS380-PHYS340	