

**Bachelor in Physics (PHY)**

**First Year**

**Fall Semester**

Code	Title	Credits	Prerequisites	Corequisites
CSCI200	Introduction to Computers	3	ENGL051	
MATH225	Linear Algebra with Applications	3	ENGL051 - MATH161	
PHYS210	Mechanics	3	PHYS161 - MATH161 - PHYS160 - MATH160 - ENGL051	
MATH210	Calculus II	3	MATH161 - MATH160	
ENGL201	Composition and Research Skills	3	ENGL151	
Total		15		

**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
PHYS280	Electricity and Magnetism	3	PHYS210 - MATH161 - MATH160	
PHYS250	Thermodynamic and Waves	3	PHYS161 - MATH161 - ENGL051 - MATH160 - PHYS160	
ENGL251	Communication Skills	3	ENGL201	
PHYS280L	Electricity and Magnetism Lab	1		PHYS280
Total		17		

**Second Year**

**Fall Semester**

Code	Title	Credits	Prerequisites	Corequisites
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
PHYS330	Electromagnetic Fields and Waves I	3	PHYS280 - PHYS250	PHYS300
Total		16		

**Spring Semester**

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

**Third Year**

<b>Fall Semester</b>				
<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Prerequisites</b>	<b>Corequisites</b>
	Elective	3		
PHYS430	Thermal Physics I	3	PHYS340 - PHYS330	
ARAB200	Arabic Language and Literature	3		
MATH375	Numerical Methods for Scientists & Engineers	3	ENGL051 - MATH270 - MATH225	
PHYS420	Quantum Mechanics	3	PHYS360 - PHYS340	
MATH305	Programming Languages for Scientist	3	MATH260	
Total		18		

<b>Spring Semester</b>				
<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Prerequisites</b>	<b>Corequisites</b>
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	PHYS380 - PHYS430 - PHYS420	
PHYS480	Thermal Physics II	3	PHYS430	
Total		16		

### **Major Elective Courses**

<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Prerequisites</b>	<b>Corequisites</b>
EDIT250	Educational Technology for Teachers	3	CSCI200	
EENG250	Electric Circuits I	3	PHYS161 - PHYS160 - MATH161 - MATH160 - ENGL051	MATH210
MATH260	Discrete Mathematics	3	MATH225	
MATH310	Probability & Statistics for Scientists & Engineers	3	MATH210 - ENGL201	
MATH330	Partial Differential Equations	3	MATH270	
PHYS370	Nuclear Physics	3	PHYS340	
PHYS390	Astronomy	3	PHYS280 - PHYS250 - ENGL251	
PHYS465	Selected Topics in Undergraduate Physics	3		