



The International
University
الجامعة
الدولية

Major Title: Bachelor of
Science in Physics
Major Code: PHYS
Level: underGraduate
Number Of Credits: 99
Date: 19-06-2026

Bachelor of Science in Physics (PHYS)

First Year

Fall Semester

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

Spring Semester

Code	Title	Credits	Prerequisites	Corequisites
ENGL251	Communication Skills	3	ENGL201	
PHYS250	Thermodynamics and Waves	3	PHYS161 - PHYS160 - MATH161 - MATH160 - ENGL051	PHYS250L
PHYS280	Electricity and Magnetism	3	PHYS210	PHYS280L
MATH270	Ordinary Differential Equations	3	MATH225 - MATH210	
PHYS280L	Electricity and Magnetism Lab	1	PHYS210	PHYS280
PHYS250L	Thermodynamics and Waves Lab	1		PHYS250
MATH220	Calculus III	3	MATH210	
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	PHYS330
PHYS340	Modern Physics	3	PHYS250	PHYS340L
PHYS340L	Atomic Physics Lab	1	PHYS250	PHYS340
Total		16		

Spring Semester

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

Third Year

Fall Semester

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

Spring Semester

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