

**COMSATS Institute of Information Technology**  
Principal Seat, Islamabad.  
Registrar Office

No: CIIT-Reg/Notif-77/11/7//

March 21, 2011

Notification

On the recommendations of the Board of Studies for Physics in its 10<sup>th</sup> meeting held on October 19, 2010, the Board of Faculty of Science in its 9<sup>th</sup> meeting, held on December 13, 2010, approved the following revised Scheme of Studies for Bachelor of Science in Physics program, effective from Fall 2010.

Year 1

Semester 1	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY101	Mechanics of Particles	3(3, 0)		
	HUM100 ✓	English Comprehension and Composition ✓	3(3, 0) ✓		
	MTH101 ✓	Calculus I ✓	3(3, 0)		
	CSC101 ✓	Introduction to Computing ✓	4(3, 1) ✓		
	MET101	Introduction to Meteorology (Minor-I)	3(3, 0)		
	PHY108	Physics Lab-I	1(0, 1)		
		<b>Total</b>	<b>17(15, 2)</b>		

Semester 2	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY103	Heat and Thermodynamics	3(3, 0)		
	MTH102	Calculus II	3(3, 0)	MTH101	
	MTH231	Linear Algebra	3(3, 0)		
	CSC141	Introduction to Computer Programming	4(3, 1)	CSC101	
		Minor II	3(3, 0)		
	PHY109	Physics Lab-II	1(0, 1)		
		<b>Total</b>	<b>17(15, 2)</b>		

Year 2

Semester 3	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY222	Electric and Magnetic Fields-I	3(3, 0)	PHY101, MTH101, MTH102	
	HUM103	Communication Skills	3(3, 0)	HUM100	
	HUM111	Pakistan Studies	3(3, 0)		

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PHY232	Vibrations and Waves	3(3, 0)		PHY222,MTH241
	Minor-III	3(3, 0)		
MTH241	Ordinary Differential Equations	3(3, 0)	MTH102	
PHY208	Physics Lab-III	1(0, 1)		
<b>Total</b>		<b>19(18, 1)</b>		

Semester 4	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY271	Boundary Value Problems	3(3, 0)	MTH241	
	PHY241	Classical Mechanics	3(3, 0)		PHY101,PHY232
	HUM110	Islamic Studies	3(3, 0)		
	PHY223	Electric and Magnetic Fields-II	3(3, 0)	PHY222,MTH102	
	EEE121	Electric Circuits Analysis – I	3(3, 0)	PHY222	
	PHY225	Modern Physics Concepts	3(3, 0)	PHY232	
	PHY209	Physics Lab-IV	1(0, 1)		
	<b>Total</b>		<b>19(18, 1)</b>		

Year 3

Semester 5	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY341	Relativity	3(3, 0)	PHY222	
	PHY342	Quantum Mechanics-I	3(3, 0)	PHY241,PHY232, PHY225	
	PHY361	Mathematical Methods of Physics	3(3, 0)	MTH102,PHY271	
	EEE222	Electric Circuits Analysis – II	3(3, 0)	EEE121	
		Minor-IV	3(3, 0)		
	PHY352	Engineering Optics	3(3, 0)	PHY232	
	PHY308	Physics Lab-V	1(0, 1)		
	<b>Total</b>		<b>19(18, 1)</b>		

Semester 6	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY362	Computational Physics	3(3, 0)	PHY361	
	PHY343	Quantum Mechanics-II	3(3, 0)	PHY342	
	PHY363	Theory of Errors and Research Methodology	3(3, 0)		
	PHY345	Statistical Mechanics	3(3, 0)	PHY103	



PHY354	Fundamental Properties of Solids	3(3, 0)		
PHY309	Physics Lab-VI	1(0, 1)		
<b>Total</b>		<b>16(15, 1)</b>		

Year 3

Semester 7	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHY441	Electronic Properties of Solids	3(3, 0)	PHY354	
	PHY422	Electromagnetic Theory and Applications	3(3, 0)	PHY223, PHY232	
	PHY433	Nuclear Physics	3(3, 0)	PHY342	
	PHYXXX	Elective-I	3(3, 0)		
	PHY499	Project-I	3(0, 3)		
	<b>Total</b>		<b>15(12, 3)</b>		

Semester 8	Course Code	Course Title	Credit Hours	Pre-Requisite(s)	Co-Requisite(s)
	PHYXXX	Elective-II	3(3, 0)		
	PHYXXX	Elective-III	3(3, 0)		
	PHY499	Project-II	6(0, 6)		
<b>Total</b>			<b>12(6, 6)</b>		


**Grand Total: 134 Credit Hours**Elective Courses:-

Course Code	Course Title	Credit Hours	Pre-Requisite(s)
EEE241	Digital Logic Design	4(3, 1)	-
EEE342	Microprocessor Systems & Interfacing	4(3, 1)	EEE241
PHY351	Lasers and Fiber Optics	4(3, 1)	PHY231 or PHY324
PHY425	Microelectronics	3(3, 0)	PHY350 or PHY354
PHY451	Semiconductor Devices	3(3, 0)	PHY350 or PHY354
PHY453	Device Design and Simulation	4(3, 1)	PHY425 or PHY451
PHY454	Optoelectronics	3(3, 0)	PHY451
PHY455	Introduction to Biophysics	3(3, 0)	-
PHY462	Introduction to Nanoscience & Technology	3(3, 0)	PHY350 & PHY354
PHY457	Lasers and Their Applications	3(3, 0)	PHY352
PHY465	Introduction to Materials Science	3(3, 0)	PHY350 or PHY354
PHY468	Introduction to Group Theory	3(3, 0)	-

PHY469	Introduction to Astrophysics and Cosmology	3(3, 0)	PHY341
PHY471	High Energy Physics I	3(3, 0)	PHY343
PHY476	High Energy Physics II	3(3, 0)	PHY343
PHY478	Quantum Computing	3(3, 0)	PHY343

Minors Courses: *Subject to the availability of teachers.*

Course Code	Course Title	Credit Hours	Pre-Requisite(s)
BSC100	Introduction to Biosciences	3(3, 0)	
BIO100	Fundamentals of Biology	3(2, 1)	
ENV101	Fundamentals of Environmental Sciences	3(3, 0)	
CHM211	Introduction to Physical Chemistry	3(2, 1)	
ECO102	Economics	3(3, 0)	
ECO110	Fundamentals of Economics	3(3, 0)	
HUM320	Introduction to Sociology	3(3, 0)	
MGT100	Introduction to Business	3(3, 0)	
MGT101	Introduction to Management	3(3, 0)	
HUM310	Islamic History	3(3, 0)	
MET105	Climatology	3(3, 0)	
MET101	Introduction to Meteorology	3(3, 0)	
MET201	Satellite Remote Sensing	3(3, 0)	

  
**Niaz Ahmed Khaskheli**  
 Additional Registrar

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