

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

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No: CIIT-Reg/Notif-78/12/102

January 16, 2012

**Notification**

It is hereby notified that the Board of Faculty of Science in its 11<sup>th</sup> meeting held on November 14, 2011 approved the following Scheme of Studies for Bachelor of Science in Physics for Spring 2011 only at CIIT:

<b>Semester 1</b>				
<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisite(s)</b>	<b>Co-requisite(s)</b>
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)		
*****	Minor I	3(3, 0)/3(2, 1)		
PHY108	Physics Lab I	1(0, 1)		
<b>Total</b>		<b>17(15, 2)/17(14, 3)</b>		

<b>Semester 2</b>				
<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisite(s)</b>	<b>Co-requisite(s)</b>
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) / 3(2, 1)		
PHY109	Physics Lab II	1(0, 1)		
<b>Total</b>		<b>17(15, 2)/17(14, 3)</b>		

<b>Semester 3</b>				
<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisite(s)</b>	<b>Co-requisite(s)</b>
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)		
PHY232	Vibrations and Waves	3(3, 0)		PHY222, MTH241
*****	Minor III	3(3, 0)/3(2, 1)		
MTH241	Ordinary Differential Equations	3(3, 0)	MTH102	
PHY208	Physics Lab III	1(0, 1)		
<b>Total</b>		<b>19(18, 1)/19(17, 2)</b>		

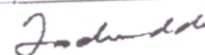
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Semester 4				
Course Code	Course Title	Credit Hours	Pre-requisite(s)	Co-requisite(s)
PHY271	Boundary Value Problems	3(3, 0)	MTH241	
PHY241	Classical Mechanics	3(3, 0)	PHY101, PHY232	
HUM110	Islamic Studies	3(3, 0)		
PHY223	Electric and Magnetic Fields II	3(3, 0)	MTH102, PHY222	
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>		

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)	PHY101, PHY225, PHY232	
PHY361	Mathematical Methods of Physics	3(3, 0)	MTH102, PHY271	
EEE222	Electric Circuits Analysis II	3(3, 0)	EEE121	
*****	Minor IV	3(3, 0)/3(2, 1)		
PHY352	Engineering Optics	3(3, 0)	PHY232	
PHY308	Physics Lab V	1(0, 1)		
	<b>Total</b>	<b>19(18, 1)/19(17, 2)</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>		

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	3(3, 0)	PHY223, PHY232	





	Applications			
PHY433	Nuclear Physics	3(3, 0)	PHY342	
PHY/EEE***	Elective I	3(3, 0)/4(3, 1)		
PHY499	Project I	3(0, 3)		
	<b>Total</b>	<b>15(12, 3)/16(12, 4)</b>		

**Semester 8**

Course Code	Course Title	Credit Hours	Pre-requisite(s)	Co-requisite(s)
PHY/EEE***	Elective II	3(3, 0)/4(3, 1)		
PHY/EEE***	Elective III	3(3, 0)/4(3, 1)		
PHY499	Project II	6(0, 6)		
	<b>Total</b>	<b>12(6, 6)/14(6, 2)</b>		

Grand Total: 134-137 Credit Hours

**List of Elective Courses:**

Course Code	Course Titles	Credit Hours	Pre- requisite (s)	Co-requisite (s)
EEE241	Digital Logic Design	4(3, 1)		
EEE342	Microprocessor Systems and Interfacing	4(3, 1)	EEE241	
PHY353	Optics and Laser	4(3, 1)	PHY223, PHY343	
PHY351	Lasers and Fiber Optics	4(3, 1)	PHY223 or PHY232	
PHY451	Semiconductor Devices	3(3, 0)	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)		
PHY457	Lasers and Their Applications	3(3, 0)	PHY352	
PHY462	Introduction to Nanoscience and Technology	3(3, 0)	PHY354	
PHY465	Introduction to Materials Science	3(3, 0)	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	
PHY478	Quantum Computing	3(3, 0)	PHY343	
PHY425	Microelectronics	3(3, 0)	PHY354	
PHY476	High Energy Physics II	3(3, 0)	PHY471	
PHY464	Principles of Photonics	3(3, 0)	PHY352	

**List of Minors Courses:**

Course Code	Course Titles	Credit Hours	Pre- requisite (s)	Co-requisite (s)
BSC100	Introduction to Biosciences	3(3, 0)		

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BIO100	Fundamentals of Biology	3(2, 1)		
ENV101	Fundamentals of Environmental Sciences	3(3, 0)		
CHM101	General Chemistry	3(3, 0)		
CHM211	Introduction to Physical Chemistry	3(2, 1)		
ECO102	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	Meteorology	3(3, 0)		
MET201	Satellite Remote Sensing	3(3, 0)		
MGT403	Entrepreneurship	3(3, 0)		
HUM220	Introduction to Psychology	3(3, 0)		
HUM223	Introduction to Philosophy	3(3, 0)		
<b>Foreign Languages</b>				
HUM430	French	3(3, 0)		
HUM431	German	3(3, 0)		
HUM432	Arabic	3(3, 0)		
HUM433	Persian	3(3, 0)		

This issues with approval of the Competent Authority.

  
Nadeem Uddin Qureshi  
Additional Registrar

**Distribution:**

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**CC:**

1. Registrar, CIIT
2. PS to Rector