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

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No: CIIT-Reg/Notif-645/12/969 July 3, 2012

NOTIFICATION

Scheme of Studies of Bachelor of Science (BS) in Physics

It is hereby notified that the Academic Council in its 13th meeting held on June 04, 2012 approved the following scheme of studies of Bachelor of Science (BS) in Physics program w.e.f Fall 2012 at CIIT system:

1. Minimum duration:	04 years	
2. Minimum no. of semesters:	08	
3. No. of credit hours in each semester:	12-19	
4. Course work	**Min No. of courses**	**Min Credit hours**
i. Core courses (List attached)	40	113
ii. Elective courses (List attached)	03	09-12
iii. Minor courses (List attached)	04	12-16
Total no. of courses of the program:	**47**	
Total no. of credit hours of the program:		**134**

5. Students will have to opt at least one PHY4** (four hundred level) course from list of elective courses.

Note:
The regulations relating to undergraduate degree programs approved by the competent authority and amended from time to time shall be applicable.

This issue with approval of the Competent Authority.

Nadeem Uddin Qureshi
Additional Registrar

Encl: (4 pages in total including this page)

Distribution:
1. Dean Faculty of Science, CIIT.
2. Chairman, Department of Physics, CIIT.
3. Incharge CIIT Islamabad Campus.
4. Incharge Academics, CIIT Campuses.
5. All HoDs Department of Physics, CIIT, Campuses.
6. Controller of Examinations, CIIT.
7. Incharge Examinations, CIIT Campuses.

CC:
1. PS to Rector
2. PA to Registrar

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July 3, 2012

List of Core courses

Serial No.	Course Code	Course Title	Credit Hours	Pre-requisite
1.	CSC101	Introduction to Computing	4(3, 1)	
2.	CSC141	Introduction to Computer Programming	4(3, 1)	CSC101
3.	HUM100	English Comprehension and Composition	3(3, 0)	
4.	HUM103	Communication Skills	3(3, 0)	HUM100
5.	HUM110	Islamic Studies	3(3, 0)	
6.	HUM111	Pakistan Studies	3(3, 0)	
7.	MTH101	Calculus I	3(3, 0)	
8.	MTH102	Calculus II	3(3, 0)	MTH101
9.	MTH231	Linear Algebra	3(3, 0)	
10.	MTH241	Ordinary Differential Equations	3(3, 0)	MTH102
11.	PHY101	Mechanics of Particles	3(3, 0)	
12.	PHY103	Heat and Thermodynamics	3(3, 0)	
13.	PHY108	Physics Lab I	1(0, 1)	
14.	PHY109	Physics Lab II	1(0, 1)	
15.	PHY208	Physics Lab III	1(0, 1)	
16.	PHY209	Physics Lab IV	1(0, 1)	
17.	PHY222	Electric and Magnetic Fields I	3(3, 0)	MTH102, PHY101
18.	PHY223	Electric and Magnetic Fields II	3(3, 0)	PHY222
19.	PHY224	Circuit Analysis Theory	3(3, 0)	MTH101
20.	PHY225	Modern Physics Concepts	3(3, 0)	PHY232
21.	PHY232	Vibrations and Waves	3(3, 0)	MTH102, PHY101
22.	PHY233	Fundamentals of Electronics	3(3, 0)	PHY224
23.	PHY241	Classical Mechanics	3(3, 0)	PHY101, PHY232
24.	PHY271	Boundary Value Problems	3(3, 0)	MTH241
25.	PHY308	Physics Lab V	1(0, 1)	
26.	PHY309	Physics Lab VI	1(0, 1)	
27.	PHY341	Relativity	3(3, 0)	PHY222
28.	PHY342	Quantum Mechanics I	3(3, 0)	PHY241, PHY225
29.	PHY343	Quantum Mechanics II	3(3, 0)	PHY342
30.	PHY345	Statistical Mechanics	3(3, 0)	PHY103
31.	PHY352	Engineering Optics	3(3, 0)	PHY232
32.	PHY354	Fundamental Properties of Solids	3(3, 0)	
33.	PHY361	Mathematical Methods of Physics	3(3, 0)	MTH102, PHY271
34.	PHY362	Computational Physics	3(3, 0)	PHY361

35.	PHY363	Theory of Errors and Research Methodology	3(3, 0)	
36.	PHY422	Electromagnetic Theory and Applications	3(3, 0)	PHY223, PHY232
37.	PHY433	Nuclear Physics	3(3, 0)	PHY342
38.	PHY441	Electronic Properties of Solids	3(3, 0)	PHY354
39.	PHY499	Project I	3(0, 3)	
40.	PHY499	Project II	6(0, 6)	

List of Elective courses

Serial No.	Course Code	Course Title	Credit Hours	Pre-requisite
1.	EEE241	Digital Logic Design	4(3, 1)	
2.	EEE342	Microprocessor Systems and Interfacing	4(3, 1)	EEE241
3.	PHY353	Optics and Laser	4(3, 1)	PHY223,PHY232
4.	PHY425	Microelectronics	3(3, 0)	PHY354
5.	PHY451	Semiconductor Devices	3(3, 0)	PHY354
6.	PHY453	Semiconductor Device Design and Simulation	4(3,1)	PHY425 or PHY354
7.	PHY454	Optoelectronics	3(3,0)	PHY451 or PHY353
8.	PHY455	Basics of Biophysics	3(3, 0)	
9.	PHY457	Lasers and Their Applications	3(3, 0)	PHY352
10.	PHY462	Introduction to Nanoscience and Technology	3(3, 0)	PHY354
11.	PHY464	Principles of Photonics	3(3, 0)	PHY352
12.	PHY465	Fundamentals of Materials Science	3(3, 0)	PHY354
13.	PHY468	Introduction to Group Theory	3(3, 0)	
14.	PHY469	Introduction to Astrophysics and Cosmology	3(3, 0)	PHY341
15.	PHY471	High Energy Physics I	3(3, 0)	PHY343
16.	PHY476	High Energy Physics II	3(3, 0)	PHY471
17.	PHY478	Quantum Computing	3(3, 0)	PHY343

List of Minor courses

Serial No.	Course Code	Course Title	Credit Hours	Pre-requisite
1.	BIO100	Fundamentals of Biology	3(2, 1)	

2.	BSC100	Introduction to Biosciences	3(3, 0)	
3.	CHM101	General Chemistry	3(3, 0)	
4.	CHM211	Introduction to Physical Chemistry	3(2, 1)	
5.	ECO102	Economics	3(3, 0)	
6.	ENV101	Fundamentals of Environmental Sciences	3(3, 0)	
7.	HUM310	Islamic History	3(3, 0)	
8.	HUM430	French	3(3, 0)	
9.	HUM431	German	3(3, 0)	
10.	HUM432	Arabic	3(3, 0)	
11.	HUM433	Persian	3(3, 0)	
12.	HUM320	Introduction to Sociology	3(3, 0)	
13.	MET101	Meteorology	3(3, 0)	
14.	MET105	Climatology	3(3, 0)	
15.	MET201	Satellite Remote Sensing	3(3, 0)	
16.	MGT100	Introduction to Business	3(3, 0)	
17.	MGT101	Introduction to Management	3(3, 0)	

Included