

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

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No: CIIT-Reg/Notif-655/12/979

July 3, 2012

**NOTIFICATION**

**Scheme of Studies of Bachelor of Science (BS) in Computer Science  
Dual Degree Program (DDP)**

It is hereby notified that the Academic Council in its 13<sup>th</sup> Meeting held on June 04, 2012 approved the following scheme of studies of Bachelor of Science (BS) in Computer Science, Dual Degree Program (DDP) with effect from Fall 2012 at CIIT system:

i.	Minimum Duration:	04 Years	
ii.	Minimum No. of Semesters:	08	
iii.	<b>Course Work</b>	<b><u>Min. No. of Courses</u></b>	<b><u>Min. No. of Credit Hours</u></b>
	<b>i. Core Courses (List Attached)</b>		
	a. Computer Science Courses	17	
	b. General Education Courses	06	
	c. Supporting Courses	09	
	d. Computer Science Project	02	
	<b>Total Core Courses</b>	<b>34</b>	
	<b>ii. Elective Courses (List attached)</b>		
	a. Institutional Elective	02	
	b. Computer Science Elective	04	
	<b>Total Elective Courses</b>	<b>06</b>	
	<b>Total No. of Courses:</b>	<b>40</b>	
	<b>Total No. of Minimum Credit Hours:</b>		<b>132</b>

**Note:**

- i. The Regulations relating to Undergraduate Degree Programs approved by the Competent Authority and amended from time to time shall also be applicable to this program.
- ii. Project\* depicts partial registration and is shown as IP until the project is completed. However, the Final Year Project is evaluated upon completion of total 6(0, 6) credit hours.
- iii. Courses having labs should be offered along with its Co-requisite. Theory and lab courses cannot be offered separately. Student failing either in theory 3(3, 0) or lab 1(0, 1) course; will be considered fail in complete course. For Examination purpose: Theory will evaluate from 75% and lab from 25% of total 100% of the course.

This issues with the approval of the Competent Authority.

  
Nadeem Uddin Qureshi  
Additional Registrar

**Encl:** (pages 05 in total including this page)

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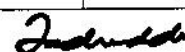
**CC:**

1. PS to Rector
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**List of Core Courses**

Sr. No.	Course Code	Course Title	Credit Hours	Co-requisite	Pre-requisite
<b>Computer Science</b>					
1.	CSC102	Discrete Structures	3(3, 0)		
2.	CSC105	Fundamentals of Computer Programming	3(3, 0)		
	CSC106	Fundamentals of Computer Programming-Lab	1(0, 1)	CSC105	
3.	CSC110	Professional Practices (IT)	3(3, 0)		
4.	CSC114	Data Structures and Algorithms	3(3, 0)		CSC105
	CSC115	Data Structures and Algorithms-Lab	1(0, 1)	CSC114	CSC105
5.	CSC201	Design and Analysis of Algorithms	3(3, 0)		CSC105
6.	CSC222	Computer Organization and Assembly Language	3(3, 0)		CSC105
	CSC223	Computer Organization and Assembly Language-Lab	1(0, 1)	CSC222	CSC105
7.	CSC244	Object Oriented Concepts and Programming	3(3, 0)		CSC105
	CSC245	Object Oriented Concepts and Programming-Lab	1(0, 1)	CSC244	CSC105
8.	CSC254	Computer Graphics	3(3, 0)		CSC105
	CSC255	Computer Graphics-Lab	1(0, 1)	CSC254	CSC105
9.	CSC272	Database Systems	3(3, 0)		CSC114
	CSC273	Database Systems-Lab	1(0, 1)	CSC272	CSC114
10.	CSC291	Software Engineering-I	3(3, 0)		
11.	CSC312	Automata Theory	3(3, 0)		
12.	CSC322	Operating Systems Concepts	3(3, 0)		CSC114
13.	CSC352	Computer Communication and Networks	3(3, 0)		
	CSC353	Computer Communication and Networks-Lab	1(0, 1)	CSC352	
14.	CSC421	Systems Programming	3(3, 0)		CSC105
	CSC422	Systems Programming-Lab	1(0, 1)	CSC421	CSC105
15.	CSC458	Compiler Design and Construction	3(3, 0)		CSC312

	CSC459	Compiler Design and Construction-Lab	1(0, 1)	CSC458	CSC312
16.	CSC456	Human Computer Interaction	3(3, 0)		
	CSC457	Human Computer Interaction-Lab	1(0, 1)	CSC456	
17.	CSC475	Artificial Intelligence	2(2, 0)		CSC105
	CSC476	Artificial Intelligence-Lab	1(0, 1)	CSC475	CSC105
<b>General Education Courses</b>					
1.	HUM100	English Comprehension and Composition	3(3, 0)		
2.	HUM102	Report Writing Skills	3(3, 0)		HUM100
3.	HUM103	Communication Skills	3(3, 0)		HUM100
4.	HUM110	Islamic Studies	3(3, 0)		
5.	HUM111	Pakistan Studies	3(3, 0)		
6.	MGT101	Introduction to Management	3(3, 0)		
<b>Supporting Courses</b>					
1	MTH104	Calculus and Analytical Geometry	3(3, 0)		
2	MTH105	Multivariable Calculus	3(3, 0)		MTH104
3	MTH231	Linear Algebra	3(3, 0)		
4	MTH242	Differential Equations	3(3, 0)		MTH104
5	MTH262	Statistics and Probability Theory	3(3, 0)		
6	MTH375	Numerical Computations	3(3, 0)		MTH231
7	EEE119	Circuits and Electronics	4(3, 1)		
8	EEE241	Digital Logic Design	4(3, 1)		CSC102
9	EEE440	Computer Architecture	3(3, 0)		CSC222
<b>Computer Science Project</b>					
1.	CSC499*	Project-I	2(0, 2)		
2.	CSC499	Project-II	4(0, 6)		



## List of Elective Courses

Computer Science Electives				
Course Code	Course Title	Credit Hours	Co-requisite(s)	Pre-requisite(s)
CSC308	Advanced Website Authoring	3(3, 0)		
CSC328	Distributed Computing	3(3, 0)		CSC105
CSC329	Distributed Computing-Lab	1(0, 1)	CSC328	CSC105
CSC331	Digital Image Processing	3(3, 0)		
CSC332	Network Security	3(3, 0)		
CSC337	Web Technologies	3(3, 0)		CSC105
CSC338	Web Technologies-Lab	1(0, 1)	CSC337	CSC105
CSC343	Network Design and Implementation	3(3, 0)		
CSC344	Wireless and Mobile Computing	3(3, 0)		
CSC354	Network Programming	3(3, 0)		CSC105
CSC355	Network Programming-Lab	1(0, 1)	CSC354	CSC105
CSC392	Software Engineering-II	3(3, 0)		CSC291
CSC412	Cryptography	3(3, 0)		CSC352
CSC442	Principles of Programming Languages	3(3, 0)		CSC244
CSC443	Scripting Languages	3(3, 0)		
CSC446	Advanced Object Oriented Programming	3(3, 0)		CSC244
CSC451	Multimedia and Hypermedia Systems	3(3, 0)		CSC352
CSC452	Virtual Reality	3(3, 0)		CSC254
CSC454	Computer Animation	3(3, 0)		CSC254
CSC455	Computer Vision	3(3, 0)		CSC254
CSC461	Neural Networks	3(3, 0)		CSC475
CSC468	Modern Programming Languages	3(3, 0)		CSC244
CSC469	Modern Programming Languages-Lab	1(0, 1)	CSC468	CSC244
CSC471	Distributed Database Systems	3(3, 0)		CSC272
CSC478	Data Warehousing	3(3, 0)		
CSC479	Data Mining	3(3, 0)		
CSC482	Computer Law	3(3, 0)		
CSC494	Software Project Management	3(3, 0)		
CSC536	Web Technologies and Programming	3(3, 0)		
CSC559	Mobile Database Systems	3(3, 0)		
CSC571	Distributed Database Systems for Business	3(3, 0)		
CSC596	Software Requirement Engineering	3(3, 0)		
BIO310	Bio-Informatics-I	4(3, 1)		
BIO312	Bio-Informatics-II	4(3, 1)		

*Included*

Institutional Electives				
Course Code	Course Title	Credit Hours	Co-requisite(s)	Pre-requisite(s)
MGT350	Human Resource Management	3(3, 0)		MGT101
MGT403	Entrepreneurship	3(3, 0)		MGT101
MGT463	Productivity and Quality Management	3(3, 0)		MGT101
MGT513	New Product Development	3(3, 0)		
HUM220	Introduction to Psychology	3(3, 0)		
MGT131	Financial Accounting	3(3, 0)		
HUM430	French	3(3, 0)		
HUM431	German	3(3, 0)		
HUM432	Arabic	3(3, 0)		
HUM433	Persian	3(3, 0)		

*Isakusdi*