

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

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No: CIIT-Reg/Notif- 199 /11/865

May 18, 2011

Notification

On the recommendations of the Board of Studies of Computer Science in its 9th meeting and Board of Faculty of Information Sciences and Technology in its 7th meeting, the Board of Advanced Studies and Research (BASAR) in its 8th meeting approved the Scheme of Studies for Master of Science in Computer Science (MS in Computer Science) effective from Fall 2009 which is hereby notified in continuation to No. CIIT/DGS/09/2156/07 dated 19 October 2009:

**Semester 1**

Course Code	Course Title	Credit Hours
CSC511	Advanced Algorithms Analysis	3(3, 0)
CSC521	Advanced Topics in Computer Architecture	3(3, 0)
CSC522	Advanced Topics in Operating Systems	3(3, 0)
	Elective I	3(3, 0)
<b>Total</b>		<b>12(12, 0)</b>

**Semester 2**

Course Code	Course Title	Credit Hours
	Elective II	3(3, 0)
	Elective III	3(3, 0)
	Elective IV	3(3, 0)
	Elective V	3(3, 0)
<b>Total</b>		<b>12(12, 0)</b>

**Semester 3**

Course Code	Course Title	Credit Hours
CSC699	Thesis	6(0, 6)
<b>Total</b>		<b>6(0, 6)</b>

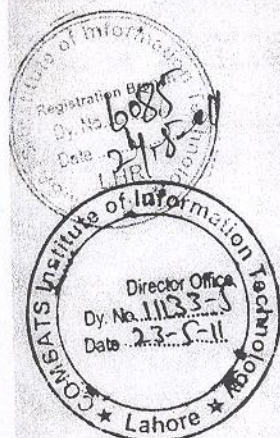
<b>Total Credit Hours</b>	<b>30(24, 6)</b>
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Knowledge as covered by the following undergraduate courses is pre-requisite:

Course Code	Course Title
CSC112	Algorithms and Data Structures
CSC221	Computer Organization and Assembly Language
CSC271	Database Systems
CSC322	Operating Systems Concepts
CSC339	Computer Communication and Networks

**Note:**

1. The student may choose any five courses from the list of elective courses with the consent of his/her thesis supervisor.
2. The elective courses have been divided into broad categories for guidance only.
3. The above semester plan is tentative; a campus may offer courses as per their resources/requirements.



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Elective Courses for MS (CS)

Database Systems

Course Code	Course Title	Credit Hours
		3(3, 0)
CSC673	Advanced Topics in Distributed Databases	3(3, 0)
CSC674	Advanced Topics in Object Oriented Databases	3(3, 0)
CSC675	Web Based Databases	3(3, 0)
CSC676	Advanced Topics in Database Systems	3(3, 0)
CSC677	Advanced Topics in Data Warehousing	3(3, 0)
CSC678	Advanced Topics in Data Mining	3(3, 0)
CSC876	Special Topics in Database Systems	3(3, 0)
CSC877	Special Topics in Data Warehousing	3(3, 0)
CSC878	Special Topics in Data mining	3(3, 0)

Computer Networks

Course Code	Course Title	Credit Hours
		3(3, 0)
CSC612	Advanced Topics in Distributed Computing	3(3, 0)
CSC631	Advanced Topics in Computer Networks	3(3, 0)
CSC632	Performance Evaluation of Networks	3(3, 0)
CSC633	Advanced Topic in Cryptography & Network Security	3(3, 0)
CSC636	Advanced Topics in Wireless Networks	3(3, 0)
CSC637	Advanced Topics in Social Networks	3(3, 0)
CSC638	Advanced Topics in Distributed Systems	3(3, 0)
CSC731	Challenged Networks	3(3, 0)
CSC831	Special Topics in Computer Networks	3(3, 0)
CSC832	Special Topics in Performance Evaluation of Networks	3(3, 0)
CSC833	Special Topic in Cryptography	3(3, 0)
CSC834	Special Topics in Network Security	3(3, 0)
CSC835	Special Topics in Ad-Hoc Networks	3(3, 0)
CSC836	Special Topics in Wireless Technologies	3(3, 0)
CSC837	Special Topics in Social Networks	3(3, 0)
CSC838	Special Topics in Computer Networking	3(3, 0)

Software Engineering

Course Code	Course Title	Credit Hours
		3(3, 0)
CSC626	Advanced Topics in Human Computer Interaction	3(3, 0)
CSC691	Advanced Topics in Software Estimation and Costing	3(3, 0)
CSC692	Advanced Topics in Requirements Engineering	3(3, 0)
CSC693	Advanced Topics in Software Project Management	3(3, 0)
CSC694	Advanced Topics in Software Quality Assurance	3(3, 0)
CSC695	Advanced Topics in Software Engineering Technologies	3(3, 0)
CSC697	Advanced Topics in Object Oriented Software Engineering	3(3, 0)
CSC698	Advanced Topics in Product Line Systems	3(3, 0)
CSC791	Advanced Topics in Software Scope Management	3(3, 0)
CSC792	Special Topics in Software Engineering	3(3, 0)
CSC793	Policy Issues in Software Industry	3(3, 0)
CSC794	Agent Oriented Software Engineering	3(3, 0)
CSC796	Knowledge Management for Software Systems	3(3, 0)



CSC826	Special Topics in Human Computer Interaction	3(3, 0)
CSC891	Special Topics in Requirements Engineering	3(3, 0)
CSC892	Special Topics in Product Line Systems	3(3, 0)
CSC893	Special Topics in Software Scope Management	3(3, 0)
CSC895	Special Topics in Software Engineering	3(3, 0)
CSC896	Special Topics in Software Estimation and Costing	3(3, 0)

**Semantic Web and Service Engineering**

Course Code	Course Title	Credit Hours
CSC669	Semantic Web	3(3, 0)
CSC642	Component Software	3(3, 0)
CSC643	Semantic Web Services	3(3, 0)
CSC644	E-Services for Business Integration	3(3, 0)
CSC649	Web Warehousing & Web Mining	3(3, 0)
CSC677	Advanced Topics in Data Warehousing	3(3, 0)
CSC678	Advanced Topics in Data Mining	3(3, 0)
CSC771	Advanced Topics in Semantic Web	3(3, 0)
CSC871	Special Topics in Semantic Web	3(3, 0)
CSC877	Special Topics in Data Warehousing	3(3, 0)
CSC878	Special Topics in Data mining	3(3, 0)

**Artificial Intelligence**

Course Code	Course Title	Credit Hours
CSC661	Intelligent Systems Design	3(3, 0)
CSC663	Advanced Topics in Expert Systems	3(3, 0)
CSC665	Advanced Topics in Knowledge- Based Systems	3(3, 0)
CSC666	Advanced Topics in Decision Support Systems	3(3, 0)
CSC667	Natural Language Processing	3(3, 0)
CSC668	Machine Learning	3(3, 0)
CSC761	Advanced Topics in Intelligent Systems	3(3, 0)
CSC762	Advanced Topics in Neural Networks	3(3, 0)
CSC763	Advanced Topics in Machine Learning	3(3, 0)
CSC764	Advanced Topics in Artificial Intelligence	3(3, 0)
CSC865	Special Topics in Intelligent Systems	3(3, 0)
CSC866	Special Topics in Neural Networks	3(3, 0)
CSC867	Special Topics in Machine Learning	3(3, 0)
CSC868	Special Topics in Artificial Intelligence	3(3, 0)

**Multimedia Technologies**

Course Code	Course Title	Credit Hours
CSC621	Advanced Topics in Multimedia & Hypermedia Systems	3(3, 0)
CSC622	Advanced Topics in Multimedia Communications & Broadband	3(3, 0)
CSC623	Advanced Topics in Multimedia System Design	3(3, 0)
CSC624	Advanced Topics in Multimedia Technologies	3(3, 0)
CSC625	Advanced Topics in Computer Animation & 3D Modeling	3(3, 0)
CSC626	Advanced Topics in Human Computer Interaction	3(3, 0)
CSC627	Advanced Topics in Multimedia Documents & Publishing	3(3, 0)
CSC628	Advanced Topics in Multimedia Entertainment & Gaming	3(3, 0)
CSC629	Advanced Topics in Multimedia Authoring	3(3, 0)



CSC821	Special Topics in Multimedia & Hypermedia Systems	3(3, 0)
CSC822	Special Topics in Multimedia & Broadband Communications	3(3, 0)
CSC823	Special Topics in Multimedia System Design	3(3, 0)
CSC824	Special Topics in Multimedia Technologies	3(3, 0)
CSC825	Special Topics in Computer Animation & 3D Modeling	3(3, 0)
CSC826	Special Topics in Human Computer Interaction	3(3, 0)
CSC827	Special Topics in Multimedia Documents & Publishing	3(3, 0)
CSC828	Special Topics in Multimedia Entertainment & Gaming	3(3, 0)
CSC829	Special Topics in Multimedia Authoring	3(3, 0)

**Computer Graphics and Visualization**

Course Code	Course Title	Credit Hours
CSC652	Advanced Topics in Computer Vision	3(3, 0)
CSC557	Data Structures for Computer Graphics	3(3, 0)
CSC650	Advanced Topics in Digital Image Processing	3(3, 0)
CSC651	Pattern Recognition	3(3, 0)
CSC653	Advanced Topics in Computer Graphics	3(3, 0)
CSC656	Advanced Topics in Multimedia and Graphics Language	3(3, 0)
CSC657	Advanced Topics in Image Processing	3(3, 0)
CSC658	Advanced Topics in Graphic Information Systems	3(3, 0)
CSC659	Advanced Topics in Simulation and Modeling	3(3, 0)
CSC856	Special Topics in Multimedia and Graphics Language	3(3, 0)
CSC857	Special Topics in Image Processing	3(3, 0)
CSC858	Special Topics in Graphic Information Systems	3(3, 0)
CSC859	Special Topics in Simulation and Modeling	3(3, 0)

**Business Intelligences**

Course Code	Course Title	Credit Hours
CSC649	Web Warehousing & Web Mining	3(3, 0)
CSC663	Advanced Topics in Expert Systems	3(3, 0)
CSC665	Advanced topics in Knowledge- based Systems	3(3, 0)
CSC666	Advanced topics in Decision Support Systems	3(3, 0)
CSC675	Web Based Databases	3(3, 0)
CSC677	Advanced Topics in Data Warehousing	3(3, 0)
CSC678	Advanced Topics in Data Mining	3(3, 0)
CSC865	Special Topics in Intelligent Systems	3(3, 0)
CSC877	Special Topics in Data Warehousing	3(3, 0)
CSC878	Special Topics in Data mining	3(3, 0)

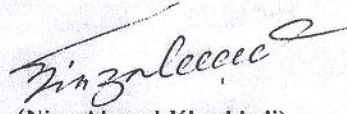
**Common Electives**

Course Code	Course Title	Credit Hours
CSC510	Theory of Computation	3(3, 0)
CSC601	Advanced Topics in Mathematical Modeling	3(3, 0)
CSC603	Advanced Topics in Geometric Modeling	3(3, 0)
CSC605	Advanced Topics in Computer Animation	3(3, 0)
CSC606	Advanced Topics in Parallel Architecture	3(3, 0)
CSC611	Advanced Topics in Parallel Processing	3(3, 0)
CSC612	Advanced Topics in Distributed Computing	3(3, 0)
CSC615	Advanced Topics in Estimation and Detection Theory	3(3, 0)
CSC616	Advanced Topics in Chaos Theory	3(3, 0)



CSC617	Advanced Topics in Quantum Cryptography	3(3, 0)
CSC618	Advanced Topics in Grid Computing	3(3, 0)
CSC619	Advanced Topics in Open Source Systems	3(3, 0)
CSC801	Special Topics in Mathematical Modeling	3(3, 0)
CSC806	Special Topics in Parallel Architecture	3(3, 0)
CSC810	Special Topics in Computer Architecture	3(3, 0)
CSC811	Special Topics in Parallel Processing	3(3, 0)
CSC812	Special Topics in Distributed Computing	3(3, 0)
CSC815	Special Topics in Estimation and Detection Theory	3(3, 0)
CSC816	Special Topics in Chaos Theory	3(3, 0)
CSC817	Special Topics in Quantum Cryptography	3(3, 0)
CSC818	Special Topics in Grid Computing	3(3, 0)
CSC819	Special Topics in Open Source Systems	3(3, 0)

Note: More courses may be added to the above list of electives.

  
(Niaz Ahmed Khaskheli)  
(Additional Registrar)

**Distribution:**

1. Dean, Faculty of Information Sciences and Technology, CIIT
2. Chairman Department of Computer Science, CIIT Islamabad
3. All Campus Directors, CIIT
4. All HoD's/Incharges, Department of Computer Science, CIIT Campuses
5. Controller of Examinations, CIIT
6. Additional Registrar (Academics), CIIT Islamabad Campus
7. Incharges Examination Departments, CIIT Campuses.

**CC:**

1. Registrar CIIT.
2. P.S. to Rector.