

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

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No: CIIT-Reg/Notif-648/12/972

July 3, 2012

**NOTIFICATION**  
**Scheme of Studies of Master of Mathematics (M.Sc)**

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 Master of Mathematics (M.Sc) program with effect from Fall 2012 at CIIT system:

i. Minimum Duration:	02 Years	
ii. Minimum No. of Semesters:	04	
iii. No. of Credit Hours in each Semester:	15	
<b>iv. Course Work</b>	<b><u>Min No. of Courses</u></b>	<b><u>Min No. Credit Hours</u></b>
i. Core Courses (List attached)	15	48
ii. Elective Courses (List attached)	06	18
<b>Total No. of Courses:</b>	<b>21</b>	
<b>Total No. of Credit Hours:</b>		<b>66</b>

**Note:**

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

This issues with the approval of the Competent Authority.

  
**Nadeem Uddin Qureshi**  
Additional Registrar

**Encl:** (pages 03 in total including this page)

**Distribution:**

1. Dean Faculty of Science, CIIT
2. All Directors, CIIT System
3. Chairperson, Department of Mathematics, CIIT
4. Incharge, CIIT Islamabad Campus
5. All Incharges, Academic Sections, CIIT Campuses
6. All HoD's/Incharges, Department of Mathematics, CIIT Campuses
7. Controller of Examinations, CIIT
8. All Incharges, Examination Departments, CIIT Campuses

**CC:**

1. PS to Rector
2. PA to Registrar

**LIST OF CORE COURSES**

Sr. #	Course Code	Course Title	Credit Hours	Pre-requisite(s)
1.	MTH250	Calculus	3(3, 0)	
2.	MTH251	Set Topology	3(3, 0)	
3.	MTH321	Real Analysis I	3(3, 0)	MTH250
4.	MTH324	Complex Analysis	3(3, 0)	
5.	MTH327	Functional Analysis	3(3, 0)	MTH251
6.	MTH343	Partial Differential Equations	3(3, 0)	
7.	MTH352	Differential Geometry	3(3, 0)	
8.	MTH375	Numerical Computations	3(3, 0)	
9.	MTH376	Algebra	3(3, 0)	
10.	MTH382	Analytical Dynamics	3(3, 0)	
11.	MTH462	Advanced Numerical Analysis	3(3, 0)	
12.	MTH483	Mathematical Methods of Physics	3(3, 0)	
13.	MTH486	Fluid Mechanics	3(3, 0)	
14.	STA365	Mathematical Statistics	3(3, 0)	
15.	MTH499	Project Report	6(6, 0)	

**LIST OF ELECTIVE COURSES**

The student will register elective courses in consultation with their respective supervisor of the department

Sr. #	Course Code	Course Title	Credit Hours
1	MTH414	Galoise Theory	3(3, 0)
2	MTH415	Rings and Modules	3(3, 0)
3	MTH423	Advanced Complex Analysis	3(3, 0)
4	MTH424	Convex Analysis	3(3, 0)
5	MTH425	An Introduction to Geometric Function Theory	3(3, 0)
6	MTH426	Introduction to Measure Theory	3(3, 0)
7	MTH427	Introduction To Hilbert Spaces	3(3, 0)
8	MTH435	Analytical Number Theory	3(3, 0)
9	MTH442	Graph Theory	3(3, 0)
10	MTH462	Advanced Numerical Analysis	3(3, 0)
11	MTH463	Numerical Solutions of Differential Equations	3(3, 0)
12	MTH464	Numerical Optimization	3(3, 0)
13	MTH465	Topics in Scientific Computing	3(3, 0)
14	MTH466	Approximation Theory	3(3, 0)
15	MTH467	Operations Research	3(3, 0)
16	MTH468	Non linear Optimization	3(3, 0)
17	MTH470	Mathematical Statistics II	3(3, 0)
18	MTH471	Integral Equations	3(3, 0)
19	MTH472	Riemannian Geometry	3(3, 0)

*Included*

	Course Code	Course Title	Credit Hours
20	MTH473	Continuous Groups	3(3, 0)
21	MTH474	Theory of Manifolds	3(3, 0)
22	MTH475	Introduction to Combinatorics	3(3, 0)
23	MTH476	Algebraic Systems and Coding Theory	3(3, 0)
24	MTH477	Algebraic Topology	3(3, 0)
25	MTH478	Special Relativity	3(3, 0)
26	MTH479	General Relativity	3(3, 0)
27	MTH480	Introductory Quantum Mechanics	3(3, 0)
28	MTH481	Advanced Functional Analysis	3(3, 0)
29	MTH484	Variational Inequalities	3(3, 0)
30	MTH485	Calculus of Variation	3(3, 0)
31	MTH486	Fluid Mechanics	3(3, 0)
32	MTH487	Continuum Mechanics	3(3, 0)
33	MTH488	Elasticity	3(3, 0)
34	MTH489	Control Theory	3(3, 0)
35	MTH491	Micro Economic (Financial Mathematics)	3(3, 0)
36	MTH493	Elements of Electromagnetic Theory	3(3, 0)
37	MTH494	Sampling and Design Analysis	3(3, 0)
38	MTH495	Topics in Pure Mathematics	3(3, 0)
39	MTH496	Topics in Applied Mathematics	3(3, 0)
40	MTH497	Topics in Numerical Mathematics	3(3, 0)
41	MTH498	Topics in Statistics	3(3, 0)

*Included*