MPhil - Mathematics

[Master of Philosophy – Mathematics]

ELIGIBILITY CRITERIA

a. The candidate should have passed 4-year BS (Mathematics) with CGPA 2.0 out of 4.0; ***or*** MA/ MSc in Mathematics with at least 2nd Division or equivalent grade, from a university / degree awarding institution recognized by the Higher Education Commission of Pakistan.

b. Subject to policy/applicability, the candidate shall pass the Entrance Test as required by the HEC.

PROGRAM STRUCTURE

(Program is equivalent to 18 years of education)

Minimum Duration: 2 years; through 4 regular semesters (Fall/Spring)

Minimum Credits: 30

COURSES OF STUDY:

(*Information about the prerequisites (if any) of the course(s) will be provided by the Department at the beginning of the program*)

Core Courses (Compulsory): ***Total: 15 Credits***

Code	Title of Course	Credits
MATH511	Advanced Group Theory	3
MATH512	Advanced Functional Analysis	3
MATH521	Advanced Partial Differential Equations	3
MATH522	Advanced Fluid Mechanics	3
MATH614	Advanced Topology	3

Elective Courses / Specialization: ***Total: 09 Credits***

Subject to University offering, the student shall opt four courses from the list given below:

Code	Title of Course	Credits
MATH 611	Advanced Rings and Modules	3
MATH 612	Riemannian Geometry	3
MATH 613	Advanced Complex Analysis	3
MATH615	Advanced Measure Theory	3
MATH616	Fixed Point Theory and Applications	3
MATH621	Advanced Integral Equations	3
MATH622	Perturbation Methods	3
MATH623	Advanced Optimization Theory	3
MATH624	General Theory of Relativity	3
MATH625	Advanced Analytical Dynamics	3
MATH631	Advanced Numerical Methods	3
MATH632	Advanced Graph Theory	3
MATH633	Numerical Solutions of Ordinary Differential Equations	3
MATH634	Numerical Solutions of Partial Differential Equations	3
MATH635	Algebraic Geometry	3
MATH637	Homological Algebra	3
MATH639	Algebraic Topology	3
MATH671	Advanced Mathematical Statistics	3
MATH672	Advanced Mathematical Physics	3
MATH673	Category Theory	3

Mathematics
Graduate Program

Research Thesis in Specialization (or in lieu 02 Additional Elective Courses): ***Total: 6 Credits***

Code	Title of Course	Credits
MATH682	Research Thesis in MPhil (Maths)* (*with successful defence*)	6
	or	
	*The Research Thesis can be substituted with two Upper Division courses to be chosen from the list of Elective Courses (subject to University offering).	3+3