

Department of Mathematical Sciences

About the Department

Department of Mathematical Sciences is offering Post Graduate and Doctoral Programs in Mathematics. A comprehensive curriculum has been designed to groom the students into qualitative scientific manpower. Elective subjects are provided to students enabling them to enhance mathematical skills. Faculty members of the department are highly talented and update themselves by active participation in national and international conferences. Department has computational laboratory and latest Computer Algebra Systems (CAS), for instance MATLAB, MATHEMATICA and MAPLE.

Research Area

The department is conducting research in different key areas of Mathematics including Seismology, Differential Equations, Numerical Analysis and Information Theory. Six students are pursuing their PhD in the department. The department has been sanctioned research projects by Council of Scientific & Industrial Research (CSIR).

International Collaboration

The department is engaged in collaboration with international universities to update the curriculum and for developments of the students. Faculty of the department is involved in collaborative research work with scientific groups of international repute.

Faculty with Specialization

S. No.	Name of Faculty	Specialization
1.	Dr. Ashish Arora (Associate Professor & Head)	Continuum Mechanics
2.	Dr. Rajesh Narula (Assistant Professor)	Information Theory
3.	Dr. Harpreet Kaur (Assistant Professor)	Wavelet Theory
4.	Dr. Gurjinder Singh (Assistant Professor)	Numerical Analysis

Dr. Ashish Arora is **PhD** in the field of Applied Mathematics from the Centre for Advanced Studies in Mathematics, Panjab University, Chandigarh. During Ph. D. he studied the behaviour of seismic waves in the porous media saturated by two immiscible fluids. This study is a specialized branch of Mechanics with varied applications in fields like petroleum engineering, exploration geophysics and acoustics. The research work of his Ph. D was published in the form of research articles in various international journals of repute.

Presently, he is pursuing research in the field of Continuum Mechanics and numerical solutions of partial differential equations.

Dr. Ashish Arora started his teaching career at Guru Nanak Dev University, Amritsar in the year 2000 and Joined Punjab Technical University, Kapurthala as Assistant Professor in the year 2010. Presently he is working as Associate Professor & Head of the Department of Mathematical Sciences, I. K. Gujral Punjab Technical University. He also worked at the University of Dundee, Scotland under Indian National Science Academy (INSA) and Royal Society of Edinburg International Bilateral Exchange Program.

With seventeen years of teaching experience and good number of research publications, Dr. Ashish Arora is acting as Principal Investigator of research projects provided by the Department of Science and Technology (DST), Government of India and the Council of Scientific and Industrial Research (CSIR), New Delhi. Four research fellows are pursuing their Ph. D. under his supervision. Also, he is working on Ancient Indian Mathematical texts like Sulba Sutra, Lelavati and Vedic Mathematics.

Dr. Rajesh Kumar Narula joined IK Gujral Punjab Technical University in the year 2011 as an Assistant Professor (Mathematics). His Qualification is M.Sc., M. Phil (Mathematics), M. Tech (I.T.) and PhD (Mathematics). His field of specialization is Information and coding theory. He has published more than 10 research paper in National / International Journals and Participated in more than 10 National / International conferences / seminars. He organized 04 seminar / conferences / STTP and attended more than 10 short term courses / training. He is the life member of three societies ISITA - New Delhi, ISTE, IAENG. 04 students are doing their PhD under his supervision. He has Nineteen years of Teaching and Administration experience.

Dr. Harpreet Kaur has done PhD in Mathematics from Sant Longowal Institute of Engineering & Technology, Longowal with fellowship under the supervision of Prof. Vinod Mishra (SLIET, Longowal) and Prof. R.C. Mittal (IIT Roorkee). In her research work, she has been studied about wavelet theory and derived theoretical results for solving certain differential, integral and integro-differential equations. She got CSIR and DST travel grant for presenting her research work in international conference at Switzerland. She has published 12 research papers in reputed international journals and also presented eight research papers in various national and international conferences. She supervised three post graduate students dissertations and two graduate students dissertations. She has more than four years teaching assistantship and 3 years regular teaching experience of graduate and post graduate classes.

Dr. Gurjinder Singh did his PhD in Mathematics from Department of Mathematics, Panjab University, Chandigarh. His research work is mainly concerned with development and analysis of efficient numerical methods for integrating initial value problems of ordinary differential equations. In this area, he published 10 research papers in reputed journals. Currently, he is working on a research project entitled 'New Numerical Schemes to Solve Initial Value Systems of Ordinary Differential Equations' (under TEQIP-II) jointly with Prof. Vinay Kanwar and Dr. Saurabh Bhatia (UIET, P.U. CHD). He is also engaged in research work with a Spanish professor and jointly published five research papers in leading international journals. He has presented research papers in four international conferences and participated in several seminars, instructional schools and faculty development programs. He has more than 6 years of teaching experience of graduate and post-graduate classes.

Courses Offered and Eligibility Criteria

S. No.	Course	Eligibility Criteria	Intake
1.	M. Sc. (Mathematics)	B. A. / B. Sc. with 50% marks with Mathematics as one of the main subjects (45% marks for SC/ST candidates)	25
2.	PhD	As per UGC Norms	-

Opportunities after M. Sc.

The graduates in Mathematics are much in demand because of increasing applicability of the subject in industry as well as in research. After masters in Mathematics, candidates may opt for the positions of scientists in various research organizations like ISRO, DRDO, CSIR & DST etc. Also many funding agencies are available for candidates to pursue their doctoral degree in top most universities of the world. Teaching in central and state universities is another attractive career after M.Sc.

Fee Structure

Sr. No.	Content	1 st Semester	2 nd Semester	3 rd Semester	4 th Semester
1	Admission Fee	1,000/-	-	-	-
2	Tuition Fee	15,500/-	15,500/-	15,500/-	15,500/-
3	Development Fund	1,250/-	1,250/-	1,250/-	1,250/-
4	Securities (Refundable)	5,000/-	-	-	-
5	Other Fee	1,975/-	1,975/-	1,975/-	1,975/-
6	University Related Fee	1,150/-		1,150/-	
	Total Fee	25,875/-	18,725/-	19,875/-	18,725/-

Note:

* Examination Fee of Rs. 700/- will be charged per semester in addition to above mentioned fee.