



SUMMER TRAINING PROGRAMME IN MATHEMATICS

Department of Mathematics
Indian Institute of Technology Palakkad
June 30 - July 10 2025

Programme Theme

The Department of Mathematics launched the Summer Training Programme in Mathematics (STPM) in 2024. We are pleased to present its second edition in 2025. The primary aim of this program is to identify young minds who are at the entry-level of mathematics, motivate and groom them to be competent enough to solve some of the challenging problems in mathematics. Towards achieving this goal, the workshop will give focused and concentrated training by conducting interactive sessions in core mathematics wherein the participants will be prompted to learn mathematics by doing it themselves. The programme is going to be conducted by the Faculty of the Department of Mathematics and sponsored by IIT Palakkad.

STP 2024 @ Backdrop of Western Ghats



Eligibility

Students enrolled in colleges and universities and have completed their **second year of B.Sc with mathematics as one of the majors or second year of Integrated BS-MS programme** by June 2025 are eligible to apply.

How to Apply

The application should be submitted through the official portal of STPM 2025: <https://math.iitpkd.ac.in/stp2025>.

Application link: <https://shorturl.at/BVhJo>

Important Dates

| Event | Date |
|--------------------------------------|-------------------------------|
| Application Starts | April 7 |
| Application Closes | May 7 |
| Selection Announcement | May 21 |
| Confirmation by participant | May 30 |
| Registration (Malhar/Saveri Hostels) | 29 June |
| Registration (Saraswati Block) | 30 June |
| Inaguration | 30 June (9.00 AM) |
| Workshop Dinner | 9 July (7.30 PM) |
| Invited Talk | 10 July (11.00 AM - 12.00 PM) |
| Valedictory Session | 10 July (12.00 PM - 12.45 PM) |

Selection Process

The selection will be purely on merit, based on consistently good academic performance and the recommendation to be obtained by the candidate from her/his Mathematics teachers who are closely acquainted with the candidate. The list of the selected students will be posted on the IIT Palakkad website during the 4th week of May (tentatively).

Support

Selected candidates will be paid second-class sleeper return train/ bus (ordinary) fare for the shortest route. The boarding and lodging for the duration of the programme will be free. The study material for the courses may also be provided. Internet and Library facilities of IIT will also be made available.

Saraswati Block (Lecture Halls)



Venue

Classes will be held in Room number **A01-002**, Saraswati Block, Sahyadri Campus, IIT Palakkad. Participants will be accommodated in Malahar or Saveri Hostels.

Syllabus

Fundamentals. Axiomatic set theory; Zermelo–Fraenkel Axioms, Set operations, Relations, Equivalence relations, Functions and inverse images, Compositions, Peano Axioms, Number systems, Mathematical Induction, Cardinality, Countable sets, Uncountable sets, Axiom of choice, Zorn's lemma, Well ordering principle, Schroeder–Bernstein Theorem.

Real analysis. Real line, Order, Bounded sets, LUB axiom, Archimedean Principle, Sequence, Convergence of sequences, Subsequences, Cauchy's criterion, Bolzano–Weirstrass Theorem, Infinite series and Convergence, Continuity of functions, Intermediate Value Theorem

Linear algebra. System of linear equations, Gaussian elimination method, Row and Column Rank, Vector spaces and examples, Subspaces and examples, Basis and dimension, Linear transformations, Algebra of linear transformations, Rank–Nullity Theorem

Resource Persons

Dr Subhankar Dey, Dr Jayanarayanan C R, Dr Gopikrishnan Chirappurathu Remesan, Dr Lakshmi Shankar K, Dr Srijan Sarkar, Dr Rohit Verma

Nila Campus Main Gate



Committee & Contact

Organising committee: Dr Gopikrishnan Chirappurathu Remesan (coordinator), Dr Srijar Sarkar, and Dr Jayanarayanan C R

For any further queries of information please contact us at the official email address **stp_math@iitpkd.ac.in**. The committee will not contact or solicit any information whatsoever regarding STPM 2025 through any email addresses or phone numbers other than the official ones.