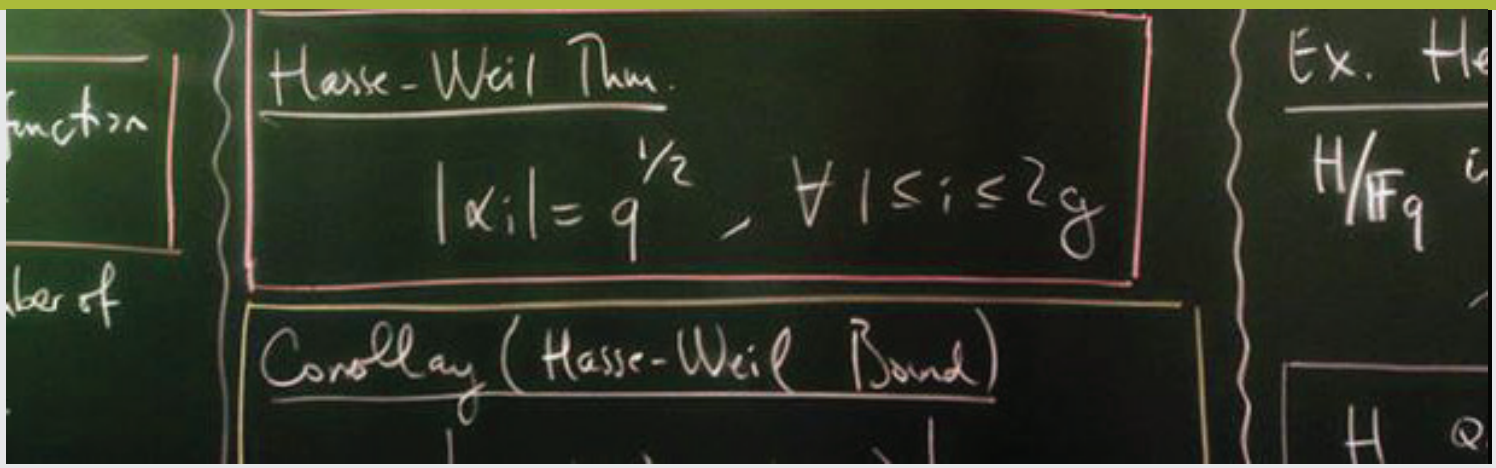
MATHEMATICS
GRADUATE SCHOOL OF ENGINEERING AND NATURAL SCIENCES
GRADUATE PROGRAMS



ABOUT THE PROGRAM

The mathematics program through the MS and PhD programs aims to train future researchers and teachers in mathematics.

The mission of the MS program is to equip the students with advanced knowledge in analysis and algebra as well as a deeper understanding in a chosen field of study. The mission of the PhD program, in addition, is to educate students to become independent researchers producing and disseminating original results. Both programs have an emphasis on teaching practice. The graduate students gain valuable experience by giving recitations and holding office hours for a variety of undergraduate courses.

The MS students must fulfill a certain credit load and compose a thesis which explores a specific mathematical field. The recipient of the MS degree is then ready for doctorate-level studies or skilled work in industry.

The PhD students in addition must pass written and oral qualifying examinations in two subjects, and write a thesis containing original mathematical research. Upon completion of the PhD program, the graduates are stand-alone scholars who can be part of prestigious universities or research centers in Turkey or abroad.

The students are encouraged to participate in exchange programs to broaden their perspective and take part in different research groups.

Research Areas

Algebra, Number Theory And Combinatorics:

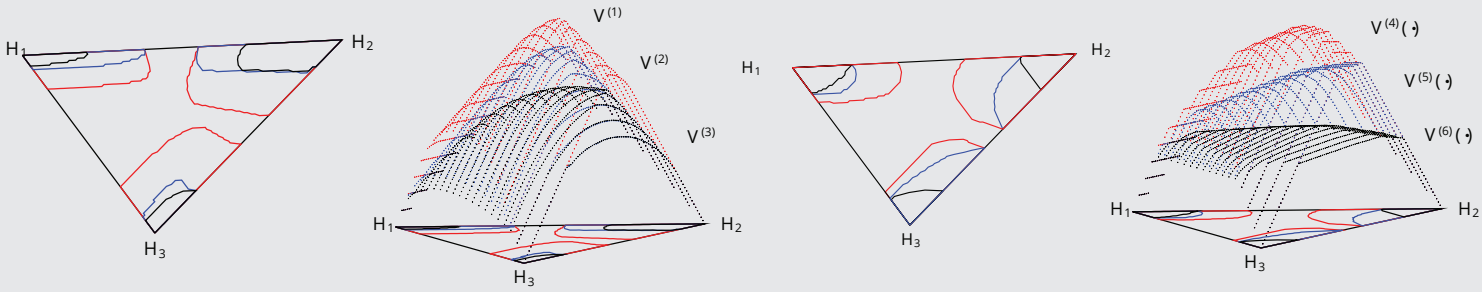
- **Arithmetic of Finite Fields:** Permutation polynomials, polynomial factorization.
- **Function Fields and Curves over Finite Fields:** Rational points, maximal curves, towers of function fields, automorphisms, modular curves, Drinfeld modular curves.
- **Coding Theory:** Cyclic and quasi-cyclic codes, algebraic geometry codes, asymptotically good codes.
- **Cryptology:** Sequences and stream ciphers, cryptographically significant functions (bent, plateaued, almost perfect nonlinear), secret sharing schemes.
- **Enumerative Combinatorics and Applications:** Integer partitions, permutations and permutation statistics. Basic hypergeometric series and their identities. Bijective and sieve methods.
- **Commutative and Computational Algebra, Combinatorics and Algebraic Statistics:** Investigation of questions related to binomial ideals, toric rings, Koszul Algebras and their filtrations, lattice ideals, combinatorics of partially ordered sets, application of Gröbner bases, and algebraic and homological properties of powers of ideals.

Analysis And Partial Differential Equations:

- Functional and Complex Analysis: The structure theory of locally convex spaces including spaces of analytic, harmonic, and infinitely differentiable functions of several variables. Linear topological invariants, isomorphisms and bases in locally convex spaces; complex potential theory, approximation and interpolation of analytic and harmonic functions, composition operators on analytic function spaces
- **Partial Differential Equations:** Operator theory, pseudo-differential operators, nonlinear partial differential equations, infinite-dimensional dynamical systems, calculus of variations and their applications to mechanical problems.

Probability And Statistics:
Probability measures in infinite dimensional spaces, nonlinear theory of distributions.

MATHEMATICS
GRADUATE SCHOOL OF ENGINEERING AND NATURAL SCIENCES
GRADUATE PROGRAMS



Faculty Members

- Albert Erkip
- Ayesha Asloob Qureshi
- Cem Güneri
- Gökalp Alpan
- Kağan Kurşungöz
- Michel Lavrauw
- Mohammad Sadek
- Nihat Gökhan Göğüş
- Nilay Duruk Mutlubaş
- Nurdagül Anbar Meidl
- Semih Onur Sezer
- Tugay Bayraktar

Benefits Provided for Graduate Students

- Full Tuition Waiver
- Monthly Stipend
- Housing/Transportation Support
- Private Health Insurance
- Conference Travel Funding
- Financial Incentives for Project and Research

Application Requirements

- Official Transcript
- Statement of Purpose
- Two Letters of Recommendation
- ALES or GRE Scores
- English Proficiency Exam

  (TOEFL (IBT) or YDS/e-YDS Scores)

Online Application

admission.sabanciuniv.edu

Contacts

Graduate Area Advisor
Nihat Gökhan Göğüş
+90 (0216) 483 9615
gokhan.gogus@sabanciuniv.edu

For more information

math.sabanciuniv.edu
su-fens-gradoffice@sabanciuniv.edu

Sabancı Üniversitesi
FACULTY OF ENGINEERING AND NATURAL SCIENCES