

Summer Program in Nonnegative Matrices – Theory and Applications for Outstanding Postgraduate and Senior Undergraduate Students

Full Scholarship for outstanding candidates from China!

July 31 – August 30, 2013



The program allows students to create a rigorous academic experience that combines an advanced course on nonnegative matrices and their applications with an exciting social and cultural program at one of Israel's leading universities. The course carries 3 academic credits and is taught by Technion esteemed faculty:

Nonnegative Matrices – Theory and Applications

Taught by Prof. Abraham Berman

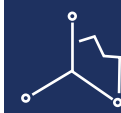
The course allows students to explore one of the most elegant and useful fields of mathematics. Study topics include:

- Basic Matrix Theory • Basic Graph Theory • Convex Cones
- The Perron-Frobenius Theorem • Primitive Matrices • Stochastic Matrices • Semi-groups of Nonnegative Matrices
- M-Matrices • Completely Positive Matrices • Inverse Eigenvalue Problems • Iterative Methods in Numerical Analysis • Markov Chains • Input-Output Analysis in Economics • The Linear Complementarity Problem • Co-Positive Optimization • The Mathematics behind Page Rank • Nonnegative Model for TCP

Students may also take an academic course focused on Israeli culture and history, including a brief introduction to the Hebrew language. Technion will also offer courses in different fields of science and engineering including: **Theoretical Tribology** (Mechanical Engineering), **Distributed Space Systems** (Aerospace Engineering), **Principles of Guidance and Homing** (Aerospace Engineering), **Image Processing and Analysis** (Electrical Engineering) & **Introduction to Machine Learning** (Electrical Engineering).

For further information please contact:

Tel. +972-4-8293325, Email: yaely@int.technion.ac.il, www.ise.technion.ac.il



Social and Cultural Activities

Students participate in industry visits and trips to Israel's tourist attractions as well as leading companies, start-ups and investment companies to explore Israel's unique entrepreneurial economy. On campus, students get to meet Technion faculty, visit laboratories, and engage with lunchtime speakers providing in-depth exposure to Israeli and Middle Eastern culture and history. On-campus social activities are led by Technion International's experienced student guides.

Housing & Facilities

Students are housed in campus dorms. Each room in a 3-bedroom apartment accommodates 2 students, and each apartment offers a shared kitchen and bathroom.

Students have access to Technion's excellent facilities that include 3 swimming pools (one Olympic-sized), gym, tennis and squash courts, movie theatre, over 20 cafeterias, a pub, and laboratories as required.

Admission Requirements & Cost

Excellent undergraduate and graduate students (BSc, B-TECH, MSc, PhD) are invited to apply: Application forms can be found at:

www.ise.technion.ac.il/summerschool_china_application

Submit your application form together with your university transcripts, CV, and one letter of recommendation. The minimum required grade point average is 80.

Acceptance to each academic course is dependent on approval of pre-requisites by Technion faculty.

Under a unique Israeli Government Sponsorship, excellent students from China will receive a scholarship covering full tuition costs for the program, including housing in Technion's international village dormitories, daily lunch at a Technion cafeteria (5 days a week) and a monthly allowance of \$250.

For additional information:

yaely@int.technion.ac.il



Technion – Israel Institute of Technology

Technion - Israel Institute of Technology is Israel's premier center of science and technology education and applied research. Founded in 1912, Technion is Israel's oldest university and is home to a superb faculty including three Nobel Laureates, 13,000 students, 18 faculties and more than 40 research institutes. Ranked among the world's top 50 technological universities by Shanghai Jiao Tong University's prestigious Academic Ranking of World Universities (ARWU).

Faculty of Mathematics

The Faculty of Mathematics is engaged in world-class research in both pure and applied math in a number of specialized fields. The Faculty is home to several important mathematics research centers, and hosts many important international conferences, programs and events each year and attracts the brightest mathematical minds from dozens of countries, helping to build an impressive international community of mathematicians.



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