INTERNATIONAL PROGRAMS & RESEARCH OPPORTUNITIES

> 2017/2018
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Welcome to the Technion-Israel Institute of Technology, Israel’s oldest university with a long tradition of innovation.

Technion has evolved from a small technical university into a world-leading institution, consistently ranked among the world’s top 50 science and technology research universities. Since its founding in 1912, Technion has remained a place dedicated to pioneering new technologies, where creative individuals continually strive to anticipate the needs of emerging technologies and science.

Today, Technion is a city of advanced research and learning and the birthplace of many of Israel’s most exciting tech innovations. Set on a modern campus in Haifa, it is home to a prominent faculty, among them three recent Nobel laureates, with a long list of notable alumni including engineers, scientists, physicians, professors, and entrepreneurs. It was recently acknowledged as one of the world’s leading entrepreneurial ecosystems and incubator for future successful entrepreneurs. Indeed, Technion has played a leading role in fostering Israel’s “Start-Up Nation” economy.

In 2009, Technion established Technion International to oversee the institute’s international academic programs and initiatives, as well as its academic agreements with its foreign partners worldwide, numbering more than 200 universities and research frameworks. Today, students from all corners of the world are enrolled in Technion International programs taught entirely in English, which include full undergraduate and graduate programs, postdoctoral fellowships, study abroad semester and summer programs, summer programs for gifted teens, research internships and a variety of entrepreneurship programs.

Recognizing the important role of scientific exchange in today’s knowledge-based global environment, Technion became the first Israeli university to establish a presence overseas. In the US, Technion launched a joint applied science institute with Cornell University in New York City, named the Jacobs Technion-Cornell Institute (JTCI), offering advanced degrees and research and development opportunities. In China, Technion is opening a university partnering with Shantou University in southern China, the Guangdong Technion Israel-Institute of Technology (GTIIT), which will grant Technion degrees at all levels – Bachelor’s, Master’s and PhD.

I have no doubt that choosing to study at Technion will open up a world of opportunities for you to be inspired and inspire others. Here you will become part of an intellectually stimulating community of scholars set on shaping a better future.

I look forward to welcoming you to Technion and wish you achievement and success in your every endeavor.

Sincerely,

Prof. Peretz Lavie
President
Technion-Israel Institute of Technology
I am very happy to join the Technion effort to build GTIIT in China’s Guangdong Province. I intend to do everything in my power to make GTIIT a state-of-the-art and world-renowned leading university, and infuse it with the highest standards of academic life, research, and teaching.

While the main thrust of the Institute at its outset will be environmental sciences, in due course I see it branching into two closely interconnected areas. I believe that in the 21st century our efforts will focus on the three following fields. The first field is the environment, and how to correct the mistakes of the 20th century, in which humanity turned a clean environment into a dirty one – spoiling our natural resources, burning up fossil fuels and creating holes into the ozone layer.

The second field is energy. We need to look for greener, cleaner sources of energy to counter the high rate of consumption of fossil fuels, that were accumulated underneath the earth for millions and millions of years.

The third interconnected field is human health. As a physician, scientist, and researcher, I am occupied with human health issues, and especially the environmental effects on human health, including cancer, which is greatly affected by environmental factors like UV radiation, contamination, and air pollution.

As we embark in Shantou on a program in environmental sciences, I look forward to expanding to programs on energy resources and human health, in the near future.

Israel and China both represent ancient civilizations, with tremendous traditions of teaching and education. We are looking forward to a joint collaboration in which we both learn from each other and together advance science for the benefit of humanity.

I invite you to join us as we embark on this wonderful journey.

Nobel Laureate Prof. Aaron Ciechanover
Director, Guangdong Technion-Israel Institute of Technology
Technion was ranked 6th worldwide for innovation and entrepreneurship in a recent MIT survey.

Half of Israeli companies traded on NASDAQ were founded by Technion graduates.

Bloomberg ranked Technion in 7th place for producing CEOs of American technology companies worth over $1 billion.

Technion has the second highest number of foreign associates in the US National Academy of Engineering.

Technion was ranked in 8th place for top universities producing Nobel prize winners.
85% of Israel’s technological workforce is employed by companies led by Technion graduates.

Companies led by Technion graduates account for 54% of Israel’s industrial exports.

Technion’s Faculty of Architecture and Town Planning recently ranked #3 in Europe, according to recognized architecture and design magazine Arch20.

Technion ranks 18th in the world in computer science and 44th in science, according to the 2016 Shanghai Academic Ranking.

Israel’s first university to establish joint campuses overseas: The Joan and Irwin Jacobs Technion-Cornell Institute in NYC, USA and the Guangdong Technion-Israel Institute of Technology in Shantou, China.

23% of Technion graduates start at least one new company during their careers.
A science and technology research university, among the world’s top ten, dedicated to the creation of knowledge and the development of human capital and leadership, for the advancement of the State of Israel and all humanity.

| Founded: 1912 |
| Technion City: 300 acres |
| Academic Units: 18 |
| Research Institutes/Centers: 60 |
| Students: 14,300 |
| Faculty: 560 |
| Undergraduate Programs: 50 |
| Graduate Programs: 83 |
| Degrees Awarded: 107,400 |
| Dormitory Beds: 4,450 |
| Buildings on Campus: 90 |
| 4 Swimming Pools (including 1 Olympic) |
Technion City sits atop Mount Carmel, overlooking Haifa Bay

Aerospace Engineering
Architecture and Town Planning
Biology
Biomedical Engineering
Biotechnology and Food Engineering
Chemical Engineering
Chemistry
Civil and Environmental Engineering
Computer Science
Education in Science and Technology
Electrical Engineering
Humanities and Arts
Industrial Engineering and Management
Materials Science and Engineering
Mathematics
Mechanical Engineering
Medicine
Physics
Technion Timeline

1912
Cornerstone laying ceremony

'23
Einstein visits, plants tree, and pledges commitment to Technion

'30s
Launch of Mechanical Engineering – generating the basis for Israeli industry

'40s
Technion develops technologies for Hagana forces

'50s
David Ben-Gurion chooses site for new campus. Aeronautical Engineering faculty opens – the foundation of Israel’s aerospace industry

'90s
Technion strategizes national absorption plan for the massive influx of scientists from USSR

2003
Technion launches Israel’s first interdisciplinary nanoscience center – the Russell Berrie Nanotechnology Institute (RBNI)

'04
Technion Distinguished Professors Avram Hershko and Aaron Ciechanover named Israel’s first Nobel laureates in science

2006
The entire Hebrew Bible is engraved on a 0.5mm² nano chip

'11
Distinguished Professors Dan Shechtman receives the Nobel Prize in Chemistry - carrying forward the Technion Nobel Legacy
Electrical Engineering Faculty launches microelectronics – the birth of Israel’s high-tech sector

Rappaport Faculty of Medicine opens – triggering research synergy of life sciences and engineering

Advent of Israeli high-tech — Intel establishes R&D center near Technion

Technion and Cornell win NYC competition to establish the Jacobs-Technion Cornell Institute

Li Ka Shing Foundation, Shantou University and Technion sign the foundation of a Chinese-Israeli university – the Guangdong Technion-Israel Institute of Technology

Groundbreaking for Cornell Tech campus in New York, home to Jacobs Technion-Cornell Institute

In China, cornerstone laid for Guangdong Technion-Israel Institute of Technology

The International Space University (ISU) makes its Middle East debut at the Technion with the 2016 Space Studies Program
The Ubiquitin Revolution

The 2004 Nobel Prize in Chemistry was awarded jointly to Profs. Aaron Ciechanover, Avram Hershko and Irwin Rose “for the discovery of ubiquitin mediated protein degradation.” This was Israel’s first Nobel Prize in science and marked Israel’s emergence in the highest league of science and technology.

The ubiquitin discovery by two professors at the Technion Rappaport Faculty of Medicine, together with their U.S. colleague, has opened a range of research fields, pharmaceuticals and treatments in areas from cancer to neurodegenerative disorders.

A Nobel Matter

In April 1982, Technion Prof. Dan Shechtman observed a remarkable phenomenon - the formation of quasicrystals. The way was opened to the historic unveiling of a new class of matter, which won Shechtman the 2011 Nobel Prize in Chemistry.

In quasicrystals, we find the fascinating mosaics of the Islamic world reproduced at the level of atoms: regular patterns that never repeat themselves. It was a test of excellence, diligence and self-confidence, as the new class of matter observed by Shechtman was at first considered impossible within established science.

Nobel Alumni

Technion graduate Prof. Arieh Warshel received the 2013 Nobel Prize in Chemistry, together with Profs. Michael Levitt and Martin Karplus for “the development of multiscale models for complex chemical systems.”

Presently a distinguished professor of Chemistry and Biochemistry at the University of Southern California, Warshel earned his undergraduate degree at Technion, class of 1966 – the same year as Nobel Laureate Dan Shechtman completed his BSc in Mechanical Engineering.
Innovation

A breath test for cancer
Using advanced nanosensors to save lives through early diagnosis, the work of Nazareth-born Prof. Hossam Haick exemplifies how ingenuity combined with innovation shapes a better future.

Azilect® for treating Parkinson’s disease, was developed by Profs. Moussa Youdim and John Finberg together with Teva Pharmaceuticals.

Lempel–Ziv–Welch (LZW) algorithm is a universal lossless data compression algorithm created by Profs. Abraham Lempel, Jacob Ziv, and Terry Welch. Today, it is used in pdf, JPG, tiff, png and zip file formats.

Technion Nation
Research shows Technion graduates are leading 59 of 121 Israeli companies on NASDAQ with a combined market value of over $28 billion.

Intel Israel was set up by Technion graduate Dov Frohman, and rapidly became the innovative source of generations of advanced Intel processors.

Predicting the Future
 Ranked among the world’s 35 top innovators under 35, Technion graduate Dr. Kira Radinsky’s events prediction software is presently being put to work in her start-up SalesPredict.

Iron Dome - Saving civilian lives from rocket attack, the Iron Dome, introduced by Technion graduates at Rafael Advanced Defense Systems, is one of the world’s first effective missile defense systems.

Disk-on-key - As founder and chairman of M-Systems, Technion graduate Dov Moran introduced the DiskOnKey.

InSightec - Surgery using non-invasive ultrasound will replace the surgeon’s knife through the innovative determination of Technion graduate Dr. Kobi Vortman of InSightec.

ReWalk - Founded by Technion graduate Dr. Amit Goffer, Rewalk Robotics developed a revolutionary robotic suit that brings paraplegics the ability to walk, climb stairs and drive.
Technion and Cornell were selected to position New York as an international center for technological innovation. Founded in 2012, the Jacobs Technion-Cornell Institute in New York City is combining global strengths in research, advanced education, and entrepreneurship.
Opening in summer 2017, based on Roosevelt Island, Jacobs Technion-Cornell Institute is part of Cornell Tech, and is divided into multidisciplinary hubs - Connective Media (digital media technologies and social impact), and Health Tech (technologies that individualize health care).

The MS degrees are Dual degrees – graduates receive a Cornell degree as well as a Technion degree. Runway is an innovative program for recent PhD graduates interested in working on R&D projects. The Runway is a 1-3 year-long tech incubator in the Jacobs Technion-Cornell Institute at Cornell Tech (NYC). It is an innovative hybrid of a startup incubator, and a postdoctoral educational program. Highly competitive, it provides PhD graduates with a supportive environment that includes funding, high level mentoring in technology, business and entrepreneurship, space and more.

**Programs offered at the Jacobs Technion-Cornell Institute:**
- Master of Science (MS) in Information Systems with specialization in Connective Media
- Master of Science (MS) in Information Systems with specialization in Health Tech
- Runway Postdoctoral Program

In 2011, Cornell University, together with the Technion-Israel Institute of Technology, won the City of New York’s competition to create an Applied Sciences Graduate School. Today, the Jacobs Technion-Cornell Institute embodies the academic partnership between the Technion and Cornell University on the Cornell Tech campus.

The institute’s Master degree programs in Health Tech and Connective Media focus on the need for innovation in industries where New York City has historically excelled, while always remaining anchored in technology. The Runway Startup Program supports recent PhD graduates, drawing on the resources New York City has to offer, as they build on their research to develop tech companies on campus.

Throughout its programs, the institute allows Cornell Tech to explore the emerging frontiers of the digital age.

*For more information please visit: tech.cornell.edu*
Guangdong Technion

The Technion has established a new university in Shantou, Guangdong Province, China – Guangdong Technion Israel Institute of Technology (Guangdong Technion) - in partnership with Shantou University, and with the support of the Li Ka Shing Foundation, the People's Government of Guangdong Province, and Shantou Municipal Government.

Intended as a research university - along with degree programs, under the guidance of Vice Chancellor and Nobel Laureate Professor Aaron Ciechanover – Guangdong Technion will house research centers focused on key issues of the 21st century, namely protecting the environment, the sustainable production of energy, and improving human health.

Professors, who are active researchers, will conduct a significant part of undergraduate teaching, and will also supervise postgraduate research students, so that students at Guangdong Technion will obtain Technion degrees at all academic levels – Bachelor, Master, and PhD.

Affiliated closely with the Technion in Haifa, Guangdong Technion will leverage the Technion's world-renowned strengths in engineering and science – not only in research and education, but also in innovation.
Construction on the 90,000 square meter campus began in October 2015, and it will be open in August 2017. Consisting of modern facilities, the campus will provide the infrastructure required for high-level education and research in engineering and science disciplines. Modern dormitories and an attractive ambience make the campus a great home for students, as well as for faculty staff recruited from leading universities and research facilities.

As part of the second phase of development, the extended campus will include industrial innovation centers - both research and development sites for existing companies, and for incubating or accelerating start-ups.

In recent years, Technion has successfully educated international students from a host of countries, and at all levels, at its Haifa campus in Israel. The new campus in Guangdong promises to further extend the impact of Technion graduates and research on the world, and on China in particular.

Undergraduate programs offered are Technion degrees in Chemical Engineering, including a minor specialization in environmental engineering, Biotechnology and Food Engineering and Material Engineering:

**BSc in Chemical Engineering**
The Chemical Engineering program prepares future engineers to tackle many of the global challenges we will be facing in the next 50 years. The program responds to the demand for professional engineering solutions to emerging human and natural impacts on the local and global environment associated with energy, water, healthcare, food production, consumer goods manufacturing (such as plastics and polymers, and pulp and paper), and other factors.

Duration: 8 Semesters (4 Years)
Credits: 156.5
Launch Date: October 2017

**BSc in Material Engineering**
The Materials Engineering program aims to train graduates to integrate and lead in research and development of materials and their characterization and uses for high-technology industries – from semi-conductor manufacturing through materials for biological applications. Students will conduct senior projects in material science in cooperation with the industry and will be exposed to advanced research methods in material science and engineering.

Duration: 8 Semesters (4 Years)
Credits: 162.5
Launch Date: October, 2017

In the future, the following undergraduate programs will be launched:

- BSc in Chemistry
- BSc in Environmental Engineering
- BSc in Mechanical Engineering
- BSc in Mathematics
- BSc in Physics
- BSc in Biochemical Engineering
- BSc in Biology

For more information please visit: guangdong.net.technion.ac.il
Technion City

Welcome to your exciting new home

With modern dorms and computer centers operating 24/7, restaurants, cafes, banks, shops, medical and dental clinics, supermarket, school supply shop, hairdresser, second-hand shop, laundromats, and access to public transportation and Student Center within easy reach, the university campus has come to be known as “Technion City.”

Technion offers students a wide variety of weekly athletic, social and cultural activities. Once a week all teaching stops for two hours while Technion City celebrates with live music and open air markets for a chance to take a break from busy academic schedules, and meet with friends or mingle with the diverse groups of people on campus. Film and music fans can catch a movie at the campus cinema located at the Student Center or attend live concerts at the amphitheater within walking distance.
The talents of Technion’s diverse student body reach far beyond the lecture hall, classroom or laboratory

- Student athletes play on dozens of different sports teams ranging from water sports, martial arts, racket sports and other unusual and extreme sports.

- Musicians and singers can lend their talents to the Technion Symphony Orchestra and Choir, and dancers can join Technion’s Folk Dance Troupe, an acclaimed troupe that performs often on campus as well as at national and international events.

- Individuals looking to become proactive in student affairs or interested in planning campus-wide events are welcome to get involved in the Technion Student Association.
Technion attracts students from all over the world, and is home to a thriving intellectual community that contributes to a friendly and vibrant cosmopolitan atmosphere on campus.

**Location - Inspiring Innovation**
The Technion campus is one of the largest and most beautiful university campuses in Israel. It extends over a 1.2 square kilometer area of pine woodlands on Mount Carmel, set 212m above sea level, with views of the spectacular Haifa Bay and Galilee.

**Building Energy**
Extensive sports facilities include a modern fitness center and gym offering a wide selection of classes (from Pilates, yoga and kickboxing to ballroom and belly dancing), an Olympic swimming pool, and basketball, tennis and squash courts.
Green Campus – Fostering Sustainability
Environmental studies, energy conservation and recycling are a big part of life on campus. Students are involved in building devices for saving and recycling water, designing eco-smart buildings, and gardening techniques using minimal irrigation.

Art – Unleashing New Possibilities
At Technion, art is seen as a nurturing agent of creativity, refined technique and regeneration that can inspire researchers to innovate. Stimulating works of art are displayed at the Technion’s PeKA Gallery, the Central Library gallery, and throughout the sculpture gardens dotted across the campus.

Food – Great Places to Meet and Eat
The Technion has a variety of food venues, with numerous restaurants, cafes, cafeterias and a campus pub. Campus dining options include Middle Eastern, Israeli, American, Chinese, Japanese, Thai, Italian and Indian cuisines.

Religious and Spiritual Life
Technion embraces all spiritual traditions and celebrates the diversity of religious identity both on and off campus. Several synagogues, churches, mosques and other houses of worship can be found in the surrounding area. On campus, the Ohel Aharon Synagogue complex holds regular daily services as well as weekly study groups for English speakers, and the “Beyachad” Religious Life Organization coordinates Shabbat dinners. Orthodox lifestyle is supported by Kosher meat and dairy cafeterias, cafes and restaurants*, Kosher dorms (available upon request), and separate swimming and work out hours for men and women are possible at sport and recreation facilities.

* Except for the restaurant at the swimming pool, which is open on the Sabbath.
Haifa

Haifa is Israel's northern capital and third largest city, and home to the country's largest port. Its white sandy beaches, breathtaking mountainous scenery, clean streets, lush quiet neighborhoods and bountiful religious and historical sites offer visitors a unique blend of traditional and contemporary culture.

Multicultural Hub

Haifa is home to a population of more than a quarter of a million residents from diverse cultures and faiths: Jews, Muslims, Christians, Ahmadi (an Indian sect of Islam), Druze and Bahai. The city serves as the world center of the Bahai faith famous for its magnificent gardens, and many important holy sites can be found here, including several ancient churches and mosques, Elijah's Cave, and more.

Several museums are located in Haifa, and the city hosts a wide array of festivals and cultural activities throughout the year. The annual Haifa Film Festival features high quality local and international films, drawing thousands of visitors, among them directors, screenwriters, actors, and other industry professionals.

Academic and Technological Hub

Haifa is considered a bustling technological and academic hub, housing high-tech giants as well as two leading universities, namely, the Technion and Haifa University with a combined enrollment of some 40,000 students from Israel and abroad. From here some of the world's most important scientific research and breakthroughs have sprung.

- The city was recently crowned the ‘smartest’ city in the Middle East, and ranked 24th worldwide by Spain’s IESE Business School based on categories of innovation, sustainability and quality of life.
- The university is situated near the Carmel Nature Reserve that offers beautiful hiking trails and automobile and biking paths, and is fondly nicknamed “Little Switzerland.”
- The city’s well maintained beaches serve many of Israel’s top sailing and surfing enthusiasts and host sailing competitions and other sporting events.
- Haifa is an hour’s drive from Tel Aviv and less than two hours from Jerusalem.
“Technion International has provided me with the ideal environment, both for intellectual growth and for establishing worldwide connections.”

- Jonathan Savosnick, Norway. BSc in Civil Engineering (2014)

He is currently pursuing a Master’s degree in Civil and Environmental Engineering at the University of California, Berkeley.
Technion International

Your Gateway to International Programs

- Experience engineering excellence and innovation
- Learn with leading experts in science and technology
- Diverse and challenging academic programs
- Hands-on learning opportunities
- Cutting-edge research facilities
- Make cross-cultural connections
- Friendly and supportive environment
- Enriching social and cultural activities
- Tour Israel
- Learn Hebrew
Make Technion part of your academic journey. Here you'll learn new ways of approaching modern engineering and scientific problems and challenges.

Technion International is home to all of Technion’s international programs and initiatives. It serves all incoming and enrolled international students and promotes their interaction and integration with the wider Technion community. It also oversees all collaborative academic relationships with foreign partner institutions worldwide. Technion has academic agreements with more than 200 universities and research frameworks around the globe.

Today, students from more than 50 countries are enrolled in Technion International English language programs in engineering, science and entrepreneurship and innovation. They include full undergraduate and graduate programs, study abroad semester and summer programs, research internships, summer programs for gifted teens and customized study tours in specialized fields such as entrepreneurship and water technologies.

As part of the study abroad experience, students also enjoy a vibrant student life: living in modern dorms on campus, enjoying the Technion’s excellent sports facilities, learning Hebrew (optional), and participating in social and cultural activities and trips in Israel organized by Technion International.

International partners and prospective partners are invited to contact us at: agreements@int.technion.ac.il

High Schools are invited to contact us at: marketing@int.technion.ac.il

Prospective students may contact us at: apply@int.technion.ac.il
BSc in Civil Engineering

Core Themes: Construction Management and Water Resources Engineering

The BSc in Civil Engineering degree is a prestigious program designed to train future engineers to meet the challenges of infrastructure and modernization in the 21st century. Taught by leading faculty at Technion’s Faculty of Civil and Environmental Engineering, the program exposes students to structural, economic, and construction management aspects of the physical and natural built environment, water resources planning, geoinformatics and transportation engineering. It also explores underlying applications of science and engineering for the improvement and preservation of natural resources.

Program Details

In addition to studying engineering fundamentals, students will learn about construction management in different stages of the process, such as management, economic, business, planning and legal issues associated with this process. Students will also study topics related to the design and management of water delivery and supply systems, water and wastewater treatment and recycling, as well as the development of new water sources.

Basic tools for mapping a site and understanding geo-information will also be taught, as well as transportation science and road engineering covering areas including the design and operation of roads, junctions and interchanges, pavement design and traffic flow characteristics.

The degree consists of 155.5 academic credits and can be completed in 4 years.

Program Structure

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<th>SEMESTER</th>
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<tr>
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<td>Preparation Period – Math and Physics</td>
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<tr>
<td>1</td>
<td>Chemistry, Hebrew and Basic Science Courses</td>
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<tr>
<td>2-5</td>
<td>Engineering and Science Fundamentals</td>
</tr>
<tr>
<td>6-8</td>
<td>Civil and Environmental Engineering Specialization Courses</td>
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Civil engineers are needed in all urban and rural areas. Career options include:

- Building control surveyor
- Consulting civil engineer
- Contracting civil engineer
- Site engineer
- Water engineer
- Building services engineer
- Engineering geologist
- Environmental consultant
- Water desalination
- Water recycling
BSc in Mechanical Engineering

*Core Themes:* Robotics, Control, and Dynamical Systems

The BSc in Mechanical Engineering trains future engineers for professional practice in an era of rapidly advancing technology. Internationally renowned faculty members and expert lecturers from the industry, teach students at Technion’s Faculty of Mechanical Engineering, and benefit from a stimulating environment and state-of-the-art laboratories – among the most advanced of their kind in the world.

**Program Details**

Mechanical engineers are involved with the mechanics of motion, the transfer of energy from one form to another or one place to another and apply these principles to design products that are safe, efficient, reliable, and cost effective. The degree program will provide students with a strong base in mechanics, materials, fluid and thermal sciences and offers areas of specialization in robotics, control, and dynamical systems. Students will also gain practical skills and knowledge of robotics, computer aided design and simulation. Coursework will be combined with project-based laboratory and design assignments at the faculty's advanced laboratories, to help students develop independence, creative talent, and leadership experience.

The BSc degree in Mechanical Engineering is comprised of at least **158.5 academic credits** and can be completed in **4 years**.

**Program Structure**

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Mechanical engineers can find employment in virtually any industry: aerospace, automotive, robotics, pharmaceutical, power generation, and more. Career options include (but are not limited to):

- Building control surveyor
- Biomedical engineer
- Engineering project manager
- HVAC engineer
- Management consultant
- Manufacturing systems engineer
- Mechanical product designer
- Mining engineer
- Nuclear engineer
- Research and development engineer
- Robotics engineer
Undergraduate Admissions, Fees and Transfers

Admission decisions take into account applicants' academic performance as well as their ambitions, motivation, and extracurricular talents and achievements.

Admission Requirements
- Secondary school diploma and transcripts (candidates should have a strong background in math/science)
- Standardized test scores if applicable - SAT, ACT or GaoKao (Science)
- Personal Essay
- Letters of recommendation from two teachers
- Students who are non-native English speakers must also submit English proficiency test scores, either TOEFL (minimum 80) or IELTS (minimum 6)
- Resume with two passport sized pictures
- Students must achieve the minimum required average in all of the subjects studied in the Academic Preparation program in order to continue in their undergraduate degree program

Transfer to Technion Programs in Hebrew
International students who have successfully completed the first year (Freshman Year) of their BSc program with high academic standing have the option of transferring into a Hebrew undergraduate study track offered in other Technion faculties, provided their Hebrew language skills are sufficient.

The following faculties may accept transfer students: Chemical Engineering; Aerospace Engineering; Biotechnology and Food Engineering; and Mechanical Engineering.

Faculty Transfer Procedures
Internal faculty transfer applications by international students will be considered on a case-by-case basis by the designated faculty.

The faculty will consider transfer requests based on the grades earned during the Freshman Year as follows:
- Academic Preparation program average
- Grade point average of academic courses taken in the first year of the program
- Hebrew placement examination score at the end of the first year

Please note that individuals applying for a transfer are responsible for inquiring with the faculty in question about its transfer requirements.

BSc programs start in August
Application deadline: August 1st

Faculty Transfer Procedures
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- Academic Preparation program average
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- Hebrew placement examination score at the end of the first year

Please note that individuals applying for a transfer are responsible for inquiring with the faculty in question about its transfer requirements.

Admission may be submitted online at http://regint.technion.ac.il

“The Technion inspires the students to think and explore by themselves. It never restrains different thoughts, but helps to realize them.”

- Yuting Wang, China. BSc in Civil Engineering (2014), currently pursuing a Master’s degree in Civil and Environmental Engineering at Stanford University.
Gap Year in Engineering & Science

The Gap Year program at Technion International offers high school graduates a 10-month program combining academic studies, leadership development workshops, optional Jewish studies, community service, cultural experiences, and unforgettable trips. Students will be given the opportunity to explore Israel while earning college credits from one of the most prestigious Technical Universities in the world.

Program Details
Students will participate in Engineering fundamentals and Sciences courses together with our full BSc program students.

By taking part in this 10 month program students will earn 11 academic credits of Math and Science, which makes this program perfect for students who are considering a degree track in Engineering and/or Science. Students will be able to earn additional credits depending on their choice of Humanity / Sport / Elective courses.

In addition to the academic program, students will have an opportunity to experience Israel through volunteering, travel and cultural experiences such as lectures on Israeli culture and society, entrepreneurship, and science, celebration of Jewish Holidays, music and theatre shows, and more. Students will be able to experience life on the Technion campus, and will have access to all the social events organized by the Technion Student Association.
Dream It. Do It. Technion welcomes outstanding international applicants for graduate studies in Israel

Work alongside distinguished investigators who strive to extend the frontiers of their respective scientific and engineering endeavors. Technion prepares you for independent, critical, and creative thinking in an environment that supports promising research, encourages innovation, and celebrates excellence.

Graduate Program Study
- **MSc** degree
  - 2-year program
- **PhD**
  - 3 1/2 to 4 year program for students who hold an MSc degree
- **PhD**
  - 4 1/2 year direct program: Master’s degree during PhD Studies

Application Deadlines
- **MSc**
  - **Fall Semester**
    - February 1 – April 1
  - **Spring Semester**
    - October 1 - November 1
- **PhD**
  - Year round

Language Requirements for International Students
Graduates of an accredited academic institute in which the language of instruction is English, as well as an applicant whose grade in the verbal part of the GRE or GMAT exam is 75% or higher, will be exempt from taking the Advanced English exam.
* PhD students are required to take an “Academic English Writing” course within three semesters.

All PhD applicants are required to find a faculty advisor prior to submitting an application. We recommend checking the faculty website and contacting the Graduate School International Students Advisor.

HOW TO APPLY

**STEP 1**
Please contact the International Students Advisor to establish if you meet the criteria IntGrad@technion.ac.il

The application forms, including payment of the admission fee, can be found online: http://www.graduate.technion.ac.il/Eng/Prospective_students/Prospective_students_main_page.asp#Registration

**STEP 2**
Await an official admission decision. All applications that meet the university’s criteria are then forwarded on to the Graduate Studies Committee of the appropriate department for formal consideration.

For all additional information, please contact the Graduate School International Students Advisor at Intgrad@technion.ac.il
Join us to advance your research career

The following departments offer classes in English:
- Chemistry (Chemtech)
- Chemical Engineering
- Physics
- Materials Science and Technology
- Education in Science and Technology
- Aerospace Engineering
- Computer Science
- Electrical Engineering
- Medical Science

Chemtech - Graduate Program in Chemistry
Chemtech offers MSc and PhD studies in all modern fields of chemistry, in a supportive, multidisciplinary environment. Graduate students become involved in important cutting-edge research in new and promising fields, working alongside renowned faculty and sophisticated scientific instrumentation. Studies at the Schulich Faculty of Chemistry overlap the associated fields of physics, materials sciences, biology, energy, medicine, electronics and nanotechnology, and its research program encourages students to engage in two or more sub-disciplines.

Research fields include:
- Physical chemistry
- Analytical chemistry
- Inorganic chemistry
- Organic chemistry
- Biochemistry
- Theoretical chemistry

Admission Requirements:
Proven academic excellence in BSc or MSc with a major in chemistry.

Graduate Program in Chemical Engineering
MSc and PhD research at the Wolfson Faculty of Chemical Engineering combine advanced academic studies with innovative research, carried out in the framework of one of the Faculty's research groups. The research topics aim to respond to the needs of the chemical industry worldwide, and many of them are interdepartmental.

A wide range of topics in classic and modern chemical engineering areas are covered, including basic and applied research:
- Processes heat, mass and flow transfer advanced materials
- Polymer science and technology
- Environmental science and technology conversion
- Storage of energy and alternative fuels
- Biochemical science and technology

Admission Requirements:
Candidates for the Master program must hold a BSc in chemical or materials engineering, with high standing.

Graduate Program in Physics
Technion's Faculty of Physics invites highly qualified international students to earn their MSc and PhD in a broad range of fields in physics. Along with challenging courses, Master students will spend a large portion of their studies undertaking research (at least one full year of research activities), mentored by prominent faculty members, many of whom have made significant contributions to the advancement of basic and applied physics, electronics, and nanotechnology. The research program encourages students to engage in two or more sub-disciplines.

A broad range of vigorous research areas, covering all the major fields of physics are offered, including:
- Astrophysics
- High-energy physics
- Plasma and condensed matter physics
- Mathematical physics
- Biophysics

Admission Requirements:
Proven academic excellence in BSc or MSc, with a major in physics, with high standing.
Postdoctoral Research Fellowships

Engage in groundbreaking scientific research with a vibrant community of culturally diverse scientists.

Technion offers postdoctoral scholars an opportunity to hone their professional skills, deepen their expertise, expand their research and collaborate with leading scientists in an environment that supports and celebrates excellence. The university’s world-class academic units and centers cover a wide range of traditional engineering disciplines, exact and life sciences, medicine and architecture, as well as unique multidisciplinary topics such as nanoscience, energy, and autonomous systems and robotics.

Technion welcomes outstanding international PhD scholars who have completed their doctoral studies or who are interested in a second postdoc position to conduct their research at its modern facilities. Choosing to conduct your research at Technion will strengthen your resume and improve your chances of receiving faculty positions at Technion or other major research universities.

Technion offers generous fellowships to excellent candidates, affordable housing and other social and family services. Fellows enjoy Technion’s lively campus as well as unique social and cultural activities. The Office of Postdoctoral Affairs at Technion International serves all international postdoctoral fellows and ensures a “soft landing” and successful integration into life in Israel and at the Technion. The office offers services such as: pre-departure planning, information on housing and living at the Technion and in Haifa, social and professional events and activities, and more.
Conditions of Award

- Stipend – generous fellowships are available
- Candidates shall NOT hold Israeli citizenship
- Only candidates whose PhD was awarded in the past five years may apply
- Applicants must first identify a research sponsor (Technion faculty member) who will supervise the training and research experience
- Applicants must provide updated CV with a list of publications and three letters of academic reference

Career Opportunities

Upon successful completion of their postdoctoral training, excellent candidates will be considered for tenure-track faculty positions.

Internationally competitive start-up packages will be provided for new faculty recruited to the Jacobs Technion-Cornell Institute (JTCI) and the Guangdong Technion-Israel Institute of Technology (GTIIT).

The JTCI New York City campus will be looking for successful candidates, passionate about wanting to contribute to advancing emerging interdisciplinary areas that the institute labeled as “hubs”; connective media (technologies driving digital media and the social impact of this connectivity), Health Tech (technologies that emphasize individual healthcare and promote healthier living), and the built environment (technologies for the urban environment such as smart buildings).

The new campus in China, Guangdong Technion, will be looking for excellent candidates for tenure track faculty positions mainly, but not limited to, fields of civil and environmental engineering, chemical engineering as well as supporting science fields – chemistry, physics, mathematics and related disciplines.

More detailed information on Postdoctoral Fellowships at Technion can be found in the ‘Research’ section of our website http://int.technion.ac.il
You may also contact postdocs@int.technion.ac.il
Neubauer American Study Abroad Semester

The Semester Program provides students with a unique opportunity to get a taste of student life in Israel and experience Technion's excellence.

The program is designed to prepare students to excel in their future academic and professional careers. Students study in classes with Israeli peers, visit startup companies and meet technology entrepreneurs. Living on-campus, they participate in cultural activities and trips around Israel, and are invited to apply for Professional or Research Internships.

We offer three focused semester tracks – each one consists of academic courses and extracurricular activities. Students are invited to choose a study track or simply choose course options and activities listed online. Hebrew language courses are also offered.*

Semester Tracks

**Spring semester starts in March**

**Neubauer Engineering and Science Track:**
Match study abroad options with degree requirements of your home university.

Choose courses in a range of science and engineering fields including civil, mechanical, chemical engineering, and industrial engineering and management. Courses are also offered in entrepreneurship, business, and humanities.

**Neubauer Entrepreneurship Track**
(Spring + Summer program):
Explore Israel's unique high-tech ecosystem.

Benefit from an intensive curriculum combining classroom instruction with start-up simulations, site visits, and practical experience working in small teams with business mentors on developing a business project.

**Neubauer Architecture Track:**

The track in Industrial Design at the Faculty of Architecture is designed for senior undergraduate students from all over the world. The Study Abroad program is offered through Technion International and is taught in English. It offers challenging and intensive academic courses in the field of Architecture.

* Courses are subject to change, an updated list is available online at int.technion.ac.il
Technion American Medical Students (TeAMS) Program

The Technion American Medical Students (TeAMS) Program offered by Technion’s Ruth and Bruce Rappaport Faculty of Medicine provides North American students a unique opportunity to study at Israel’s most prestigious faculty of medicine, completing an American-style medical school curriculum in English.

For nearly three decades, the TeAMS program has prepared medical students for successful residency placement and future careers in health and medicine in the United States and Canada. TeAMS aims to build bridges between the Israeli and North American medical communities by training outstanding physicians, arming them with the knowledge and skill-sets to make a difference in their home communities.

Technion prepares you for independent, critical and creative thinking in an environment that supports promising research, encourages innovation and celebrates excellence.

The curriculum emphasizes the behavioral sciences, in which students learn the various facets of the doctor patient relationship and study the ethical aspects of medical practice. Preventive medicine and community public health services are stressed as major elements in health care.

TeAMS students benefit from small class size, one-on-one mentoring, extensive clinical experience and exposure to excellent research and Technion affiliated cutting-edge medical research and biotech advancements. Graduates of the program join a strong and close-knit alumni network.

Students live near the Faculty of Medicine located at Haifa’s Bat Galim neighborhood on the shores of the Mediterranean Sea.

Admission Criteria

The program is open to qualified US and Canadian citizens. Applicants are evaluated based on their academic record, research interests, and a well-rounded background.

Prospective students must hold a Bachelor’s degree from an accredited US or Canadian university, pass the MCAT successfully, and complete the premed requirements as detailed on TeAMS’ website:

http://teams.technion.ac.il

“Over the last two years, I was given the opportunity to publish two clinical reports and an original communication. This is an experience I know I would not have gotten anywhere else besides the Technion.”

- Allen Pimienta, Canada

TeAMS Student
Internship Opportunities

Gain valuable work experience and broaden perspectives while taking in Israel’s unique entrepreneurial economy and Technion’s penchant for innovation.

Professional Internship (for credit)

The Professional Internship program is a directed work-study experience where students get to work in their fields of study or interest, supervised by Technion faculty and on-site supervisor. Professional internships may be taken at high-tech, start-up and engineering related companies of any size in industries such as medical devices, biotechnology, media, water and environment, internet or other industry sector common to the Israeli economy.

Professional internships may count towards the Co-op requirement of your degree. Full- and part-time options are available: Students can be accredited up to 3 credits, for a minimum of 200 hours over a period of 10-30 weeks.

Research Internships

Research internships at the Technion are generally organized as direct individual tutorship and collaboration between a Technion faculty member (PI) and the student intern, who becomes an integral member of the supervising faculty’s research team.

Research internships are between 3 months to 1 year in duration, and are available in the following fields: aerospace engineering; architecture and town planning; biology; biomedical engineering; biotechnology and food engineering; chemical engineering; chemistry; civil and environmental engineering; computer science; education in technology and science; electrical engineering; industrial engineering and management; materials science and engineering; mathematics and applied mathematics; mechanical engineering; and physics.

Application Process

Undergraduate students with a minimum GPA of 80/3.0 and above are welcome to apply. Technion Internships, which are unpaid positions, should be applied for at least 3 months in advance.

Internships are especially suitable to be taken along with Neubauer Study Abroad Spring Semester programs or the Summer Entrepreneurship program and may also be taken as a stand-alone program during the academic year (fall, spring and summer semesters).

More information on these exciting internship programs can be found on our website: http://int.technion.ac.il
You may also contact apply@int.technion.ac.il
Customized Study Programs

For future innovators who aspire to move ideas from concept to commercial success.

Technion teams up with partner universities in developing customized study programs to enrich students’ knowledge in specialized fields of engineering and science, entrepreneurship and innovation, water technologies and innovation, and related areas.

Program features include a tailored curriculum that corresponds to the academic goals set out by the partner university, and combines academic studies with practical field work (that can be fully provided by Technion or in partnership with the visiting faculty).

The study programs are between 1-4 weeks in length and are designed for groups of up to 30 students. Exciting cultural activities and tours are also included.

Examples of current and past programs

- **Entrepreneurship and Innovation (1-4 weeks):** This program focuses on entrepreneurial dynamics and examines Israeli entrepreneurial culture or “success formula” for creating a business environment ripe for innovation. Related subjects such as idea processing, crowd funding and entrepreneurial finance, social networks, big data, negotiations and others are explored through integrated case studies, start-up simulations, round table panel discussions with entrepreneurs, investors, policy makers and students, and site visits to start-up companies in Israel’s main high-tech hubs: Haifa, Tel Aviv and Jerusalem.

- **Water Technology and Innovation (1-4 weeks):** The curriculum focuses on the relationship between academia, industry and government that has contributed to Israel’s successful water-conservation industry. Faced with water scarcity and a growing population, the Israeli government enacted policies and advanced technological initiatives to maximize the country’s limited water resources. The result is a green and blooming environment, paralleling water-rich nations: Israel has successfully implemented desalination projects, operates one of the world’s best water supply systems, has one of the highest wastewater reuse rates, and is a leading developer and exporter of agricultural and water technology products.

For additional information please contact us at marketing@int.technion.ac.il
Summer Programs

Spend an exciting summer exploring science, business and innovation.

Engineering and Science

Outstanding postgraduate and senior undergraduate students enhance their academic profile with advanced courses in engineering and science offered at Technion’s leading faculties.

Courses are offered in: civil engineering, chemistry, electrical engineering, entrepreneurship and management, mathematics, and mechanical engineering, including medicine and the newly emerging field of data science. Students may also take a Hebrew language course and/or Middle Eastern history.*

Entrepreneurship and Innovation

Students get a first-hand look at Israel’s unique business ecology and gain practical experience in areas related to the development of technology start-ups, in the evolving fields of biotechnology, big data, media and others.

The curriculum includes marketing fundamentals, economics of innovation, strategic business planning and more, as well as a final project where students will prepare a business plan for the commercialization of their business idea and work on a VC presentation, under the guidance of professional mentors.*

High School Program

Highly gifted high school students who have completed Grades 11 or 12 are invited to take on real-life research projects at Technion’s cutting-edge labs. In this 4-week program students work on a research project supervised by members of the Technion’s research staff, and present their findings at a professional plenary assembly.

Research projects are assigned to the students from a wide selection of fields: Computer Science, Robotics, Biotechnology and Food Engineering; Biology; Biomedical Engineering; Chemistry; Civil Engineering; Aerospace Engineering; Math and Medicine.

Additional information on our program can be found at http://int.technion.ac.il
You may also contact us at apply@int.technion.ac.il
International Partners and Prospective Partners:
agreement@int.technion.ac.il

High Schools:
marketing@int.technion.ac.il

Prospective Students:
apply@int.technion.ac.il