ABOUT THE COLLEGE

SCE - The Sami Shamoon College of Engineering is the largest engineering college in Israel. It has 5,500 students and more than 9,300 alumni. Established in 1995, the college offers B.Sc. and M.Sc. engineering degrees at two campuses, one in Beer Sheva and one in Ashdod.

SCE promotes excellence in research and teaching and collaborates with industry and the international scientific community. Our graduates are creative and ambitious professionals driven by a desire to innovate and meet the growing demand for highly educated engineers with an entrepreneurial outlook.

Our Vision is to lead a better world through engineering. SCE focuses on leading social change by means of education in engineering and technology.

Our mission is to impact southern Israel’s future with excellence in specialized education among diverse population groups and to foster entrepreneurship and leading applied research that affects the entire nation.

“...Our graduates comprise 15% of all engineers in the high-tech industry in Israel, including leading national companies. They are a testimony to the college’s contribution to the economic growth and increased security of the State of Israel.”

(Prof. Jehuda Haddad, SCE president)
Dear Friends,

In 1995, we founded SCE to realize the dream of the first Israeli college wholly dedicated to reducing the socio-economic inequality in the country through engineering. Today, some 15% of Israel’s hi-tech engineers are SCE graduates. We continue to invest in a diverse student body and attract students, including those from low income families, and other communities.

SCE offers motivated students from small towns and larger cities in the south of Israel a chance to study engineering and create a bright future for themselves and their families.

With the help of dedicated educators and a curriculum of excellence, our graduates are now active entrepreneurs and scientific leaders. The engineering education we provide creates a better future in Israel’s southern heartland, through expanding economic opportunity and boosting national security.

SCE believes in high academic standards and personalized support so that each student can successfully navigate his career challenges that await. At SCE, we are proud that behind every R&D project, innovation and patent, there stands a motivated, creative engineer dedicated to a better tomorrow. I invite you to be part of this national initiative that is changing the face of Israel’s economy on a local and national level.

Professor Jehuda Haddad
President, SCE College of Engineering
The future of Israel will be shaped by technology and humanity. 

Alongside a strenuous course of study, every student is challenged with projects of social responsibility.

The profile of a graduate is a professional, inquisitive engineer that thinks of creative ways to care for humanity.

runs programs that motivate students to harness engineering skills to create social change. These include study programs at the Entrepreneurship and Innovation Center, social involvement scholarships and community volunteer programs.

Applied engineering, style, is a powerful driver of social change.

"Be the change you wish to see in the world."

(Mahatma Gandhi)
faculty and students conduct extensive research, including cross-departmental collaborations as well as international collaborations. The advanced SCE applied research centers collaborate with industry and the international scientific community.

The R&D arm supports extensive and wide-ranging research by hosting and participating in events and conferences, signing international cooperation agreements and operating research centers engaged in topics of global significance. Some researchers enjoy prestigious (international) grants and awards.

Research Centers:
- The Center for Reliability and Risk Management
- The Energy and Numerical Simulations Research Center
- Electric Drive Research Center
- The Center for Health Statistics and Bioinformatic Engineering
- The Corrosion Research Center
- The Green Processes Center
- The Center for Thermo-Mechanics and Failure of Material
- The Center for the Study of Ceramic Materials

Applied Research Centers:
- Biomaterials and Regenerative Medicine
- Software Quality Assurance in Advanced Environments
- Electro-Optics, Laser Technologies Development and their Applications
- International Research and Development Center for Pumping Machinery
The key to high-level academic standards in all the engineering departments and maintaining international teaching and research standards, is in joint ventures with global research institutes. SCE cultivates student and faculty exchange programs and promotes international study programs:

- **Erasmus+**: a European Union (EU) exchange program. SCEs students and faculty participate in its innovation and knowledge sharing projects and employ their advanced teaching technologies.

- **Onward Israel Internship program**: an eight-week internship program. Jewish students from abroad are paired with SCE faculty members. They engage in research and help advance active projects, while using the SCE’s research laboratories and advanced resources for their own projects.

- **Jewish Agency Masa program**: offers Ulpan (Hebrew language) studies alongside an academic program that prepares students from around the world to continue their studies for a B.Sc. at SCE.
RELATIONS WITH LOCAL INDUSTRY

The Project-Oriented study environment at [Institute Name] offers students practical experience in industry during the course of their studies. Participating students develop helpful relationships with project and company managers. They learn to navigate the business world before graduation.

This 'work-study' method has proven itself time and again, across Israel, and especially in southern Israel. Companies in the southern region have gained much from the “fresh” and creative approach of [Institute Name] students who are trained to think “outside the box.” Participating companies seek students to help solve real-world challenges and advance industry projects. Students have developed groundbreaking projects for the military, chemical and traditional industries.

[Institute Name] study tracks were developed in response to Israel's economic needs. As a result, more than 93% of graduates are employed in their field of study and [Institute Name] is renowned for its top notch engineering education.
BEER SHEVA: A TECHNOLOGICAL ECOSYSTEM

Israel’s Negev region is a growing Research and Development center in the fields of high-tech, cyber and engineering.

has significantly contributed to this technological and economic leap. As an academic institution dedicated to excellence in higher education in the region, the college plays an important role in the development of the Negev.

The world of higher education is open to the young people of southern Israel at . Many students come from underprivileged homes and had an inferior education, cultivates and empowers a new generation in the engineering and technology fields.

Academic boldness and thinking outside of the box enable to play a central role in the vision of Beer Sheva, the capital of the Negev, as an international high-tech center. Cooperation between academia and industry creates a technological ecosystem that entices people to stay in the region and build a future in the local community.

“We succeeded in establishing an international knowledge center in Beer Sheva, an ecosystem that serves as an incubator to those who dream big, whose role it is to create the future.”

(Ruvik Danilovich, Mayor of Beer Sheva)
PARTNERS AND FRIENDS

The vision for a better world is engineered by friends of [college name] that recognize the need to educate forward-thinking engineers, especially in southern Israel.

Contributors maintain the college’s academic quality and its research and social excellence. Through innovation, friends of [college name] ensure new areas of development and that the college faculty continue to lead in creative approaches to problem solving for consumers, the military and for industry.

Areas of support include:
- Research projects
- Student scholarships
- Advanced laboratories
- Social projects in the community schools and centers

[College name] supporters realize its vision for a better world – for future generations of graduates and for the future of the State of Israel.
GRADUATES AND INFLUENCERS

Graduates have a valuable advantage when they apply for jobs. They are well acquainted with the foundations of engineering, and they have developed personal and business relationships with potential employers and key people in industry in Israel and the world.

Over twenty years, the college has trained more than 9,300 B.Sc. and M.Sc. graduates. More than 93% of our graduates are gainfully employed in the field of their education and in line with their experience.

Some graduates are business owners, others are employees and researchers that continue their studies in leading institutions in Israel and around the world.

A high percentage of the graduates stay in touch with the college: as guest lecturers, conference participants, teaching and research faculty, and as a connecting link between the college and the companies in which they are employed, facilitating research collaborations, project guidance and more.

“The unique nature of studies at the college, in a task-oriented environment, enabled me to gain experience in real world engineering problems. Projects at varying difficulty levels prepared me for the employment market and showed me what the engineer’s work is all about.”

Liad Har-Lev, graduate Information Systems Manager and member of management, Amraz plant
COMMUNITY RELATIONS

SCE seeks to involve students in value-based and educational undertakings that help cultivate the general community. Focus is directed at motivating high school students to aspire to an engineering degree, especially for women. Communal activities are held on the SCE campuses and in local neighborhoods. We offer enrichment courses for neighborhood residents, a "women in engineering" program, host local resident painting exhibitions, lectures and tours for high school students, especially offers environmental leadership and a scientific mentoring program.

ENGINEERS FOR THE COMMUNITY
Mechanical Engineering students at SCE are paired with high school pupils. They work together on projects at a "Havayedah" or "experiknowledge" center set up in the school. Pupils learn scientific ideas and are exposed to potential opportunities that a higher education offers through games, and activities.

ENGINEERING SOCIETY CONFERENCE
The Annual Conference highlights tools and devices that are engineered to solve social problems. The conference reflects the important relationship between creativity in engineering and social impact.

COURSES FOR THE COMMUNITY
SCE offers Continuing Education for neighborhood residents near the Beer Sheva and Ashdod campuses. Courses include English, Computers, Building Maintenance and the Art of Recycling. One-off public lectures cover a range of topics in the engineering fields.

GREEN CAMPUS
SCE established a Green Council as an expression of its environmental vision. Council members include students and faculty and they promote environmental awareness across the college campuses. Students study green engineering, green chemistry and green technologies at the Green Processes Research Center.

GOOD DEEDS DAY
Good Deeds Day is an annual public event, the final celebration of year-long community activities. It is a family day of volunteering and helping others. A range of volunteer activities take place on this day: activities with children and the elderly, light renovations are done in the homes of the elderly, activities are held at immigrant absorption centers and a large fair is held for families – with art workshops, attractions for children, a market encouraging ecological consumption and more.

THINKING MATHEMATICS
Graduates of the "Developing Mathematical Thinking" program run a mentorship program for high school pupils that helps teenagers develop their mathematical thinking through creative and experiential exercises.

SCIENTISTS’ NIGHT
The Scientists’ Night event is an annual event co-sponsored by the Ministry of Science, Technology and Space and the EU. It is an open house for the community and includes science activities, lectures, workshops, study sessions with researchers, and tours of research laboratories.
A building campaign was recently launched to establish a new campus in the Old City of Beer Sheva on the restored “Vered Camp” compound. SCE was officially approved to establish a school of design on the new campus.

The new campus will offer visual communication and product design studies, and for the first time in southern Israel, a school of architecture.

Establishing a faculty for architecture and design professions is an historic and groundbreaking step for the college and the entire Negev. This constitutes a major contribution to the development of the old city and toward realizing SCE’s vision of fostering excellence and higher education in the southern region of the State of Israel.
CIVIL ENGINEERING
Specialization tracks: Civil Engineering | Civil Engineering for Earthquakes
The major advancements in Israeli construction over the past decade has resulted in a great demand for professional civil engineers. Billions of shekels are invested annually in infrastructure projects – from water recycling and desalination plants, through roads and railroads, to the building of the Training Base (Bahadim) City in the Negev.

The civil engineering study program trains civil engineers with theoretical and applied knowledge in the planning, management and execution of construction works. The program incorporates market needs for professional and creative civil engineers with broad qualifications for projects like; roads, bridges, railroads, tunnels, airports, skyscrapers, water supply, sewages and buildings for a variety of purposes. In all study fields, emphasis is placed on familiarity with up-to-date computer systems used by engineers in all their areas of work.

CHEMICAL ENGINEERING
Specialization tracks: Process Engineering | Biotechnology | Water Technology
Chemical engineers are involved in a range of science and industrial fields, among them drug development and production, water desalination and enhancement, food product development, fertilizers and biological products.

Undergraduates acquire scientific and engineering tools and the qualifications to develop chemical and biological processes and innovative products, to perform optimization of existing processes, and to manage manufacturing processes. They are equipped with a broad perspective that takes considers economic, environmental and safety aspects.

The campus offers a Master’s degree program in green engineering. Students learn to appreciate the importance of the environmental, social and economic impact of the planning, operation and management phases of systems and processes. Graduates are equipped with the technological tools and approach necessary to benefit both the human and natural environment.
MECHANICAL ENGINEERING
Specialization tracks: Mechatronics | Product Planning and Design | Energy Systems
Mechanical engineering encompasses numerous engineering fields. It is the foundation for all developed modern industry. The study course includes research, planning, development, production, and maintenance processes of various and diverse systems.

Our undergraduate study program is unique in Israel. Their engineering studies are crossed with multiple disciplines, giving every graduate an opportunity to become industry leaders in integrated system planning and development.

SOFTWARE ENGINEERING
Specialization tracks: Cyber | Data Mining and Retrieval
From biotechnology and medicine to networks and computers, from wireless communication to telecommunications and security – software engineers are needed everywhere in modern life. The software industry has grown exponentially in recent years, in both scope and complexity, with requirements changing at a dizzying speed in an increasingly sophisticated and competitive market.

The study program combines fields from computer sciences, engineering and industry. It equips software engineers with analytical skills and in-depth knowledge of algorithms, systems analysis and systems reliability.

offers a Master’s degree program that provides students with advanced scientific and research knowledge and problem solving tools. The curriculum covers topics such as software development processes, information and communications systems, computer architecture, operating systems, software paradigms and software lifecycle methodologies.
INDUSTRIAL ENGINEERING AND MANAGEMENT

Specialization tracks: Information Systems | Engineering Project Management | Industrial Systems

Industrial engineering and management cover a broad spectrum of subjects relating to engineering, economics, information, organization and management. It employs principles and scientific methods pertaining to planning, design, operation and problem solving in combined systems of equipment, materials and people.

Students gain a wide range of tools and knowledge necessary for management decision making and problem solving; system management and operation, process analysis, planning and integrating information systems in an organizational system, analytical analysis and optimization of complex systems, planning and decision making under conditions of uncertainty, the study of work methods, economic analysis, marketing, management, quality assurance and more. Integration of this knowledge allows for high-level planning and management.

ECE offers a Master’s degree program that trains engineers for senior management positions and provides them with extensive and up-to-date knowledge in the industrial management field. Students learn innovative engineering methods, advanced technologies, management methods and tools and skills to help them advance to key positions in business, industry, research and academia.

ELECTRICAL ENGINEERING AND ELECTRONICS

Specialization tracks: Communications Technologies | Electricity and Power Supply Systems

Students learn to specialize in different areas; as electrical circuit developers, control and communications engineers, electrical engineers in industry and power plants and engineers of industrial control and automation systems.

The knowledge they acquire in their electrical engineering studies enables graduates to find employment in a wide range of fields. Department graduates are employed in leading companies – among them Elta, Intel, Negev Nuclear Research Center, Amdocs, and Israel Electric Corporation.

ECE offers a Master’s degree program in power supply systems, with an volunteer emphasis on the developing energy market. Students learn in an environment where theoretical studies converge with high-level hands-on experience. They can specialize in electrical circuit development, in electronic devices and computers, and advance to senior electrical engineering positions in leading companies in Israel. The program aims is to train the next generation of senior engineers, leaders at both the research and applied levels.