

Princess Sumaya University for Technology (PSUT)

King Abdullah II School for Engineering (KASE)

Princess Sumaya University for Technology (PSUT) is a non-profit and private Jordanian university - a leading university in Information and Communications Technology (ICT) and electronics engineering, and a centre of educational excellence both locally and regionally. It is owned by the Royal Scientific Society, serving as the academic arm of El-Hassan Science City. PSUT main mission is to educate students and qualify them to pursue careers in the fields of ICT, electronics engineering, computer and communication engineering, and Business Administration. PSUT combines a public sense of social responsibility with the entrepreneurial drive of the private sector. Also, it encourages creativity and innovation, both in its area of specialization and in related areas.

1. About KASE

King Abdullah II School for Engineering consists of three departments. The Electrical Engineering Department was established in 1994, under which three programs are running, the B.Sc. in Electronics Engineering program, the B.Sc. in Electrical Power & Energy program and the M.Sc. in Electrical Engineering program. The Computer Engineering Department was established in 2002, then the Communication Engineering Department in 2005.

The Engineering School aspires to equip its graduates with the necessary and required knowledge and skills to handle the latest technological advancements, the ability to work immediately after graduation and the ability to use state-of-the-art tools to analyze and solve problems and issues. Such graduates would be able to face the 21st century's challenges especially in light of the need to build the knowledge economy in Jordan and in the region and excel in it.

The school provides its student advanced laboratories which are equipped with latest technologies, computers and software. This environment encourages students to attain their highest performance, excel in their team work and stand out among their peers in both curricular and extracurricular activities. It is no surprise that PSUT graduates scored among the top

universities in Jordan's university achievement exams, held by the Ministry of Higher Education for many years, and won various award and prizes in national and international contests.

The School is currently in the process of pursuing ABET accreditation for all engineering programs, ABET accreditation is an assurance that the professionals serving KASEE have a solid educational foundation and are capable of leading the way in innovation, emerging technologies, and in anticipating the welfare and safety needs of the public.

2. Mission, Vision, and Goals of the KASE

Mission

- Provide outstanding educational programs that enable our graduates to become leaders in their profession by imparting fundamental principles, skills, and tools to innovate and excel.
- Pursue the discovery of fundamental knowledge and its applications to position the school among the leaders in research.
- Respond to the needs of Jordan by building a strong outreach program that serves industry and the engineering profession.

Vision

Students will become broadly educated in the fundamentals of electrical engineering principles with emphasis on skills that enable them to adapt to the regular paradigm shifts in the technological and engineering landscapes. Moreover, the faculty will focus on research that is creative, innovative, and meaningful. The faculty will pursue and lead new emerging areas that have the potential to develop the electrical engineering and other related scientific and technological disciplines.

Goals

The current goals of the King Abdulla II School for Electrical Engineering (KASE) are to educate students in the fundamentals of electrical engineering with emphasis on engineering sciences so that they are able to apply basic knowledge to achieve technological advances towards satisfying human needs, to support professional, industrial, and economic development by providing students with opportunities for an intensive learning experience and direct

application of knowledge in the field of electrical engineering, and to prepare students for continued professional education, including graduate studies.

3. Electrical Engineering Faculty

The engineering faculty members are distinguished and experienced Ph.D. holders who graduated from well-known internationally recognized universities. Most of them have graduated from the USA or Europe. Many faculty members were awarded various distinction awards for their contributions including creativity, innovations and internationally registered patents, and they are actively engaged in hot research areas.

4. Electrical Engineering Resources

KASE has state of the art computing facilities including e-research laboratories housing research projects in areas of electronics, computer, and communications such as: networking, real-time systems, power and energy. In addition, PSUT students have the advantages of using available resources in some international institutions through the various cooperation agreements PSUT has with them. In addition, PSUT students have online access to ACM, IEEE, and many other e-libraries.

5. Bachelors Programs

KASE offers the following four Bachelor's of Science (B.Sc.) programs:

- B.Sc. in Electronics Engineering
- B.Sc. in Computer Engineering
- B.Sc. in Communications Engineering
- B.Sc. in Electrical Power & Energy Engineering

All of these programs are fully accredited by Jordan's Higher Education Accreditation Commission.

Admission requirements:

Applicants with high school diploma with an average of 80% or higher in the scientific branch can apply for the KASE majors. Other foreign diplomas can also apply, in accordance with the rules of the Ministry of Higher Education for such diplomas.

Degree Requirements

160 credits of undergraduate coursework and labs are required. This includes two months of summer training and a graduation project. Furthermore, a student must complete 103 credits of the specific major coursework and labs in addition to other mathematics, science, social, and business administration coursework.

a) Bachelor of Science Program in Electronics Engineering:

This program focuses on electronics as a specialty in the electrical engineering arena. It provides students with up-to-date courses in microelectronics and applications. It covers analysis and design using latest international tools and software adopted by modern industry. The curriculum was designed to include a solid background of the primary electrical engineering areas such as: computers, communications, power and control. Students acquire the needed practical skills that go hand in hand with the learned theoretical knowledge in various fields.

The electronics engineering program at PSUT offers students an opportunity to face modern day engineering challenges. The program has partnered with world class international companies to enhance the program's curriculum. This effort enables students to use state-of-the-art design software and acquire skills needed to compete in the high technology of the integrated circuits' industry. Further, the department sends its high performing students to train in world class design centers to enhance the skills they acquired during their study. In addition, students and faculty of electronics engineering work in close cooperation with the Technology Incubator Park in Al-Hassan Science City to start new entrepreneurial companies in the field of high technology and integrated circuits design and development.

The curriculum is based on 160 credits semester hours. Students usually graduate in five years or less. The program accepts students who succeed in their General Secondary Exam/Science Stream, or equivalent, with an average of at least 80%.

Program Mission

To serve as a department of excellence in teaching and research in the various fields of electronics engineering with an aim to provide trained engineers for national, regional and international development and to engage in partnerships with industrial, professional and public institutions.

b) Bachelor of Science Program in Computer Engineering:

The computer engineering program at PSUT is based on a state-of-art curriculum which incorporates latest advancements in Computer Architecture, Computer Networks, and Embedded Systems. It covers analysis and design using latest international tools and software adopted by modern industry. The practical part of the curriculum is enhanced by advanced labs and centers such as the Cisco Academy Support Center (ASC). This center offers technical support and training, not only to PSUT students, but also to all Cisco academies in Jordan and many Cisco academies in the region.

Many national awards, from Jordan Engineers Association and the National Technology Parade, were obtained by students in the last few years for the excellence of their senior design projects.

The curriculum is based on 160 credits semester hours. Students usually graduate in five years or less. The program accepts students who succeed in their General Secondary Exam/Science Stream, or equivalent, with an average of at least 80%.

Program Mission

To contribute to the advancement of the ICT sector in Jordan through graduating skilled manpower in computer hardware, computer networks, and computer programming

c) Bachelor of Science Program in Communication Engineering:

With the high demand for communications engineers by local and regional markets, the curriculum of this program has been designed to provide strong background in electrical engineering in general as well as to focus on both wired and wireless communications. The students therefore take several specialized courses in communications engineering such as Cellular Communications, Optical Communications, Communication Networks, Digital Signal Processing and Microwave Engineering that strengthen their knowledge in the field and prepare them to excel by the time of graduation. The department has also several specialized laboratories that are well equipped with the latest, state-of-the-art technologies where students acquire both practical skills and theoretical knowledge.

Close ties with Jordanian communications companies from the private sector have been established which facilitate specialized senior projects and provide practical field training to student prior to graduation. Many national awards, from Jordan Engineers Association and the National Technology Parade, were obtained by students in the last few years for the excellence of their senior design projects. The communications engineering students have also been exposed to world-wide research by publishing research papers and participating in international conferences.

The curriculum is based on 160 credits semester hours. Students usually graduate in five years or less. The program accepts students who succeed in their General Secondary Exam/Science Stream, or equivalent, with an average of at least 80%.

Program Mission:

To produce highly qualified, well-rounded, and motivated communications engineering graduates who can pursue exemplary careers, engage in life-long learning; provide leadership and service Jordan and the region. In addition, the program pursues innovative research applied to Communications Engineering and across other disciplines in order to serve the needs of society by expanding the body of knowledge in the field.

d) B. Sc. in Electrical Power & Energy Engineering Program:

The growth of solar energy, wind energy, and other resources, combined with trends such as electric and hybrid vehicles have a profound impact on the global society; this requires well trained and skilled engineers to cope with advancements in this area. The curriculum of the program is the first one in Jordan that focuses on both electrical power and energy. It provides students with up-to-date courses in electricity generation, distribution and control. It covers analysis and design using latest international tools and software adopted by modern industry. The curriculum was designed to include a solid background of the electrical engineering supplementary areas such as: electronics, computers, communications and control.

Students acquire the needed practical skills that go hand in hand with the learned theoretical knowledge in various fields and learn how other forms of energy are converted to electrical energy, transported and used. In their project works, students learn problem solving and structured work methods, and how to use electric power technology to solve industrial problems. The curriculum is based on 160 credits semester hours. Students usually graduate in five years or less. The program accepts students who succeed in their General Secondary Exam/Science Stream, or equivalent, with an average of at least 80%.

Program Mission:

To provide students with the fundamental knowledge, skills, and professional experience necessary for successful careers in industrial or academic roles that involve alternative energy and sustainable technologies. Graduates of the program will be able to work collaboratively, conduct independent and multidisciplinary research and recognize their role in solving global challenges.

6. Masters Programs

The School of Engineering offers one master program in Electrical Engineering, the program is fully accredited by the Ministry of Higher Education.

Admission Requirements:

To be accepted in any of the master programs, the minimum requirement is a bachelor's degree in a related field from an accredited institution with a rank of "Good" or above. Additionally, applicants must pass the required English language test as required by the Higher Educational Council in Jordan. An accepted student may have to take some prerequisite undergraduate courses based on the topics that he/she is deficient in. The prerequisite courses for each student are determined by the department graduate committee. The maximum number of prerequisite courses is three.

M. Sc. in Electrical Engineering Program:

This new program covers the basics of essential electrical engineering specializations and offers the required depth and focus in one of four areas: electronics, computers, communications and power. It provides students with up-to-date courses in each area. It covers analysis and design using latest international tools and software adopted by modern industry. The curriculum was designed to include a common mix of electronics, computers, communications and control. The student can then select remaining courses from the elective lists in the four areas to establish the required knowledge and depth in the sought specialty. The student can elect the thesis or non-thesis option. The thesis track requires conducting a specialized scientific research, write up a thesis and defend it against the examining committee. The non-thesis track requires passing a general exam, taken after successfully finishing all courses, and finishing an advanced project with a detailed report. The faculty, who graduated from well-known internationally recognized universities, are distinguished, experienced and specialized.

MS. Degree Requirements:

The curriculum is based on 34 credits semester hours, of which 9 hours are electives. The program accepts students who graduated with a B. Sc. in EE, including any of its specializations, or a closely related or relevant degree, with a GPA of “Good”, “C” or above.

7. Contact

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