

Princess Sumaya University for Technology (PSUT)

King Hussein School of Computing Sciences (KHSCS)

Princess Sumaya University for Technology (PSUT) is the only 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. PSUT combines a public sense of social responsibility with the entrepreneurial drive of the private sector. And encourages creativity and innovation, both in its area of specialization and in related areas.

1. About KHSCS

The King Hussein School for Computing Sciences (KHSCS) at Princess Sumaya University for Technology (PSUT) had been established since the academic year of 2005 – 2006. This new establishment is in line with PSUT's master plan to develop and improve its facilities and faculties. The faculty consists of two academic departments:

- Computer Science Department, established in 1991.
- Computer Graphics and Animation, established in 2006.

We are proud of the valuable confidence that our graduates enjoy in the market, in line with the efforts that the faculty has made to enhance the levels of educating, training, adapting and cultivating students' skills and preparing them for the upcoming growth of the Information Technology sector. Furthermore, it is very pleasing for us to see that our graduates receive recognition from national and international IT firms.

With the application of the university policy of openness to the market, relations have developed with the large information technology companies at both the local and international levels. Several agreements were also signed with academic institutions and well-known universities worldwide in order to exchange experiences, knowledge and technology. KHSCS continues to attain several scientific and academic achievements locally, regionally and internationally.

In 2010, KHSCS has taken a major step toward advancing the quality of its programs by proceeding with the preparation for ABET accreditation. ABET Accreditation is a well known international accreditation agency. ABET Accreditation is an assurance that graduated students 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. Achieving accredited programs will give PSUT students an edge over other universities graduates in both academic and industrial tracks. KHSCS selected the computer science program as a start and plans to expand the ABET accrediting process for other programs.

Validating PSUT's curriculum, PSUT graduates, over the last fifteen years, have established an impressive track records and career paths. With the new ABET accreditation process, KHSCS started standardizing all of its courses and curriculum based on ABET recommended format and policy to provide high quality assurance for the different programs offered.

2. Mission, Vision, and Goals of the KHSCS

Mission

The mission of the King Hussein School for Computing Sciences (KHSCS) is to educate graduates for professional leadership and lifelong learning, excel in research and innovation that discovers new knowledge and enables new information technologies and systems, and serve the community and the profession by participating in activities designed to improve and preserve the body of knowledge in computing.

Vision

The vision of the King Hussein School for Computing Sciences (KHSCS) is to become a recognized leader in Jordan and in the region offering high-quality graduate and undergraduate programs in computing sciences to a large number of talented students. The KHSCS will continue to develop and administer programs which serve the needs of industrial computer scientists, researchers, and computer application specialists.

Goals

The current goals of the King Hussein School for Computing Sciences (KHSCS) are to obtain and maintain ABET accreditation for the Track of the B. Sc. in Computer Science program, to develop faculty expertise in emerging areas of computing sciences, to support student and faculty research, and to conduct outreach strong cooperation with local industries and institutions.

3. Computing Sciences Faculty

KHSCS consists of world renowned and distinguished faculty. Most of them are graduated from well known USA or European universities. They are actively engaged in research in areas such as software engineering, networking, databases, operating systems, internet programming, software engineering, mobile computing, algorithms, computer architecture, artificial intelligence, Computer Graphics, Multimedia, Human Computer Interaction, Game Design and Programming, Digital Image Processing, 2D and 3D animation, computer vision and Information and Network Security.

4. Computing Resources

KHSCS has state of the art computing facilities including e-research laboratories housing research in areas of computer science such as: networking, real-time systems, hypermedia, parallel processing, collaborative systems and Computer graphics and animation. In addition, PSUT students have the advantages of using available resources in some international institutions through the various agreements and cooperations that PSUT has with these

institutions. In addition, PSUT students have online access to ACM, IEEE, and many other e-libraries.

5. Bachelors Programs

KHSCS offers the following three Bachelor of Science (BS) programs:

- BS in Computer Science
- BS in Computer Graphics and Animation
- BS in Software Engineering

All of these programs are fully accredited by the Ministry of Higher Education.

Admission requirements:

Applicants with high school diploma with an average of 70% or higher in scientific branch or in IT branch can apply for the KHSCS majors. Other foreign diplomas can also apply after following the rules of Ministry of Higher Education for such diplomas.

Degree Requirements

132 credits of undergraduate coursework are required. This include two months summer training and a graduation project. Furthermore, a student must completes 80 credits of the specific major coursework in addition to other mathematic, science, social, and business coursework.

a) Bachelor of Science Program in Computer Science:

The Department of Computer Science offers, since 1991, a four years undergraduate program leading to a Bachelor of Science (BSc) degree in Computer Science . Our main tasks are to educate the next generation of technical professionals in the skills and knowledge-base necessary to create and manage the technology-base enterprises that will provide future economic growth and improve the standard of living. This program is designed to promote high achievement in theoretical and practical education within the field of computer science and to address the growing computer education demands for professionals with Computer Science education. This program is highly evaluated in Jordan and in the region. Our students have achieved the highest level in computer graduation exams conducted by the Ministry of Higher Education in Jordan for three consecutive years, and got many internationally programming competition prizes (IEEE, ACM, Microsoft). Finally, the Computer Science program at PSUT has been selected recently by the Ministry of Higher Education as a distinct program at the national level.

CS Program Mission

The mission of the Computer Science program is to provide highly qualified, locally and internationally competitive IT personnel. We aim to offer our students an opportunity of getting into this extremely competitive field on an equal footing with IT professionals in other countries. PSUT aims, therefore, to provide world class programs that are flexible and up-to date, within a

stable, well-supported learning environment. We strive to produce graduates that will be able to compete successfully for work anywhere.

The main goal of the Computer Science Department at PSUT is to ensure that after the completion of the academic program, the graduates are well prepared and fully equipped for successful career as computer specialists.

CS Program Objectives:

The main objective of the Computer Science program is to provide a technically oriented scientific undergraduate education for individuals who are motivated to build their computer science skills and education or in the discipline of computer science. Another major objective is to prepare students for higher graduate studies.

CS Areas of Specialization

- Programming and Algorithms
- Web Programming
- Database Management Systems
- Operating Systems
- System Analysis and Software Engineering
- Artificial Intelligence
- Computer Networks

CS Achievements:

- The CS department had won the Princess Hassan for Scientific Distinction Prize-2012.
- The Computer Science program at PSUT has been selected recently by the Ministry of Higher Education as a distinct program at the national level.
- The CS graduates had Scored the Highest results in the Ministry of Higher Education Competency Exam in Computer Science for three Consecutive years.
- CS students had won the third place worldwide in the Microsoft Imagine Cup 2011 competition (NewYork, USA).
- CS students had won the third place in the National ACM Programming Contest 2011, (Amman Jordan).
- CS students had won the Ninth place worldwide IEEE Xtreme Programming Competition.
- CS students had participated in several regional ACM programming Contests in Cairo and in Bruit.
- CS students had participated and won several prizes in various graduation projects Exhibitions locally and internationally.

b) Bachelor of Science Program in Software Engineering:

In the Academic year of 2011/2012, the Department of Computer Science has started a four years undergraduate program leading to a Bachelors of Science (B.Sc) degree in Software Engineering. This program is designed to promote high achievement in theoretical and practical problems within the field of Software Engineering and to address the growing education demands for graduate and professionals with advanced Computer Science education.

SWE Program Mission

The mission of the Software Engineering program is the education of professionals who can define, design, develop and deliver high quality software systems within resource constraints, and to enable them to practice their profession with proficiency and integrity.

SWE Program Objectives

The main objectives of the Software Engineering program describing what are expected of graduates, after five years of graduation from the program are: Graduates are effective team members, aware of cultural diversity, who conduct themselves ethically and professionally Graduates use effective communication skills and technical skills to assure production of quality software, on time and within budget. Graduates build upon and adapt knowledge of science, mathematics, and engineering to take on more expansive tasks that require an increased level of self-reliance, technical expertise, and leadership.

SWE Areas of Specialization

- Programming Languages and Algorithms
- System Analysis and Design
- Software Architecture & Design
- Software development
- Software deployment
- Software Testing and Quality Assurance

c) Bachelor of Science Program in Computer Graphics and Animation:

The Department of Computer Graphics and Animation at PSUT founded in 2006 offers a four years undergraduate program leading to a Bachelor of Science degree in Computer Graphics and Animation. The program is the first of its kind in Jordan and the region. Aim to providing students with distinguished education in the field of two- and three-dimensional computer graphics for Animation Production and Game Developing.

CGA Program Mission:

The mission of the Computer Graphics and Animation program is to offer an academic major that makes Jordan at a top place in the whole world in the space of computer gaming and animation industry.

CGA aims to deliver its curricula through focusing attention on the merge of science and art. The department mission is making Jordan animation film and digital game producing country.

CGA Program Objectives:

The main objective of the Computer Graphics and Animation program is graduate students equipped with distinguished education in the field of two- and three-dimensional computer graphics. Students are provided with the skills required for using modern techniques and programming in designing graphics and using them in films, educational programmes, promotions and computer games, and artistic works. With the educational plan designed thoroughly to meet the demands of the industry of graphics, there is an emphasis on the practical side through using laboratories and field training in specialized companies.

CGA Area of specialization:

- 2D and 3D Animation and Graphics
- Game Design and Programming
- Multimedia Design and System
- Computer Graphics Science and Mathematics
- Fundamental of Computing and Programming Languages

CGA Achievements:

- The employment rate of the CGA graduates are exceeding 95%.
- Princess Hassan for Scientific Distinction prize 2009 for the novelty of the Major.
- Game Startup camp first rank for two years in a row.
- Tak-Tek Competition.
- Driver of Changes competition first rank.
- Animation Festival awards.
- Hack-You Competition first and second rank.
- Imagine Cup Digital Media Competition.
- JoAnimate, the first Animation Festival in Jordan and Middle East.
- The first Animation Film Festival in PSUT and Jordan.
- Setup the CGA club.
- Setting up the Women in Animation Society for Middle East and region branch.

6. Masters Programs

The Computer Science department offers two masters programs in Computer Science and in Information System Security and Digital criminology. In addition, both of these Master programs are 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 prerequisites undergraduate courses based on the topics that he/she is deficient in. The prerequisite courses for each student will be determined by the department graduate committee. The maximum number of prerequisite courses is three.

a) Master of Science Program in Computer Science:

Since 2009, the Department of Computer Science has started to offer a two years graduate thesis-based program leading to a Master of Science (MSc) degree in Computer Science. This program is designed to promote high achievement in theoretical and practical problems within the field of computer science and to address the growing education demands for graduate and professionals with advanced Computer Science education.

MS. CS Program Objectives:

The main objective of the MSc degree in Computer Science is to provide a technically oriented scientific graduate education for individuals who are motivated to extend their computer science expertise and education or to acquire new technical and scientific skills in the discipline of computer science. Another major objective of this program is to prepare students for their graduate studies at the Ph.D level.

MS. CS Areas of Specialization:

- Computer Networking and Security
- Databases and Data Mining
- Image Processing and Pattern Recognition
- Algorithms
- Software Engineering
- Artificial Intelligence

MS. CS Degree Requirements:

24 credits of advanced graduate coursework are required in addition of 9 credits thesis.

b) Master of Science Program in Information Systems Security and Digital Criminology:

Since 2011, the Department of Computer Science has started to offer an academic master program in Information Systems Security and Digital Criminology (ISSDC) in response to the growing need for this specialization globally, regionally and locally. The Master program in ISSDC aims to prepare students to acquire scientific, theoretical and technical capacity for dealing with institutions and companies facing the risk of growing much of their information systems and computer networks to cyber crimes that are punishable by the laws. This decision came after the consultation with specialists from public and private institutions that might be targeted for cyber crimes or their work is essential in dealing with cyber-criminal activities. These institutions include all the security branches in the Jordanian government such as Public Security, General Intelligence Department, Armed Forces, Jordan Central Bank, and Crisis Management and private sector institutions such as financial institutions, telecommunications companies and internet service providers. Finally, this program has gained the Princess Hassan for Scientific distinction prize in 2012.

MS ISSDC Program Objectives:

The primary objective of this program is to prepare students for supervisory positions in careers requiring extensive understanding and interaction with information system security and crimes. The students' desire for this program comes from the strong relation between the two sectors in areas such as computer security, Information Systems (IS) strategy and policy, cyber crimes and prevention. Another major objective of this program is to prepare students for their graduate studies at the Ph.D level.

MS ISSDC Areas of Specialization:

- Information System Security
- Computer Networks security
- Cyber Criminology.
- Computer Forensics
- Information Security Management and Auditing
- Digital Threats and Crimes Analysis and Investigation

MS ISSDC Degree Requirements:

Track 1: 24 credit hours of advanced graduate coursework and of 9 credit hours thesis.

Track 2: 30 credit hours of advanced graduate coursework, 3 credit hours of a research project and a comprehensive exam.

7. Contact

King Hussein College of Computing Sciences

Tel.: 962-6-5358835

email: atoum@psut.edu.jo

To apply:

Please fill out the pre-application form on-line at:

www.psut.edu.jo/MS-Pre-App-Form