

### **The Department of Computer Science**

The Computer Science (CS) Department at Philadelphia University was founded in 2003 as one of the leading Computer Science (CS) Departments offering bachelor degree in Computer Science in Jordan. This newly established undergraduate program addresses the growing needs for professionals. Those are capable of integrating computing into business in order to enhance the outcome of the different organizations and who are able to compete internationally. The strategies of the department are set to meet the demands of the rapidly evolving world, and to meet the needs of the developing market job. The curriculum is regularly reviewed to maintain quality of teaching and relevant content. The teaching program is fully modularized where semester-based teaching structure is followed by the department. The CS department solicits students who like to work with computers, who enjoy problem solving, and who like working in teams to solve complex business problems.

### **Why Computer Science?**

Computer Science involves the design, development, and maintenance of computer software systems that support all aspects of computer applications and development. Students learn the fundamentals of software application development, database administration, and network deployment. Special emphasis is placed on theoretical basis for computer systems, systems integration, and project management. The focus throughout the program is on using information technology to add values to organizations. The coursework prepares the student for careers in computer science, including specializations such as systems analysis, application development, database administration, systems integration, programming, teaching, and project management. The program places strong emphasis on preparation for professional positions in computer science, including both theory and practice. Students gain extensive experience with the technology and practices in use within businesses as well as strategic uses of information technology. Graduates are well prepared not only for entry-level positions but also for advancing to C-level positions such as IT managers, Chief Technology Officer (CTO), or Chief Executive Officer (CEO).

### **Goals of the Computer Science Program**

1. To have a broad knowledge of Information Technology and substantial knowledge of the main topics in computer science.
2. To apply scientific and engineering methodologies to the design, implementation, analysis, and evaluation of computer based systems.
3. To prepare graduates for both immediate employment in the computing profession and for admission to graduate programs in computing.



### **The Program Outcome**

1. A broad knowledge of Information Technology. A broad knowledge of theoretical foundations in Computer Science.
2. Knowledge of fundamental areas of computer science which include programming languages, operating systems, databases, computer architectures, software engineering, and computer networks.
3. The Ability to identify problems and the ability to develop solutions that address the needs of the local society with professionalism.
4. Ability to research a new subject and identify the problems which need more elaboration and investigation.
5. Ability to apply the Mathematical and Computer Science skills learned at the undergraduate study to solve new problems.
6. An ability to analyze, design, and implement given specifications in this area.

### **Teaching**

The department turns out highly qualified graduates with good understanding of Computer Science. The excellent framework we have including the teaching staff with the most modern curriculum and top-niche labs; such as multimedia labs and web-based labs, in addition to a dynamic environment. All contribute to an outstanding teaching outcome for the Computer Science program.

Moreover, different case-studies as part of the students' practical work are implemented throughout the semesters. Offering both innovative and state-of-the-industry undergraduate program, the CS department is committed to produce the next generation of IT professionals.



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Science**



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#### **Staff and Students**

There are around 11 full-time members of academic staff in the department specialized in different areas, in addition to the administrative and technical support staff. The department is expected to have more faculty members for next year. Teaching is our first concern at the Computer Science department, where the spirit of information technology is truly implemented far from the complications of theoretical computer science. The new world economy is more dependent on people who can use the computer and develop existing systems. Our faculty members have strong background in computer-based management and administration. Most of our staff received their degrees from various European and American universities. The Department applies a rigorous and effective recruitment procedure (each applicant should qualify for an interview and give a presentation). Hence, more than 70% of the applications are rejected. Visiting lecturers are encouraged and contribute to the intellectual and social life of the department. Staff and students together form a lively community and a stimulating learning and working environment. The Department has a tradition of giving an induction training (ranging between 30 and 45 days) to newly recruited staff. The training course is both pedagogical and subject oriented.

#### **Research**

Research is highly encouraged at the department. Research covers several aspects of theory and application, with strong emphasis on artificial intelligence, networks, security issues, Net-centric computing, decision-support systems and many other subjects. In the fields of IT, it is crucial to keep up the research and to utilize its outcomes in teaching.

The department provides research grants and financial support to publish research work, enabling staff members to attend local and international scientific conferences and seminars. Five percent of the total annual budget of the university is allocated for funding research by staff and scientific conferences. The university offers an annual subsidy for research projects, which includes expenses for references, research requirements and travel expenses.

#### **Undergraduate Degree Program**

Entry to Computer Science program is governed by regulations issued by the Higher Education Council for private universities (at least 60% on the "Tawjihi" exam all streams except the literary stream).

#### **Structure Of Undergraduate Degree Program**

Teaching is structured according to modular scheme and takes the form of a combination of lectures, tutorials and practical classes. Each academic year comprises of two semesters and is referred as a 'Year', i.e. Years 1, 2, 3, and 4. The degree program enables students to undertake professional training in the 3rd year, and a project in the final year.

#### **Year One**

The first year covers the introduction to the subject and requires no prior knowledge or experience in computers. It provides an introduction to fundamental disciplines and skills through lectures, tutorials, individual and group work.

#### **Year Two**

Students in year 2 are introduced to different programming paradigms and the study of software and hardware systems. The first and the second year classes are considered introductory classes.



#### **Year Three**

Studies in year 3 expand the topics introduced in year 2 to provide an opportunity for professional training courses. These are considered intermediate level classes.

#### **Year Four**

In the final year, apart from taking a common core of compulsory topics, students choose modules prepare them for their future career where, for example, some graduates may be expected to develop large-scale software projects. They have to be prepared to understand the underlying theory. Students will also need to expand the knowledge and skills needed to manage and lead in a work environment. Classes at this level are called advanced level classes.

#### **Final Year Project**

The ultimate goal of undertaking project is to demonstrate that student is capable of independent work and/or group work. It also provides mechanism to consolidate relevant material taught in the undergraduate program and allows its application to the solution or analysis of a particular problem. The new attitude for the final year projects is to focus on the application of CASE tools, advance databases and multimedia, mobile applications, visual programming, scientific research projects, computer science education packages, and different database packages in all the stages of the final year project.

#### **Assessment**

Assessment is done through different ways and is declared at the beginning of the semester through the distribution of a well formulated syllabus that has common format for all modules. Arrangements for the assessment of each module are set out in detail in the rules for progression between years. And the final degree classification is given in the program regulations and module specifications. Assessment may take several forms, e.g. traditional written examinations, coursework, tests and oral presentations, and quizzes. Projects are mandatory in most of the program modules. The skills associated with working in teams are learned and assessed in group projects.

#### **How to Apply**

Prospective students are advised to consult the edition of the university's undergraduate handbook relevant to their intended year of entry. They can also contact the department chair who will advise and give further details about the program. Students who have access to internet are advised to check the department's website and send e-mails or any types of inquiries to the department chair or the academic adviser.