

Software Engineering Department in the Faculty of Prince Al-Hussein Bin Abdallah II For Information Technology

A summary of the software engineering field

Software engineering is a branch of computer science that aims to develop the fundamentals and rules that lead to improving, designing, and developing software at all levels to meet users' needs. Software engineering is not concerned with writing the program itself but instead improving the programs' development process. It is based on studying the user's needs, designing the appropriate program for them before writing the code, and considering many aspects, such as developing large programs (i.e. network and factory management programs) quickly and the possibility of adding other elements to them dynamically.

The Software Engineering field at Hashemite University provides what is necessary for students to acquire basic and sterile knowledge in various computer fields. The nature of the materials offered in software engineering specialization allows the student to understand the specific tools that help gather information, analyze it, find solutions, and design them in modern scientific methods. The methods used in this field try to improve programs' performance and raise the degree of dependence on them.

In short, software engineering focuses on building high-quality, low-cost, and easy-to-maintain software from the first stage of the software development process to the final product.

Future vision:

The department will work hard to achieve the following over the next few years:

- 1.** Offering a specialized master's program in software engineering. This program will be a pioneer locally and regionally and one of the first graduate programs specialized in software engineering.
- 2.** Signing several agreements with specialized and internationally accredited training centers in information technology to hold courses for the department's students at promotional prices.
- 3.** The department aims to establish a consulting center to supply the department and the university with financial resources and provide consulting services in software engineering to local and then regional programming companies. The faculty members in the department and college will be the main component of the people working in this center. The center will provide the following consulting services:
 - Economic feasibility study for software projects and risk analysis (*Risk Analysis*)
 - Analysis and design of large projects and programs (*System Analysis and Design*)
 - Redesigning and documenting programs (*Reverse Engineering and Documentation*)
 - Ensuring and checking product quality (*Quality Assurance*)
 - Providing services related to information systems security (*Information Security*)

4. Signing several agreements with local companies specialized in the field of information technology, including the following:

- Periodic visits to the department's students to these companies to see the progress of work and benefit from the problems and obstacles facing the process of software development and the role of the software engineering specialization in solving them.
- Delegates from these companies give practical lectures to the department's students about the latest products and modern technology used in the labour market.

5. Attracting some distinguished faculty members.

6. Promoting and distinguishing the fields of software quality and information security locally and regionally. Accordingly, the department will send some students in these two fields to obtain a doctorate from prestigious international universities.

Head of Department