Introduction

The Bachelor of Science in Software Engineering at the University of Prince Mugrin (UPM) equips you with the essential knowledge and hands-on skills to excel in today's digital world. Our comprehensive program covers the complete software development lifecycle—from design and analysis to testing and deployment—while building a strong foundation in mathematics and statistics. You'll gain experience with modern development tools, explore emerging technologies such as mobile and cloud computing, and collaborate in multidisciplinary teams. This program prepares you to solve real-world challenges and launch a successful, dynamic career in the evolving software industry.

Why Study Software Engineering

Software Engineering offers excellent opportunities, especially in Saudi Arabia's rapidly growing IT and software sector. Backed by Vision 2030 and the National Transformation Program, demand for software professionals is rising fast. The market is projected to grow by 7.78% CAGR, adding around $5 million from 2021 to 2026. Software engineers are driving this growth through apps, AI tools, and digital solutions that power modern life and business. With booming AI, e-commerce, and digital government services—and major tech companies investing in the Kingdom—it's the ideal time to study Software Engineering and help shape Saudi Arabia's digital future.

Program Objectives

The Program Educational Objectives (PEOs) of the Software Engineering program are that within a few years after graduation, program graduates are prepared to:

PEO-1: Advance in leading the development and evolution of complex software systems in diverse application domains.

PEO-2: Pursue career development in the software industry academia, or entrepreneurship

PEO-3: Demonstrate agility in solving software and systems challenges with a comprehensive set of competencies appropriate to the needs of the dynamic global knowledge-based society.

Career Opportunities

- Software Engineer
- Software Developer / Tester
- Systems / Business Analyst
- Systems Architect
- Software Project Manager
- Academician / Researcher

Mission

Graduating high caliber software engineers who can effectively contribute to the sustainable national development and serve the community through a modern curriculum and applied multidisciplinary research.

Student Outcomes

- SO-1: An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SO-2: An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SO-3: an ability to communicate effectively with a range of audiences.
- SO-4: An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- SO-5: An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- SO-6: An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- SO-7: An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Goals

- Demonstrate the development of software systems of varying size and complexity through the use of fundamental software engineering knowledge, and work with appropriate design principles, tools, and technologies.
- Demonstrate the incorporation and management of domain-appropriate software processes, methodologies, and quality practices in software product development.
- Meet the needs of industry or academia and contribute to, and/or lead, software engineering-based teams.
- Demonstrate effectiveness as both an individual contributor and a member of a development team with professional, ethical, and social responsibilities.
- Develop critical, analytical, and intellectual abilities of students by nurturing creative and independent thinking, and the ability to communicate clearly and logically.
- Practice as computing professionals (appropriate to the description of the software engineering program), conducting research and/or leading, designing, developing, or maintaining projects in various technical areas.
- Apply the ethical and social aspects of modern computing technology to the design, development, and usage of computing artifacts.
- Enhance skills and embrace new computing technologies through self-directed professional development and post-graduate training or education.

Faculty Members

Name	Designation	Areas of Interest	Contact
Dr. Abdurazzag Almiladi	Assistant Professor & Head of Department	S/W Arch & Design, S/W Constr; Cryptography; AI & ML for S/W Eng	a.almiladi@upm.edu.sa
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Dr. Osama Qaed	Assistant Professor	Empirical S/W Engg, SPI, S/W Testing, AI-based Automated S/W	o.qaed@upm.edu.sa
Dr. Hazrina Sofian	Assistant Professor	S/W Req Engg, S/W Modelling in Sys Analysis, Semantic Web/Ontology, S/W Auto, NLP	h.sofian@upm.edu.sa
Mr. Khaled Boukesra	Lecturer	S/W Req Engg, Agile S/W PM, Agile S/W Dev, BI & Data Engg	k.boukesra@upm.edu.sa

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