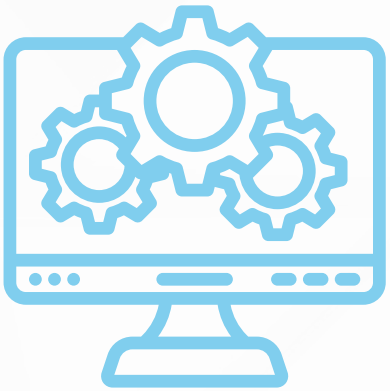

Software Engineering Department

About the Department

Software Engineering aims to develop highly skilled national professionals in software engineering, supporting both the public and private sectors with experts in this vital field. The department grants a Bachelor's degree in Software Engineering upon completing 167 credit hours, distributed across ten academic levels.

Program Overview

The Software Engineering Department was established in 1439-1440 AH as one of the modern departments within the College of Computer Science and Engineering and a distinguished specialization at the University of Jeddah at both the local and regional levels. The department was founded in response to the increasing reliance on software in daily life and its crucial role in economic and industrial sectors, aligning with Saudi Vision 2030 to advance information technology and digital transformation.

Graduates of the Software Engineering Department acquire the knowledge and skills needed to apply industry-standard methods and tools for handling small, medium, and complex software projects in both the public and private sectors. The department's specialized programs are taught by highly qualified faculty members with advanced degrees in software engineering.

Currently, the department offers a Bachelor's degree in Software Engineering upon fulfilling all graduation requirements, with ongoing efforts to develop a graduate program in Software Engineering.

Program vision

Our vision is to prepare highly qualified graduates specializing in software development, design, testing, documentation, and maintenance using standard methodologies and modern tools.

Program Mission

The Bachelor of Software Engineering program aims to produce high-quality graduates who meet the growing demand of the local and international software industry, engage in lifelong learning, and pursue graduate studies, aligning with Saudi Vision 2030.

Program Educational Objectives

- Communicate and apply lifelong learning in professional and interdisciplinary environments to enhance software engineering knowledge through self-learning and further education, fostering career growth and advancement.
- Utilize and demonstrate advanced professionalism and high-level skills to solve complex software engineering problems, assume various roles in leading companies, and contribute to scientific progress and knowledge expansion in software engineering.
- Exhibit effective communication, teamwork, entrepreneurship, leadership, and engage in ethical and responsible research practices.
- Demonstrate commitment to ethical responsibility, leadership, professional integrity, communication, and entrepreneurship for continuous development and positive impact in academic and professional fields.

Program Learning Outcomes (NCAAA requirements)

- Teach fundamental and advanced concepts in software engineering to enable graduates to pursue and advance their careers in the field.
- Equip graduates with academic and practical skills to solve complex software engineering problems, allowing them to secure diverse roles in leading companies while also contributing to knowledge expansion in the field.
- Emphasize ethical responsibility, professionalism, teamwork, leadership, and entrepreneurship, instilling the need for continuous academic and professional development.

الخطة الدراسية لبرنامج بكالوروبس هندسة البرمجيات

إجمالي عدد الساعات	(167) ساعة معتمدة موزعة على عشر مستويات دراسية

المستوى الأول	ELPR-130 لغة إنجليزية - 3 English Language - 4	CECS-100 المهارات الرقمية Computer digital skills	SCMT-102 تفاضل وتكامل - 1 Calculus	SCPH-101 فيزياء عامة General Physics	CECS-111 مقدمة في البرمجة Introduction to Programming
المستوى الثاني	ELPR-140 لغة إنجليزية - 4 English Language - 4 المتطلب ELPR-130	SEPS-110 مهارات الحياة الجامعية وسوق العمل University life skills and the labor market	CECS-122 رياضيات متقطعة حاسوبية Computational Discrete Math المتطلب SCMT-102	CEDS-124 مقدمة قواعد بيانات Introduction to Database المتطلب CECS-111	CECS-121 برمجة شيئية Object oriented programming المتطلب CECS-111
المستوى الثالث	ISLM-100 ثقافة إسلامية - 1 Islamic Culture -1	CLAL-100 مهارات لغوية - 1 Language skills -1	CECN-287 تصميم المنطق الرقمي Digital Logic Design المتطلب CECS-122	SCMT-221 جبر خطي Linear Algebra المتطلب SCMT-102	SCST-210 تفاضل وتكامل - 2 Calculus - 2 المتطلب SCMT-102	CESW-281 مبادئ هندسة البرمجيات Principles of Software Engineering المتطلب CECS-121
المستوى الرابع	ELPR-220 الكتابة الأكاديمية الإنجليزية English Academic Writing المتطلب ELPR-130	CESW-381 تطوير الويب Web Development المتطلب CECS-121	CECS-282 فيزياء -2 General Physics -2 المتطلب SCPH-101	CECN-283 معمارية الحاسب Computer Architecture المتطلب CECN-287	CESW-221 هندسة متطلبات البرمجيات Software Requirement Engineering المتطلب CESW-281
المستوى الخامس	ISLM-200 ثقافة إسلامية -2 Islamic Culture -2 المتطلب ISLM-100	CLAL-200 مهارات لغوية - 2 Language skills -2 المتطلب CLAL-100	CECS-281 تراكيب بيانات Data Structures المتطلب CECS-121	SCST-210 إحصاء عام Statistics المتطلب CLAL-100	CESW-383 تفاعل الإنسان والحاسب Human Computer Interaction المتطلب CECS-121	CECY-312 أحياء عامة -1 General Biology -1
المستوى السادس	BUBA-100 الابتكار وريادة الأعمال Entrepreneurship and Innovation	CESW-321 تصميم ومعمارية البرمجيات Software Design and Architecture المتطلب CESW 221	CESW-322 تقنيات البرمجة Programming Techniques المتطلب CECS 121	CECN-381 شبكات الحاسب Computer Networks المتطلب CECN-283	SCST-310 احتمالات تطبيقية وعمليات عشوائية Probability & Random Processes المتطلب SCST-210	
المستوى السابع	ISLM-300 ثقافة إسلامية -3 Islamic Culture -3 المتطلب ISLM-200	SLBR 111 الثقافة القانونية Legal Culture	CECS-283 نظم التشغيل Operating Systems المتطلب CECN-283	CESW-411 بناء البرمجيات Software Construction المتطلب CESW-322	XXXX مقرر حر -1 Free Course -1	CESW-382 إدارة مشاريع البرمجيات Software Project Management المتطلب CESW-322
المستوى الثامن	CESW-421 اختبار وتدقيق البرمجيات Software Testing and Validation المتطلب CESW-221	SCMT-212 تفاضل وتكامل -3 Calculus -3 المتطلب SCMT-211	CESW-422 نماذج تصميم البرمجيات Software Design Patterns المتطلب CESW-321	CESW-423 نماذج عمليات البرمجيات Software Process Models المتطلب CESW-281	XXXX مقرر حر -1 Free Course -1	CESW-392 الممارسة المهنية -1 Professional Practice -1
المستوى التاسع	CESW-393 الممارسة المهنية -2 Professional Practice -2 المتطلب CESW-392	CESW-495 مشروع تخرج -1 Project -1 المتطلب CECS-381	CESW-xxx مقرر اختياري -1 Elective Course -1	CESW-xxx مقرر اختياري -2 Elective Course -2	CECY-383 أخلاقيات وحوكمة الحاسب Computer Ethics & Governance	CESW-415 جودة ومقاييس البرمجيات Software Quality and Metrics المتطلب CESW 421
المستوى العاشر	CECY-424 مشروع تخرج -2 Project -2 المتطلب CECY-481	CECY-482 هندسة أمن البرمجيات Software Security Engineering المتطلب CESW-381	CESW-xxx مقرر اختياري -3 Elective Course -3	CESW-xxx مقرر اختياري -4 Elective Course -4		

مواد / متطلب الجامعة

مواد / متطلب الكلية

مواد / متطلب القسم

رمز المقرر
إسم المقرر
إسم المتطلب السابق

رمز المقرر
إسم المقرر
إسم المتطلب السابق

لايمكن تسجيل المقررات إلا بعد إجتياز المتطلب السابق لها

Learning Outcomes

The program equips students with the knowledge, skills, and competencies necessary for a successful career in software engineering. The key learning outcomes include:

- Mastery of software engineering principles, tools, and techniques.
- Proficiency in designing, developing, testing, and maintaining complex software systems.
- Development of critical thinking, problem-solving, and decision-making skills.
- Commitment to ethical standards and professional practices in software development.

Student Outcomes

Software Engineering Learning Outcomes

Knowledge (K):

- K1: Apply mathematics and sciences to solve software engineering problems.
- K2: Evaluate, classify, and design algorithms, processes, and systems using analytical methods.
- K3: Identify software engineering requirements based on current methodologies and advancements.

Skills (S):

- S1: Design, implement, and evaluate software solutions based on requirements.
- S2: Develop expertise in tools, technologies, and best practices.
- S3: Apply critical thinking in experiments, data analysis, and software problem-solving.

Competencies (C):

- C1: Communicate effectively in professional, academic, and social settings.
- C2: Demonstrate ethical, professional, and social responsibility.
- C3: Show leadership and teamwork in problem-solving.
- C4: Engage in lifelong learning and apply new knowledge.
- C5: Master software engineering phases, from planning to maintenance.

Graduate Attributes

Graduates of the Bachelor of Software Engineering program at the University of Jeddah are capable of:

- Designing and implementing innovative software solutions.
- Contributing effectively to multidisciplinary teams.
- Adhering to ethical and professional standards in their work.
- Adapting to technological advancements through lifelong learning.

Career opportunities for program graduates

Engineering Bachelor's program can pursue various job opportunities in multiple fields, including:

- Software Analyst
- Software Designer
- Software Developer
- Software Tester
- Software Maintenance Engineer
- Software Quality Assurance Engineer
- IT Project Manager
- Web Designer, Developer, and Administrator
- Software Engineering Instructor or Researcher