BS in Cybersecurity Engineering

Professional Occupations

- Ethical Hacker
- Penetration Tester
- Computer/Digital Forensics Specialist
- Security Risk Analyst
- Risk Manager
- Cybersecurity Specialist
- Cybersecurity Engineer
- Information Security Analyst
- Cybersecurity Solutions Architect

Program Overview

The Cybersecurity Engineering program is designed to equip students with essential skills and knowledge to protect digital systems, networks, and data from cyber threats. The program typically covers key topics such as network security, encryption, ethical hacking, incident response, risk management, and compliance with cybersecurity standards.

Competitive Edge

Our Cybersecurity Engineering program is designed to provide a solid foundation in the main topics of the cybersecurity engineering body of knowledge. This foundation allows our graduates to excel in the design, development, operation, and maintenance of complex and highly secure software systems. Our faculty hold degrees from world- renowned western universities; additionally, our faculty have a high success rate in obtaining new research projects in both new and established disciplines. Furthermore, small class sizes provide students with the opportunity for individualized instruction.

Collaborators

KACST مدينة الملك عبدالعزيز للعلوم والتقنية

BOEING

MIT — Massachusetts Institute of Technology

BAE SYSTEMS

AUBURN UNIVERSITY

BUROHAPPOLD ENGINEERING

ABB

Shell

Henning Larsen

THALES

SCE الهيئة السعودية للمهندسين

sabic سابك

IBM

IEEE

King Abdullah University of Science and Technology جامعة الملك عبدالله للعلوم والتقنية

Saudi Aramco ارامكو السعودية

AGH AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY

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http://coe.alfaisal.edu/departments/cs-home

Smart, desirable, feasible, marketable innovation to make the world better is what we do. IT's WHAT YOU'LL DO.

Alfaisal University
BS in Cybersecurity Engineering | Study Plan Summary | Effective: Fall 2025

4 Year Curriculum: 132 Credit Hours Total

Freshman Year - Fall Semester

Course Code	Course-Title	CRHs
SE 100	Programming for Engineers	3
SE 100 L	Programming for Engineers Lab	1
MAT 101	Calculus I	3
PHU 103	Mechanics and Waves for Engineers	3
PHU 103 L	Mechanics and Waves for Engineers Lab	1
ENG 101	University Writing	3
ISL 101	Islamic Studies I	2
ARB 101	Arabic Language and Literature I	2
	Total	**18**

Freshman Year - Spring Semester

Course Code	Course-Title	CRHs
SE 120	Object-Oriented Programming I	3
SE 120 L	Object-Oriented Programming I Lab	1
SE 151	Discrete Mathematics	3
MAT 112	Calculus II	3
PHU 124	Electromagnetism and Optics for Engineers	3
PHU 124 L	Electromagnetism and Optics for Engineers Lab	1
ENG 222	Technical Writing	3
	Total	**17**

Sophomore Year - Fall Semester

Course Code	Course-Title	CRHs
SE 215	Data Structures	3
SE 215 L	Data Structures Lab	1
CSE 230	Programming in C	3
CSE 230 L	Programming in C Lab	1
SE 239	Computer Networks	3
EE 210	Digital Logic Design	3
EE 210 L	Digital Logic Design Lab	1
STA 212	Probability and Statistics	3
	Total	**18**

Sophomore Year - Spring Semester

Course Code	Course-Title	CRHs
SE 252	Database Management Systems	3
SE 252 L	Database Management Systems Lab	1
SE 254	Operating Systems	3
SE 254 L	Operating Systems Lab	1
DSE 200	Introduction to Data Science	3
AI 213	Introduction to Artificial Intelligence	3
CSE 330	Introduction to Cybersecurity	3
	Total	**17**

Junior Year - Fall Semester

Course Code	Course-Title	CRHs
SE 201	Introduction to Software Engineering	3
CSE 310	Linux System Administration	3
CSE 312	Computer Architecture	3
MAT 211	Calculus III	3
MAT 212	Linear Algebra	3
MAT 224	Numerical Methods	3
	Total	**18**

Junior Year - Spring Semester

Course Code	Course-Title	CRHs
CSE 350	Cryptography and Data Privacy	3
CSE 360	Digital Forensics	3
CSE 370	Database Security	3
CSE 380	Operating System Security	3
MAT 213	Differential Equations	3
	Total	**15**

Junior Year – Summer Semester

Course Code	Course-Title	CRHs
CSE 390	Internship	0
	Total	**0**

Senior Year - Fall Semester

Course Code	Course-Title	CRHs
SE 400	Theory of Computation	3
CSE 410	Security Architecture	3
CSE 442	Network Security	3
SE 495	Software Engineering Capstone Project I	3
GE _ _ _	General Education Elective I	2
	Total	**14**

Senior Year - Spring Semester

Course Code	Course-Title	CRHs
CSE 443	Cybersecurity Risk Management and Control	3
CSE 4_ _	Technical Elective 1	3
CSE 4_ _	Technical Elective 2	3
SE 481	Ethical and Professional Development	1
CSE 496	Software Engineering Capstone Project II	3
GE _ _ _	General Education Elective II	2
	Total	**15**