

A large, light blue watermark of the university logo is centered in the background. It features a stylized 'A' shape composed of concentric circles and a central dot, with a yellow triangle at the top and a cyan triangle at the bottom.

Bachelor of Science in Computer Systems Engineering 2023-2024

Major Sheet

جامعة
عبدالله السالم
Abdullah Al Salem
University

1. General Program Presentation

Graduating with a Bachelor of Science in Computer Systems Engineering (CME) necessitates the successful completion of a total of 132 credit hours (CH). These credit hours are distributed across different requirements, encompassing courses that are essential as well as those that can be chosen as elective courses. The table below shows how 132 credit hours are distributed across requirements:

Table 1: CME credit hours distribution.

Requirements	Credit hours (CH)
General Education Requirements	36
College Requirements	55
Program Requirements	41 (Including 6 CH electives)
Total Credit Hours	132

2. General Education (36 Credits)

Students here are required to complete 36 credit hours distributed over five sections as follows:

2.1. Communication (9 Credits)

Table 2.1: Compulsory courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
ENL101	English for Academic Studies	3	3	IEP099 or Equivalent	DPS095*
ENL102	English Composition	3	3	ENL101 DPS095	
ENL201	Writing and Research	3	3	ENL102	

*Preparatory Program; Digital and Professional Skills (DPS095).

2.2. Innovation and Creativity (6 Credits)

Table 2.2.1: Compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN150	Professionalism and Ethics	3	3		

Table 2.2.2: Elective courses, students should select one course from the following list.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN131	Creativity and Problem Solving	3	3		
BUS101	Entrepreneurship Essentials	3	3		
ENI110	Intro. to Innovation and Creativity	3	3		

ENI140	Design Thinking	3	3
ENI150	Innovation in Business Models	3	3
ENI160	Innovation and Globalization	3	3

2.3. Global Citizen (6 Credits)

Table 2.3.1: Compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
INF120	Computers and Information Systems	3	3	DPS095	

Table 2.3.2: Elective courses, students should select one course from the following list.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN201	Globalization and Sustainability	3	3		
GEN202	Global Citizenship in the Digital Age	3	3		
BUS201	Global Economics and Trade	3	3		

2.4. Art and Humanities (9 Credits)

Table 2.4.1: Compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
HST101	Islamic Culture and Values	3	3		

Table 2.4.2: Elective courses, group I, students should select one course from the following list.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
HST102	Kuwait History	3	3		
ARB101	Arabic Communication Skills	3	3		
ART101	Art Appreciation	3	3		
ART102	Intro. to Media and Communication	3	3		

Table 2.4.3: Elective courses, group II, students should select one course from the following list.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
PHL101	Introduction to Philosophy	3	3		
LAW101	Law and Society	3	3		
PSY101	Introduction to Psychology	3	3		
SOC101	Introduction to Sociology	3	3		

BUS300	Career Planning	3	3		
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2.5. Math and Science (6 Credits)

Table 2.5: Compulsory courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
MAT101	Calculus I	3	3	IMP099* or Equivalent	
PHY101	Physics I	3	3		MAT101

*Preparatory Program; Precalculus (IMP099).

3. College Requirements (55 Credits)

Table 3.1: Compulsory courses for Math and Science (30 Credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
PHY105	Physics Lab I	1	3		PHY101
PHY102	Physics II	3	3	PHY101 MAT101	
PHY107	Physics II Lab	1	3	PHY105	PHY102
MAT102	Calculus II	3	3	MAT101	
MAT221	Number Theory	3	3	MAT102	
MAT120	Discrete Mathematics	3	3	IMP099 or Equivalent	
BIO101 or CHM101	Biology I or Chemistry I	3	3	IMP099 or Equivalent	
BIO105 or CHM105	Biology I Lab or Chemistry I Lab	1	3		BIO101 or CHM101
MAT202	Linear Algebra	3	3	MAT101	
MAT240	Differential Equations	3	3	MAT102	
ENG304	Engineering Probability & Statistics	3	3	MAT102	
ENG308	Numerical Methods	3	3	MAT202 MAT240	

Table 3.2: Compulsory courses for Computing (25 Credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
CCS120	Computational Thinking & Programming	3	3	MAT120	

CCS121	Computational Thinking & Programming Lab	1	3	CCS120
CCS200	Digital Logic and Design	3	3	PHY101
CCS220	Object-Oriented Design & Programming	3	3	CCS120
CCS221	Object-Oriented Design & Programming Lab	1	3	CCS220
CCS230	Fundamentals of Database Systems	3	3	CCS220 MAT120
CCS231	Fundamentals of Database Systems Lab	1	3	CCS230
CCS241	Fundamentals of Computer Networks	3	3	CCS200
CCS270	Data Structures and Algorithms	3	3	CCS220
CCS271	Data Structures and Algorithms Lab	1	3	CCS270
CCS320	Fundamentals of Operating Systems	3	3	CCS270

4. Program Requirements (41 Credits)

Table 4.1: Compulsory courses (35 Credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
ENG205	Electrical and Electronic Circuits	3	3	PHY102 MAT102	
ENG206	Electrical and Electronic Circuits Lab	1	3	ENG205 PHY107	
CME220	Introduction to Computer Systems Engineering	3	3	CCS200	
CME310	Computer Architecture and Organization	3	3	CCS200	
CME311	Computer Architecture and Organization Lab	1	3		CME310
CME341	Systems and Signal Processing	3	3	ENG205	
CME360	Network and System Security	3	3	CCS241	
CME410	Programming for Computer Engineering	3	3	CCS220	
CME411	Programming for Computer Engineering Lab	1	3		CME410

CME420	Embedded and Microprocessor Systems	3	3	CME310
CME421	Embedded and Microprocessor Systems Lab	1	3	CME420
CME430	Digital Systems Design	3	3	CME310
CME431	Digital Systems Design Lab	1	3	CME430
CME490	Capstone Design 1	3	3	Pass 96 CH
CME491	Capstone Design 2	3	3	CME490

Table 4.2: Elective courses, students should select two courses (6 Credits) from the following list.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
CME480	Internship	3	3	Program Approval	
CCS330	Web Engineering	3	3	CCS230	
CME435	Formal Language and Automata	3	3	CCS270	
CME440	Real-time systems	3	3	CME310	
CME441	VHDL Programming	3	3	CME410	
CME442	Parallel and Distributed Computing	3	3	CME341	
CME443	Simulation Modeling and Analysis	3	3	CME310	
CME444	Principles Artificial Intelligence	3	3	CME310	
CME445	Principles Blockchain Technology	3	3	CME310	
CME446	Principles Quantum Computing	3	3	CME310	
CME495	Special Topic in Computer Systems	3	3	Program Approval	

- Students may take up to 3 credits of program electives from another college at the 300 level or above to replace one of their program electives, provided they obtain the approval of both the program and the college.