Bachelor of Science in

Cybersecurity Engineering

2023-2024

Major Sheet

1. General Program Presentation

Graduating with a Bachelor of Science in Cybersecurity Engineering (CSE) 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: CSE 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		

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
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		

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 (26 Credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
PHY105	Physics Lab I	1	3		PHY101
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 (29 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	
CCS330	Web Engineering	3	3	CCS230	
CCS331	Web Engineering Lab	1	3		CCS330

4. Program Requirements (41 Credits)

Table 4.1: Compulsory courses (35 Credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
CSE210	Fundamentals of Cyber Security Engineering	3	3	MAT202	
CSE310	Cryptography and Data Security	3	3	CSE210	
CSE311	Cryptography and Data Security Lab	1	3		CSE310
CSE325	Cybersecurity Risk Management	3	3	CSE210	
CSE326	Cybersecurity Risk Management Lab	1	3		CSE325
CSE341	Network Security	3	3	CCS241	
CSE360	Ethical Hacking and Cyber Laws	3	3	GEN150 CSE210	
CSE410	Digital Forensics	3	3	CSE310	
CSE411	Digital Forensics Lab	1	3		CSE410
CSE420	Software Security	3	3	CCS320	
CSE421	Software Security Lab	1	3		CSE420
CSE430	Web Security	3	3	CSE210	

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
				CCS330	
CSE431	Web Security Lab	1	3		CSE430
CSE490	Capstone Design 1	3	3	Pass 96 CH	
CSE491	Capstone Design 2	3	3	CSE490	

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
CSE480	Internship	3	3	Program Approval	
CSE441	Distributed Network Security	3	3	CSE341	
CSE442	IT Infrastructure Protection	3	3	CSE325	
CSE443	Cyber Security Governance and Compliance	3	3	CSE360	
CSE445	Operating System Security	3	3	CCS320	
CSE446	Fundamentals of Data Science & AI	3	3	CSE310	
CSE495	Special Topics in Cybersecurity	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.**