Bachelor of Science in

Software Engineering

2023-2024

Major Sheet

جــامعـــة عبــدالله الســالــم Abdullah Al Salem University

1. General Program Presentation

Graduating with a Bachelor of Science in Software Engineering (SWE) 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: SWE 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	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
ENL101	English for Academic Studies	3	3	IEP099 or	DPS095*
				Equivalent	
ENL102	English Composition	3	3	ENL101	
		1		DPS095	
ENL201	Writing and Research	203	3	ENL102	

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

2.2. Innovation and Creativity (6 Credits)

Table 2.2.1: Compulsory course.

Course	Course	Credit Contac	t Pre-	Co-
Code	Title	hours hours	requisite	requisite
GEN150	Professionalism and Ethics	C 35 L 3		

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

Course	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
GEN131	Creativity and Problem	3	3		
	Solving				
BUS101	Entrepreneurship Essentials	3	3		
ENI110	Intro. to Innovation and	3	3		
	Creativity				
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	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
INF120	Computers and Information	3	3	DPS095	
	Systems				

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

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

2.4. Art and Humanities (9 Credits)

Table 2.4.1: Compulsory course.

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

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

Course	Course	Credit	Contact	Pre-	Со-
Code	Title	hours	hours	requisite	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	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	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	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	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	Biology I	3	3	IMP099 or	
or	or			Equivalent	
CHM101	Chemistry I				
BIO105	Biology I Lab	1	3		BIO101
or	or	1			or
CHM105	Chemistry I Lab	ے ام			CHM101
MAT202	Linear Algebra	3	3	MAT101	
MAT240	Differential Equations	3	3	MAT102	
ENG304	Engineering Probability &	3	3	MAT102	
	Statistics	ΔΙ	Sala	m	
ENG308	Numerical Methods	3	3	MAT202	
	I believ	- 110		MAT240	
	Univ	ersi	Ty		

Table 3.2: Compulsory courses for Computing (32 Credits).

Course	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
CCS120	Computational Thinking &	3	3	MAT120	
	Programming				
CCS121	Computational Thinking &	1	3		CCS120
	Programming Lab				
CCS200	Digital Logic and Design	3	3	PHY101	
CCS220	Object-Oriented Design &	3	3	CCS120	
	Programming				

CCS221	Object-Oriented Design &	1	3		CCS220
	Programming Lab				
CCS230	Fundamentals of Database	3	3	CCS220	
	Systems			MAT120	
CCS231	Fundamentals of	1	3		CCS230
	Database Systems Lab				
CCS241	Fundamentals of Computer	3	3	CCS200	
	Networks				
CCS270	Data Structures and	3	3	CCS220	
	Algorithms				
CCS271	Data Structures and	1	3		CCS270
	Algorithms Lab				
CCS320	Fundamentals of Operating	3	3	CCS270	
	Systems				
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	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
SWE301	Software Process and	3	3	CCS230	
	Methodologies	- T			
SWE305	Software Requirements	3	3	CCS230	
	Engineering				
SWE306	Software Requirements	1	3	LC	SWE305
	Engineering Lab			*	
SWE310	Human-Computer Interaction	3	S 3	SWE301	
SWE311	Human-Computer Interaction	1	3		SWE310
	Lab	OKO	4.7		
SWE340	Software Design and	C 135	3	SWE305	
	Architecture				
SWE341	Software Design and	1	3		SWE340
	Architecture Lab				
SWE345	Software Modelling and	3	3	SWE301	
	Analysis				
SWE420	Software Construction and	3	3	SWE340	
	Evolution				
SWE421	Software Construction and	1	3		SWE420
	Evolution Lab				

SWE430	Software Testing and Quality	3	3	SWE340	
	Assurance				
SWE431	Software Testing and Quality	1	3		SWE430
	Assurance Lab				
SWE440	Software Security and	3	3	SWE430	
	Analysis				
SWE490	Capstone Design 1	3	3	Pass 96 CH	
SWE491	Capstone Design 2	3	3	SWE490	

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

Course	Course	Credit	Contact	Pre-	Co-
Code	Title	hours	hours	requisite	requisite
SWE480	Internship	3	3	Program	
				Approval	
SWE441	Software Reliability and	3	3	SWE340	
	Software Quality				
SWE442	Software Engineering Ethics	3	3	SWE305	
SWE443	Software Project Management	3	3	SWE340	
				SWE345	
SWE444	Modern Software	3	3	SWE345	
	Methodologies				
SWE445	Software Development and	3	3	SWE340	
	Maintenance				
SWE447	Cloud Computing	3	3	CCS330	
SWE495	Special topics in Software	3	3	Program	
	Engineering	له ال	ـــدال	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.