

**Bachelor of Science in
Software Engineering
2023-2024
Major Sheet**

جامعة
عبدالله السالم
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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 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		

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
SWE301	Software Process and Methodologies	3	3	CCS230	
SWE305	Software Requirements Engineering	3	3	CCS230	
SWE306	Software Requirements Engineering Lab	1	3		SWE305
SWE310	Human-Computer Interaction	3	3	SWE301	
SWE311	Human-Computer Interaction Lab	1	3		SWE310
SWE340	Software Design and Architecture	3	3	SWE305	
SWE341	Software Design and Architecture Lab	1	3		SWE340
SWE345	Software Modelling and Analysis	3	3	SWE301	
SWE420	Software Construction and Evolution	3	3	SWE340	
SWE421	Software Construction and Evolution Lab	1	3		SWE420
SWE430	Software Testing and Quality Assurance	3	3	SWE340	

SWE431	Software Testing and Quality Assurance Lab	1	3	SWE430
SWE440	Software Security and Analysis	3	3	SWE430
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 Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
SWE480	Internship	3	3	Program Approval	
SWE441	Software Reliability and Software Quality	3	3	SWE340	
SWE442	Software Engineering Ethics	3	3	SWE305	
SWE443	Software Project Management	3	3	SWE340 SWE345	
SWE444	Modern Software Methodologies	3	3	SWE345	
SWE445	Software Development and Maintenance	3	3	SWE340	
SWE447	Cloud Computing	3	3	CCS330	
SWE495	Special topics in Software Engineering	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.