



Student:	ID#:	Email:
Advisor:	Starting Semester:	Expected Graduation:

4-Year Curriculum: 133 Credit Hours Total

Freshman Year - Fall Semester					Freshman Year - Spring Semester				
Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer	Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer
SE 100	Programming for Engineers	3			SE 120	Object-Oriented Programming I	3		
SE 100 L	Programming for Engineers Lab	1			SE 120 L	Object-Oriented Programming I Lab	1		
MAT 101	Calculus I	3			SE 151	Discrete Mathematics	3		
PHU 103	Mechanics and Waves for Engineers	3			MAT 112	Calculus II	3		
PHU 103 L	Mechanics and Waves for Engineers Lab	1			EE 210	Digital Logic Design	3		
ENG 101	University Writing	3			EE 210 L	Digital Logic Design Lab	1		
ISL 101	Islamic Studies I	2			ENG 222	Technical Writing	3		
GE ____	General Education Elective I	2							
Total		18			Total		17		

Sophomore Year - Fall Semester					Sophomore Year - Spring Semester				
Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer	Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer
DSE 200	Introduction to Data Science	3			SE 252	Database Management Systems	3		
DSE 212	Probability and Statistics for Engineers	3			SE 252 L	Database Management Systems Lab	1		
SE 215	Data Structures	3			SE 254	Operating Systems	3		
SE 215 L	Data Structures Lab	1			SE 254 L	Operating Systems Lab	1		
SE 239	Computer Networks	3			DSE 201	Data Visualization	3		
MAT 211	Calculus III	3			AI 213	Introduction to Artificial Intelligence	3		
MAT 212	Linear Alebra	3			SE 330	Introduction to Cybersecurity	3		
Total		19			Total		17		

Junior Year - Fall Semester					Junior Year - Spring Semester				
Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer	Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer
SE 201	Introduction to Software Engineering	3			AI 320	Data Mining	3		
DSE 300	Data Preparation and Feature Design	3			AI 347	Introduction to Machine Learning	3		
SE 301	Analysis of Algorithms	3			DSE 322	Big Data and Data Warehousing	3		
DSE 302	Optimization for Data Science	3			DSE 323	Cloud Computing in Data Science	3		
SE 316	Application Development	3			DSE 324	Social Network Analysis	3		
ARB 101	Arabic Language and Literature I	2							
Total		17			Total		15		

Junior Year - Summer Semester				
Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer
DSE 390	Software Engineering Summer Internship	0		
Total		0		

Senior Year - Fall Semester					Senior Year - Spring Semester				
Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer	Course Code	Course-Title	CRHs	Semester Taken	Retake/ Transfer
SE 400	Theory of Computation	3			AI 480	Natural Language Processing	3		
DSE 401	Optimization Techniques for ML	3			SE 481	Ethics and Professional Development	1		
DSE ____	Technical Elective 1	3			DSE ____	Technical Elective 3	3		
DSE ____	Technical Elective 2	3			DSE ____	Technical Elective 4	3		
DSE 495	Software Engineering Capstone Project I	3			DSE 496	Software Engineering Capstone Project II	3		
					GE ____	General Education Elective II	2		
Total		15			Total		15		

Alfaisal University – Bachelor of Science Data Science and Engineering Program Prerequisites Chart (Effective Fall 2025)

