

SCHEME OF STUDIES BS SOFTWARE ENGINEERING

w.e.f. WINTER SEMESTER 2024-2025			
Course No.	Title of Course	Credit Hours	Type
FIRST SEMESTER			
SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2-0)	General Education
CS-305	APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2-1)	General Education
ECON-305	INTRODUCTION TO ECONOMICS	2(2-0)	General Education
PY-305	BASIC ELECTRONICS	3(2-1)	Allied
FA-310	INTRODUCTION TO ARTS AND HUMANITIES	2(2-0)	General Education
SOC-311	INTRODUCTION TO SOCIOLOGY	2(2-0)	General Education
ENG-313	FUNCTIONAL ENGLISH	3(3-0)	General Education
MATH-408	QUANTITATIVE REASONING (I)	3(3-0)	General Education
TGM-301	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		20(18-2)	
SECOND SEMESTER			
CS-306	DIGITAL LOGIC DESIGN	3(2-1)	Major
PY-307	FUNDAMENTALS OF NATURAL SCIENCES	3(2-1)	General Education
CS-308	PROGRAMMING FUNDAMENTALS	3(2-1)	Major
ENG-314	EXPOSITORY WRITING	3(3-0)	General Education
IS-401/SSH-306	ISLAMIC STUDIES / ETHICS	2(2-0)	General Education
MATH-404	LINEAR ALGEBRA	3(3-0)	Allied
STAT-408	QUANTITATIVE REASONING (II)	3(3-0)	General Education
TGM-302	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		20(17-3)	
THIRD SEMESTER			
EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2-0)	General Education
SE-401	SOFTWARE ENGINEERING	3(2-1)	Major
IS-403	روحانیت	No-Credit	Compulsory
CS-407	OPERATING SYSTEMS	3(2-1)	Major
MATH-407	MULTIVARIABLE CALCULUS	3(3-0)	Allied
CS-409	OBJECT ORIENTED PROGRAMMING	3(2-1)	Major
BBA-412	FINANCIAL MANAGEMENT-I	3(3-0)	Allied
TGM-401	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory

Total Credit Hours		17(14-3)	
FOURTH SEMESTER			
BMS-402	ENTREPRENEURSHIP	2(2-0)	General Education
IS-402	ترجمہ قرآن	No-Credit	Compulsory
STAT-402	STATISTICS AND PROBABILITY	3(2-1)	Allied
CS-406	DATA COMMUNICATIONS AND NETWORKS	3(2-1)	Major
CS-408	DATABASE SYSTEMS	3(2-1)	Major
CS-410	DATA STRUCTURES AND ALGORITHMS	3(2-1)	Major
CS-412	VISUAL PROGRAMMING	3(2-1)	Major
TGM-402	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		17(12-5)	
FIFTH SEMESTER			
CS-503	DESIGN AND ANALYSIS OF ALGORITHM	3(2-1)	Major
CS-507	COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE	3(2-1)	Major
SE-507	NATURAL LANGUAGE PROCESSING	3(2-1)	Major
CS-509	THEORY OF AUTOMATA	3(2-1)	Major
SE-509	SOFTWARE METRICS	3(2-1)	Major
CS-511	ARTIFICIAL INTELLIGENCE	3(2-1)	Major
CS-513	WEB PROGRAMMING	3(2-1)	Major
TGM-501	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		21(14-7)	
SIXTH SEMESTER			
CS-502	DATA ENCRYPTION AND SECURITY	3(2-1)	Major
SE-510	SOFTWARE VERIFICATION AND VALIDATION	3(2-1)	Major
SE-512	MOBILE APPLICATION DEVELOPMENT	3(2-1)	Major
SE-514	SOFTWARE QUALITY ENGINEERING	3(2-1)	Major
SE-516	SOFTWARE DESIGN AND ARCHITECTURE	3(2-1)	Major
SE-518	SOFTWARE CONFIGURATION MANAGEMENT	3(2-1)	Major
TGM-502	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		18(12-6)	
SEVENTH SEMESTER			
IT-507	DATABASE ADMINISTRATION AND MANAGEMENT	3(2-1)	Major
IT-601	HUMAN COMPUTER INTERACTION	3(2-1)	Major

SE-603	SOFTWARE PROJECT MANAGEMENT	3(2-1)	Major
SE-605	SOFTWARE REQUIREMENT ENGINEERING	3(2-1)	Major
BINFO-607	SCIENTIFIC WRITING	3(0-3)	Allied
CS-611	PARALLEL AND DISTRIBUTED COMPUTING	3(2-1)	Major
CS-621	FINAL YEAR PROJECT-I	2(0-2)	Capstone Project
TGM-601	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		20(10-10)	
EIGHTH SEMESTER			
CS-618	INTERNSHIP	2(0-2)	Internship
CS-620	SEMINAR	1(1-0)	Major
CS-622	FINAL YEAR PROJECT-II	4(0-4)	Capstone Project
Total Credit Hours		7(1-6)	