Far Western University

Faculty of Science and Technology

Course Structure of Bachelor of Science in Computer Science and Information Technology (B.Sc.CSIT)

Year	First Semester			Second Semester		
	Course Code	Course Title	Cr Hrs.	Course Code	Course Title	Cr Hrs.
FRESHMAN	CSIT.111	English Grammar and Composition	3	CSIT.121	Data Structure and Algorithms	3
	CSIT.112	Information Technology Fundamentals	3	CSIT.122	Digital Logic Design	3
	CSIT.113	Calculus and Analytical Gemometry	3	CSIT.123	Linear Algebra	3
	CSIT.114	Electronic Principles TH	3	CSIT.124	Mechanics and Electrodynamics TH	3
	CSIT.114	Electronic Principles PR	1	CSIT.124	Mechanics and Electrodynamics PR	1
	CSIT.115	Programming Fundamentals and C Programming	3	CSIT.125	Microprocessor System	3
		TOTAL CREDITS	16		TOTAL CREDITS	16
Year	Third Semester			Fourth Semester		
SOPHOMORE	CSIT.211	Computer Organization and Architecture	3	CSIT.221	Applied Statistics	3
	CSIT.212	Discrete Structures	3	CSIT.222	Data Communication and Network	3
	CSIT.213	Introduction to Management	3	CSIT.223	Database Management System	3
	CSIT.214	Object Oriented Programming With C++	3	CSIT.224	Numerical Methods	3
	CSIT.215	Operating System	3	CSIT.225	System Analysis and Design	3
	CSIT.216	Statistics and Probability	3	CSIT.226	Theory of Computation	3
		TOTAL CREDITS	18		TOTAL CREDITS	18

Year	Fifth Semester			Sixth Semester		
	CSIT.311	Design and Analysis of Algorithm	3	CSIT.321	Introduction to Cryptography	3
	CSIT.312	Artificial Intelligence	3	CSIT.322	Java Programming I	3
	CSIT.313	Compiler Design	3	CSIT.323	Research Methodology for Computer Science	3
	CSIT.314	Simulation and Modelling	3	CSIT.324	Software Engineering	3
	CSIT.315	Graphics and Visual Computing	3	CSIT.325	Web Technology II	3
	CSIT.316	Web Technology I	3	CSIT.326	Minor Project I	2
		TOTAL CREDITS	**18**		**TOTAL CREDITS**	**17**

Year	Seventh Semester			Eighth Semester		
SENIOR	CSIT.411	E-commerce	3	CSIT.421	Parallel Computing	3
	CSIT.412	Advanced Java Programming	3	CSIT.422	Internship	4
	CSIT.413	Object Oriented Analysis and Design	3	CSIT.423.2	Advanced Database Design (Elective III)	3
	CSIT.414	Minor Project II	3	CSIT.424.2	Distributed Database Management System (Elective IV)	3
	CSIT.415.2	Database Administration (Elective I)	3	CSIT.425.2	E-Business and E-Governance (Elective V)	3
	CSIT.416.1	Data Mining and Warehousing (Elective II)	3			
		TOTAL CREDITS	**18**		**TOTAL CREDITS**	**16**

Total Credit Hours required for Bachelor of Science Computer Science & Information Technology (B. Sc. CSIT): 137

We recommend students to choose any one of following **Four Tracks**

Track 1: Programming Track
Net Centric Computing (Elective I), Any One from Elective II, Enterprise Application Development with Java (Elective III), Mobile Application Development (Elective IV), Any One from Elective V

Track 2: Database Track
Database Administration (Elective I), Any One from Elective II, Advanced Database Design (Elective III), Distributed Database Management Systems (Elective IV), Any One from Elective V

Track 3: Networking Track
System Administration (Elective I), Any One from Elective II, Network Administration (Elective III), Wireless Networks (Elective IV), Any One from Elective V

Track 4: Algorithmic Track
Image Processing and Pattern Recognition (Elective I), Any One from Elective II, Neural Network (Elective III), Cloud Computing (Elective IV), Any One from Elective V

List of Electives

Elective I (Any ONE)

1. *Net Centric Computing (*CSIT.415.1*)*

2. *Database Administration* (CSIT.415.2)

3. *System Administration(CSIT.415.3)*

4. *Digital Image Processing (CSIT.415.4)*

Elective II (Any ONE)

1. *Data mining and warehousing(*CSIT.416.1*)*

2. *Geographical Information System(*CSIT.416.2*)*

3. *Management Information Systems(*CSIT.416.3*)*

4. *Neural networks(*CSIT.416.4*)*

Elective III (Any ONE)

1. Enterprise Application Development with Java(CSIT.423.1)

2. Advanced Database Design(CSIT.423.2)

3. Network Administration(CSIT.423.3)

4. Real-time Systems(CSIT.423.4)

Elective IV (Any ONE)

5. Mobile Application Development(CSIT.424.1)

6. Distributed Database Management Systems(CSIT.424.2)

7. Wireless Networks(CSIT.424.3)

8. Cloud Computing(CSIT.424.4)

Elective V (Any ONE)

9. Information Retrieval(CSIT.425.1)

10. E-business and E-governance(CSIT.425.2)

11. Embedded System Programming(CSIT.425.3)

12. Human Computer Interaction(CSIT.425.4)