Zarqa University
Skills Matrix
Internet Technology and its Applications Department

Legend:
- متطلب تخصص اختياري (purple)
- متطلب تخصص اجباري (cyan)
- المتطلبات المساندة (magenta)
- تطلب جامعة اجباري (orange)
- متطلب كلية اجباري (red)
- تطلب جامعة اختياري (yellow)

Columns 1–11 = **First Year**; columns 12–25 = **Second Year**.

Skills VS. Courses	Islamic Culture	National Education	English Language 1	Elective university Course	Computer Programming 1	Programming Lab. 1	Computer Programming 2	Programming Lab. 2	Web Programming (1)	Computer Applications and Internet	Web Lab. 1	Digital Logic Design	Special Programming Language	Arabic Language 1	Elective university Course	Web Programming (2)	Selected Programming Language	Discrete Mathematics	Introduction to Software Engineering	Web Related Tools	Data Structures	Human Computer Interaction	Distributed Databases	Database Languages and Tools	Statistics and Probabilities	Advanced Programming	Distributed Databases	Digital Image Processing	Multimedia Fundamentals
A. Knowledge and understanding of:																													
Mathematics and Physics																													
A1. Mathematical and statistical methods appropriate to CS.												x						x							x				
A2. Essential physics principles.																													
Hardware																													
A3. Computer architecture and construction.												x																	
A4. Processor architecture.												x																	
A5. Basic electronics and logic design.												x																	
Software																													
A6. Programming languages.					x				x															x		x			
A7. Software tools and packages.					x		x	x				x							x	x				x		x	x	x	x
A8. Computer applications.										x														x		x	x		
A9. Structuring of data and information.									x															x			x		
																					x								
Communication																													
A10. Computer networks and distributed systems.																							x				x		
A11. Operating systems.																													
Theory																													

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										First Year									Second Year										
A12. Algorithm design and analysis.					x	x	x	x			x					x	x	x	x		x						x	x	x
A13. Formal methods and description techniques.																		x	x									x	x
A14. Modeling and frameworks.																			x					x			x		
A15. Analysis, prediction, and generalization.									x															x			x		

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B. Practical skills – students will be able to:																													
B1. Specify, analyze, design, and implement computer-based systems.									x											x	x		x	x		x	x		x
B2. Deploy effectively the computer tools to solve practical problems.					x	x	x	x	x	x	x					x	x			x				x		x	x		x
B3. Operate computing equipments effectively.									x																		x		
C. Cognitive skills – students will be able to:																													
C1. Demonstrate knowledge understanding of essential facts and concepts in computing.									x								x			x		x	x			x	x		x
C2. Model, design, and evaluate a computer-based system.									x														x	x		x	x		
C3. Recognize and analyze criteria and specifications appropriate to specific problems.					x	x	x	x	x		x					x	x		x	x	x					x	x		x
C4. Deploy appropriate theory, practice, and tools to solve real problems.									x	x										x				x		x	x	x	
C5. Recognize the professional, moral, and																													

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ethical issues related to work.	x	x		x										x	x					x		x		x					
D. General transferable skills – students will be able to:																													
D1. Effectively communicate both orally and in writing using appropriate tools.			x	x										x								x		x		x			
D2. Work effectively as part of a team.							x																	x		x			
D3. Effective use of general IT facilities.							x													x				x		x	x	x	x
D4. Do independent learning and continue professional development.					x	x	x	x		x	x					x	x									x			
D5. Communicate and present logical argument related to computing.							x											x		x			x	x				x	x
D6. Employ scientific methods in the					x	x	x	x	x	x	x					x	x		x	x	x					x	x		

	Third Year																		Fourth Year																
	E-Marketing	Internet Game Design	Computer Networks	Design and Analysis of Algorithms	IPAD Programming	Websites Development	Database Systems	Network and Information Security	Linear Algebra 1	E-Business	Systems Analysis	Multimedia Authoring	XML Technology	Project 1	Internship for Internet Technology	Research Methodology and Ethics	Elective university Course	Elective department Course	Project 2	Data Mining and Warehousing	Operating Systems	Emerging Topics in IT	Website Security	Internet Protocols	Search Engines Construction	Mobile Computing	Social Networks	Current Issues in Internet Technology	Software Project Management	Wireless Networks	Distributed Systems and Cloud Computing	Military Sciences	Information Retrieval	Web Engineering	Elective department Course
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																											x								
				x	x								x	x	x				x	x		x			x	x							x		
	x			x	x			x					x	x	x				x	x		x	x		x	x		x		x			x		
				x	x	x		x				x	x	x	x				x			x	x		x		x			x			x		
				x	x								x	x	x	x			x	x		x			x				x	x			x		
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			x							x												x	x	x	x					x	x		x	x	
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	Third Year																		Fourth Year																
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													x							x									x						
													x			x									x	x					x	x		x	
													x	x		x			x	x					x		x				x	x			

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														x					x																	
					x	x					x	x	x	x					x								x		x		x		x		
					x	x	x						x	x					x	x			x		x	x					x			x	
					x									x					x						x	x					x		x		
	x					x	x			x	x	x	x					x	x	x					x		x				x		x	x	x
					x	x	x				x		x	x		x			x						x	x	x				x		x	x	
	x		x		x	x	x			x	x	x	x	x					x						x	x					x	x	x	x	
					x	x	x				x	x		x				x	x	x							x				x		x	x	x
	x				x	x				x		x				x	x														x		x	x	

Course	Third Year																		Fourth Year																
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	x					x	x			x	x		x			x	x												x			x		x	
													x	x	x			x						x										
			x	x	x					x		x	x	x	x			x										x				x		
		x			x					x	x	x	x	x	x	x		x			x			x	x	x	x	x		x				x
		x	x		x				x	x	x	x	x	x				x	x		x	x		x	x	x	x	x	x				x	
	x				x				x	x			x	x																	x		
	x		x	x	x	x	x		x	x		x	x		x		x	x	x		x	x		x	x	x	x	x	x	x		x		x