



# Computer Science

Y	Course Code	Course Title	Pre-requisites	Credit Hours	Course Code	Course Title	Pre-requisites	Credit Hours
FIRST YEAR	First Level				Second Level			
	CP 101	Introduction to Computing		3	ARAB 101	Arabic I		3
	CP 110	Programming I		3	CP 115	Programming II	CP 110	3
	ISLS 101	Islamic Studies I		3	CP 120	Digital Logic Design	CP 101	3
	MATH 101	Calculus I	MATH 001	4	MATH 102	Calculus II	MATH 101	4
	STAT 101	General Statistics		3	STAT 102	Probability Theory	STAT 101	3
	Total Credit Hours			16	Total Credit Hours			16
SECOND YEAR	Third Level				Fourth Level			
	CHEM 101	General Chemistry I		4	CP 225	Operating Systems	CP 220	3
	CP 210	Data Structures I	CP 115	3	CP 230	Systems Analysis and Design	CP 210	3
	CP 220	Computer Organization and Architecture	CP 120	3	CP 240	Databases	CP 210	3
	MATH 212	Discrete Math	MATH 101	3	ENG 201	Technical Writing		3
	STAT 250	Applied Probability and Random Processes	STAT 102	3	PHYS 101	General Physics		4
	Total Credit Hours			16	Total Credit Hours			16
THIRD YEAR	Fifth Level				Sixth Level			
	CS 301	Applied Math for Computing	STAT 250	3	CS 315	Programming Languages	CS 310	3
	CS 310	Analysis and Design of Algorithms I	CP 210	3	CS 370	Data Security	CS 301	3
	CS 330	Software Engineering I	CP 230	3	CS/IT 380	Human-Computer Interaction	CP 230	3
	CS/IT 350	Computer Networks	CP 225	3	CS XXX	Concentration Course I		3
	CS 360	Artificial Intelligence I	CP 210	3	CS XXX	Concentration Course II		3
	GEE XXX	General Education Elective		3	GEE XXX	General Education Elective		3
	Total Credit Hours			18	Total Credit Hours			18
FOURTH YEAR	Summer				Eighth Level			
	CS 390	Summer Training (200 Hours)	Department Approval	1	CS 480	Computer Graphics I	CS/IT 380	3
FOURTH YEAR	Seventh Level				CS/IT 499	Senior Project II	CS/IT 498	3
	CS/IT 401	Professional Computing Issues	CS 390	3	CS XXX	Concentration Course V		3
	CS/IT 498	Senior Project I	CS 390	1	CS XXX	Major Elective		3
	CS XXX	Concentration Course III		3	CS XXX	Major Elective		3
	CS XXX	Concentration Course IV		3	CS XXX	Major Elective		3
	CS XXX	Major Elective		3	Total Credit Hours			15
	GEE XXX	General Education Elective		3				
	Total Credit Hours			16				



Bachelor of Science in

## Computer Science

### Concentration Courses

Course Code	Course Title	Pre-requisites	Credit Hours
CS 311	Analysis and Design of Algorithm II	CS 310	3
CS 335	Software Engineering Practices	CS 330	3
CS 410	Advanced Programing	CP 210	3
CS 450	Internet Applications Programming	CS/IT 350	3
CS 460	Artificial Intelligence II	CS 360	3



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## Artificial Intelligence

### Concentration Courses

Course Code	Course Title	Pre-requisites	Credit Hours
CS 318	Agent-Oriented Programming and Design	CS 310	3
CS 365	Machine Learning	CS 360	3
CS 465	Evolutionary Computing	CS 360	3
CS 466	Games and Artificial Intelligence Techniques	CS 360	3
CS 468	Data Mining	CS 360	3



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## Software Engineering

### Concentration Courses

Course Code	Course Title	Pre-requisites	Credit Hours
CS 336	Software Requirements Engineering	CS 330	3
CS 338	Systems Architecture	CS 330	3
CS 430	Usability Engineering	CS 330	3
CS 435	Software Testing	CS 330	3
CS 438	SE Processes and Tools	CS 330	3

## Major Electives

Course Code	Course Title	Credit Hours
CS 419	Systems Programming	3
CS 427	Embedded System	3
CS 436	Project Management	3
CS 461	Fundamentals of Data Science	3
CS 462	Natural Language Processing	3
CS 464	Computer Vision	3
CS 467	Deep Learning	3
CS 469	Bioinformatics	3
CS 485	Multimedia and User Interface Design	3
CS 493	Web Development and Security	3
CS 495	Special/Selected Topics	3

## General Education Electives (Free Electives)

Course Code	Course Title	Credit Hours
PSY 101	Introduction to Psychology	3
EI 101	Emotional Intelligence	3
ENG 204	Critical Thinking	3
ETH 101	Social Ethics	3
MKT 333	Public Relations	3
C-MKT 501	Mobile Marketing Technology	3
NPS 101	Negotiation and Problem Solving	3
SPD 101	Soft Skills and Personality Development	3
SCO 101	Introduction to Sociology	3
BUS 223	Research Methodology	3
BUS 425	Entrepreneurship	3
IE 201	Introduction to Engineering Design I	3
LAW -101	Principles of Law	3
TEM -121	Introduction to Tourism and Hospitality	3
ID 274	Design Theories	3
ID 275	Art and Architecture History I	3
GD 286	Photography I	3
GD 088	Islamic Art	3
GFID 106	Digital Communications	3
GED 100	Introduction of Design Software	3

## Preparation Course

Course Code	Course Title	Credit Hours
MATH 001	Precalculus	NP

<b>Total Credit Hours:</b>	<b>132</b>
General Requirements:	37
Major Requirements:	35
Major Electives Requirements:	9
General Education Electives Requirements:	9
General Computing Requirements:	27
Concentration Requirements:	15