Generic Study Plan for BSc. in Computer Science.

(Cohort 2025 and onwards)

Total = 120

Year 1 - First Semester

Course #.	Course Title	Pre-req.	Cr.
GEAE101	Acad. English for Hum. & STEM		3
MATH105	Calculus I	-	3
CSBP119	Algorithms and Prob. Solving	-	3
PHYS105	General Physics I	-	3
Elective	Culture Elective 1		3
CSBP121	Programming Lab I	CSEB119 (Co)	1
	Semester Credit Hours		16

Year 1 - Second Semester

Course #.	Course Title	Pre-req.	Cr.
CENG202	Discrete Mathematics	MATH105	3
MATH110	Calculus II	MATH105	3
CSBP219	Object-Oriented Prog.	CSBP119	3
CENG205	Digital Design & Com Org.		3
CSBP221	Programming Lab II	CSBP219(co)	1
Math140	Linear Algebra		3
	Semester Credit Hours		16

Year 2 - First Semester

Course #.	Course Title	Pre-Req.	Cr.
Elective	Cultural Elective 2		3
BIOC100 or CHEM111	Basic Bio. I or Gen. Chemistry		3
CENG210	Comm. & Net. Fund	CEN205(co/pre) & PHYS105	3
CSBP315	Operating Systems Fundamentals	CENG205	3
CSBP319	Data Structures	CSBP219	3
	Semester Credit Hours		15

Year 2 - Second Semester

Course #.	Course Title	Pre-Req.	Cr.
CSBP340	Database Systems	CSBP319	3
ITBP270	**Prof. Res. In IT**	**GEAE101**	**2**
STAT210	Probability and Statistics	MATH110	3
SWEB300	Software Eng. Fundamentals	CSBP219	3
ITBP301	Sec. Principles and Practice	CENG210	3
	Semester Credit Hours		14

Year 3 - First Semester

Course #.	Course Title	Pre-Req.	Cr.
Elective	Cultural Elective 3		3
CSBP316	Human Computer Interaction	CSBP219	3
GEEM110	Contemporary Emirati Studies		3
SWEB450	Analysis of Algorithms	CSBP319	3
ITBP218	Entrepreneurship in IT	I	3
	Semester Credit Hours		15

Year 3 - Second Semester

Course #.	Course Title	Pre-Req.	Cr.
CSBP461	Internet Computing	CSBP340	3
CSBP400	Modeling and Simulation	STAT210	3
CSBP301	Artificial Intelligence	CSBP319	3
ITBP321	Web App. Development Lab	Co/Pre CSBP340	1
GESU121	Sustainability		3
	Semester Credit Hours		13

Year 4 - First Semester

Course #.	Course Title	Pre-Req.	Cr.
CSBP411	Machine Learning	CSBP301	3
CSBP421	Smart Computer Graphics	CSBP319	3
ITBP480	Senior Graduation Project I	STAT210	3
CSBPxxx	Major elective 1**		3
	Semester Credit Hours		12

Year 4 - Second Semester

Course #.	Course Title	Pre-Req.	Cr.
CSBPxxx	Major Elective 2**		3
CSBPxxx	Major elective 3**		3
CSBPxxx	Major Elective 4**	-	3
PHYS135	Gen. Physics Lab I	PHYS105	1
ITBP481	Senior Graduation Project II	ITBP480	3
	Semester Credit Hours		13

CSBP495: Internship (6 credit hours)

(Students are not Allowed to register any additional courses during their Internship without the approval of the College)

*Students must have finished 80 CrHr to register in ITBP480

Major electives Courses**	Pre-req.	Major electives Courses*	Pre-req.
CSBP320 Data Mining [B]	STAT210	CSBP483 Mobile Web. [S]	CSBP340
CSBP499 Special Topics in CS [F]	CSBP319	CSBP476 Robotics [S]	CSBP301
CSBP431 Bioinformatics [F]	SWEB450	CSBP491 Comp. Intel. Data Management [S]	CSBP319
CSBP441 Applied Computer Vision [F]	CSBP301	CSBP477 NLP (only csbp224) [S]	CSBP301 & STAT210
SWEB451 Game Development [F]	CSBP319	CSBP487 Com. Anim. & Visualization [S]	CSBP319

[F] **Offered in Fall,** [S] **offered in Spring,** [B] **offered in fall and spring.**

Cultural Electives (9 CHs)

Course Code	Number	Title	CHs
Theme 6: Quantitative Reasoning & Critical Thinking (Optional 0-3 CHs)			
PHI	180	Critical Thinking	3
MATH	120	Contemporary Applications of Math	3
STAT	101	Statistics in the Modern World	3
ECON	110	Principles of Economics	3
Theme 7: Humanities (Optional 0-3 CHs)			
GEIS	100	Islamic Culture	3
GEIS	101	Biography of the Prophet "Sira"	3
HSR	120	Introduction to Heritage & Culture	3
HSR	130	Introduction to Language & Communication	3
TRS	200	Introduction to Translation	3
PHI	101	Introduction to Philosophy	3
GEO	200	World Regional Geography	3
MSC	200	Introduction to Mass Media	3
Theme 8: Behavioral and Social Sciences (Optional 0-3 CHs)			
PHIL	120	Principles of Professional Ethics	3
FOED	102	Professional Ethics in Education	3
CURR	103	Early Childhood Development & Learning	3
HSR	140	Introduction to Society & Behavior	3
HSR	150	Introduction to Gov. Policy & Urban Structures	3
PHI	226	Human Rights Theory	3
PSYC	100	Introduction to Psychology	3
AGRB	210	Introduction to Agribusiness	3
Theme 9: Natural Sciences (Optional 0-3 CHs)			
ARAG	220	Natural Resources	3
PHYS	101	Conceptual Physics	3
CHEM	181	Chemistry in the Modern World	3
GEOL	110	Planet Earth	3
PHYS	100	Astronomy	3
ARAG	205	Introduction to Fish & Animal Science	3
Theme 10: Health and Wellness (Optional 0-3 CHs)			
GEHP	111	Happiness and Wellbeing	3

PHED	201	Physical Fitness and Wellness	3
FDSC	250	Contemporary Food Science & Nutrition	3
SPED	101	Education of Exceptional Children	3
Theme 11: Cultural Diversity (Optional 0 or 6 CHs) **If you choose courses from this theme , you need to take 2 courses**			
CHIN	101	Chinese 1 for Beginners	3
FCH	101	French 1 for Beginners	3
GER	101	German 1 for Beginners	3
KOR	101	Korean 1 for Beginners	3
SPN	101	Spanish 1 for Beginners	3
CHIN	102	Chinese 2 for Beginners	3
FCH	102	French 2 for Beginners	3
GER	102	German 2 for Beginners	3
KOR	102	Korean 2 for Beginners	3
* (Registering in any of these courses (CHIN101, FCH101, KOR101, GER101, SPN101, ARB101) should be followed by registering in the relevant complementary course (CHIN102, FCH102, GER102, KOR102, SPN102, ARB 102 respectively)			

Minor in AI		
Required Courses		
Course	**Title**	**Prerequisite**
CSBP301	Artificial Intelligence	CSBP319
Elective Courses (9 Hrs.)		
CSBP411	Machine Learning	CSBP301
CSBP476	Robotics and Intelligent Systems	CSBP301
CSBP441	Applied Computer Vision	CSBP301
CSBP491	Computational Intelligence for Data Management	CSBP319
CSBP499	Special Topics in Computer Science	CSBP319

Table 5-7: Mapping of ABET criteria to CSBP program curriculum components

		Courses Code	Course Title	Cr. Hrs.	Total coverage by the BSCS
ABET Requirement - Mathematics (15 Cr. Hrs.)					
	BSCS coverage	MATH105	Calculus 1		15 Cr. Hrs.
		MATH110	Calculus II		
		CENG202	Discrete Mathematics		
		STAT210	Probability and Statistic		
		MATH 140	Linear Algebra		
ABET Requirement - Natural Science (6 Cr. Hrs.)					
	BSCS coverage	PHYS105	General Physics		7 Cr. Hrs.
		BIOC100/ CHEM111	Basic Biology or General Chemistry		
		PHYS135	Physics Lab 1		
ABET Requirement - Computer Science (40 Cr. Hrs.):					
a) Substantial coverage of algorithms and complexity, computer science theory, concepts of programming languages, and software development	BSCS coverage	CSBP119	Algorithms and Problem Solving		18 Cr. Hrs.
		CSBP219	Object-Oriented Programming		
		CSBP319	Data Structure		
		SWEB450	Analysis of Algorithms		
		SWEB300	Software Eng. Fundamentals		
		ITBP301	Security Principles		
b) One general-purpose programming language	BSCS coverage	Java is adequately covered in CSBP119, CSPB219, and CSBP319			
c) Exposure to computer architecture and organization, information management, networking and communication, operating systems, and parallel and distributed computing	BSCS coverage	CENG205	Digital Design & Computer Org.		15 Cr. Hrs.
		CSBP340	Database Systems		
		CENG210	Comm. and Network Fundamentals		
		CSBP315	Operating Systems		
		CSBP461	Internet Computing		
d) The study of computing-based	BSCS coverage	CSBP301	Artificial Intelligence		15 Cr. Hrs.
		CSBP316	Human-Computer Interaction		

	systems at varying levels of abstraction		CSBP400	Modeling and Simulation		
			CSBP461	Internet Computing		
			CSBP411	Machine Learning		
e)	A major project that requires integration and application of knowledge and skills acquired in earlier coursework	BSCS coverage	ITBP480	Senior Graduation Project 1		6 Cr. Hrs.
			ITBP481	Senior Graduation Project 2		