

COLLEGE OF SCIENCE



Computer Science, BS Data Science Concentration

2025-2026 Catalog | catalog.uah.edu

mpleted	Course Number	Credits	Course Name	Semester Usually Offered
			Charger Foundations	
noose one:		,	Area I: Freshman Composition 3-6 credits	EA/CD/CH
	EH 101 & EH 102	3	College Writing, I & II* Accelerated College Writing*	FA/SP/SU SP
	EH 103 EH 105	3	Honors English Seminar*	FA
	LITTOS	3	Area II: Humanities and Fine Arts 12 credits	TA
		3	Fine Art	FA/SP/SU
		3	Literature	FA/SP/SU
	PHL 102 or 150	3	Non-Literature Humanity - Ethics requirement can double count here	FA/SP/SU
		3	Humanities/Fine Arts/Literature	FA/SP/SU
			Area III: Mathematics and Sciences 11-12 credits	
			Mathematics 4 credits	
	MA 171, 171S or	4	Calculus I	FA/SP/SU
	MA 150 & 151		Calculus I with Foundations A & B	17431730
oose one	sequence:		Natural Sciences (Lab) 8 credits	
	AES 103/103L	4	Environmental Earth Science + Lab	FA/SP/SU
	& AES 104/104L	4	Weather & Climate Change + Lab	1 7731730
	BYS 119/121	3/1	Principles of Biology + Lab	FA/SP/SU
	& BYS 120/122	3/1	Organismal Biology + Lab	FA/3F/3U
	CH 121/125	3/1	General Chemistry I + Lab	FA/SP/SU
	& CH 123/126	3/1	General Chemistry II + Lab	FA/3F/3U
	PH 111/114	3/1	General Physics w/ Calculus I + Lab	EA/CD/CU
	& PH 112/115	3/1	General Physics w/ Calculus II + Lab	FA/SP/SU
			Area IV: History and Social & Behavioral Sciences 12 credits	
		3	History	FA/SP/SU
		3	Social & Behavioral Science	FA/SP/SU
		3	Social & Behavioral Science	FA/SP/SU
		3	History or Social & Behavioral Science	FA/SP/SU
			Area V: Pre-Professional	
	5)/5 1010		Additional Requirements 24 credits	5.
	FYE 101S	1	Charger Success - Science	FA (CD (CL)
	CS 104	3	Intro to CS Using Python	FA/SP/SU
	PHL 102 or 150 EH 301	3	Ethics Requirement Technical Writing	FA/SP/SU FA/SP/SU
	MA 172	4	Calculus II	FA/SP/SU
	MA 201	4	Calculus III	FA/SP/SU
	MA 244	3	Intro to Linear Algebra	FA/SP/SU
	MA 385	3	Intro to Probability & Statistics	FA/SP/SU
	1417 (000	Ü	Major Requirements	17031730
			Computer Science Core 30 credits	
	CS 121	3	Computer Science I	FA/SP/SU
	CS 214	3	Intro to Discrete Structures	FA/SP/SU
	CS 221	3	Computer Science II: Date Structures	FA/SP/SU
	CS 309/309L	3	Computer Org & Switching Theory + Lab	FA/SP
	CS 317	3	Intro Design/Analysis of Algorithms	FA/SP/SU
	CS 321	3	Intro Object-Oriented Prog Java	FA/SP
	CS 413/413	3	Intro to Digital Comp Architecture + Lab	FA/SP
	CS 424	3	Principles Programming Language	FA/SP/SU
	CS 490	3	Intro to Operating Systems	FA/SP
	CS 499	3	Sr Project: Team Software Design	FA/SP
	2		Data Science Concentration Requirements 6 credits	
	CS 430	3	Survey of Artificial Intelligence	FA/SP
	CS 488	3	Intro to Big Data Computing	FA/SP
			Choose any two 300 + or 400+ level CS courses and Choose one CS course from: Intro to Multimedia Systems (CS 443), ntro to Computer Graphics (CS 445), Intro to Cloud Computing (CS 454), simulation I (CS 481), Modeling & Simulation II (CS 482), or Database Systems (CS 487)	
		3		FA/SP
		3		FA/SP
		3		FA/SP

36 of the 120 credits must be taken at 300-level or higher. All prerequisite classes must be completed with a "C-" or higher grade.

02.01.2025



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		Charger Foundations	Choices		
Freshman Composition	Choose 1	College Writing, I & II (EH 101 + EH 102) Honors English Seminar (EH 105; equivalent to EH 101 & EH 102) Accelerated College Writing (EH 103: equivalent to EH 101 & EH 102)			
Fine Arts	Choose 1	Ancient to Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Introduction to Drawing (ARS 160) Intro to Film Studies (FMA 123) Intro to Music Literature (MU 100) Theatre Appreciation (TH 122)			
Literature	Choose 1	Readings Literature/Culture I (EH 207) Readings Literature/Culture II (EH 208) Literature Without Borders (EH 241) Mythology (EH 242)	Protest Literature (EH 243) Heroes &/or Monsters (EH 244) Love &/or Romance (EH 245) Speculative Realities (EH 246)		
Humanities (Non-Literature)	Choose 2 one must be Ethics requirement	Ancient to Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Introduction to Drawing (ARS 160) Ancient & Medieval Worlds (AMS 229) Public Speaking (CM 113) Intro to Film Studies (FMA 123) Intro to Music Literature (MU 100)	Intro to Philosophy (PHL 101) Intro to Ethics (PHL 102) Intro to Logic (PHL 103) Science, Tech & Human Values (PHL 150) Theatre Appreciation (TH 122) Intro to Women's Studies (WGS 200) Foreign Language (WLC 101) International Cinema (WLC 204)		
Mathematics	Choose 1	Calculus I (MA 171, 171S) or Calculus I with Foundations A & B (MA 150 & MA 151)			
Natural Sciences (Lab) Sequence	Choose one 2-course sequence	Environmental Earth Science (AES 103/103L) and Weather & Climate Change (AES 104/104L) Principles of Biology (BYS 119/121) and Organismal Biology (BYS 120/122) General Chemistry I (CH 121/125) and General Chemistry II (CH 123/126) General Physics w/ Calculus I (PH 111/114) and General Physics w/ Calculus II (PH 112/115)			
History	Choose 1 or 2	World History I (HY 103) World History II (HY 104)	United States to 1877 (HY 221) United States Since 1877 (HY 222)		
Social & Behavioral Sciences	Choose 2 or 3	World Geography (AES 105) Human Geography (AES 110) Global systems & Cultures (GS 200) Macroeconomics (ECN 142) Microeconomics (ECN 143) American Gov't (PSC 101)	Politics & Foreign Govt (PSC 102) International Relations (PSC 260) General Psychology (PY 101) Life Span Development (PY 201) Intro to Sociology (SOC 100) Intro to Criminology (SOC 103)		
Students		udents must take one literature ar take either a second literature or	nd one history course. history course to complete a sequence.		
	Take a 2 nd Literature AND History or Social & Behavioral Science				
	Take a 2 nd Hist	ory AND Fine Arts or Non-Literature Humanities or	Literature Humanities		