

## **COLLEGE OF** SCIENCE



## Computer Science, BS 2022-2023 Catalog | catalog.uah.edu

Completed	Course Number	Credits	Course Name	Prerequisites, Corequisites and/or Prerequisites with Concurrency	Semester Usually Offered
			Charger Foundation		
			Area I: Freshman Composition 6 credits - se		
	EH 101	3	College Writing I	<u>Placement</u>	FA/SP/SU
	EH 102	3	College Writing II	EH 101 or EH 101S	FA/SP/SU
	EH 103	3	Accelerated College Writing	<u>Placement</u>	SP
	EH 105	3	Honors English Seminar	Honors	FA
			Area II: Humanities and Fine	Arts 12 credits	
		3	Fine Art	See attached for choices	
		3	Literature	Completion of Area I; See attached for choices	
		3	Non-Literature Humanity - Ethics requirement	See attached for choices	
		3	Humanities/Fine Arts/Literature	See attached for choices	
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			Area III: Mathematics and Scien		
_			Mathematics 4 cred		
	MA 171 or MA 1719	4	Calculus A	Placement or MA 113 or MA 115	FA/SP/SU
			Natural Sciences (Lab) 8	3 credits	
	AES 103/103L & AES 104/104L	4	Environmental Earth Science + Lab Weather & Climate Change + Lab		FA/SP/SU
	BYS 119/121 & BYS 120/122	3/1 3/1	Principles of Biology + Lab Organismal Biology + Lab		FA/SP/SU
	CH 121/125 CH 123/126	3/1 3/1	General Chemistry I + Lab General Chemistry II + Lab	Placement or CH 101, prereq w/ conc: MA 113+ CH 121	FA/SP/SU
	PH 111/114 PH 112/115	3/1 3/1	General Physics w/ Calculus I + Lab General Physics w/ Calculus II + Lab	MA 171 MA 172, PH 111/114	FA/SP/SU
			Area IV: History and Social & Behavio	ral Sciences 12 credits	
		3	History	See attached for choices	
		3	Social & Behavioral Science	See attached for choices	
		3	Social & Behavioral Science	See attached for choices	
		3	History/Social & Behavioral Science	See attached for choices	
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			Area V: Pre-Professi		
			For Computer Science Majo		
	FYE 101S	1	Charger Success - Science	REQUIRED	FA
		3	Intro to Computer Programming	See attached for choices	
	EH 301	3	Technical Writing	Junior standing (60+ hours), EH 102/103/105	FA/SP/SU
	MA 172	4	Calculus B	MA 171	FA/SP/SU
	MA 201	4	Calculus C`	MA 172	FA/SP/SU
	MA 244	3	Intro to Linear Algebra	MA 120 or MA 172	FA/SP/SU
	MA 385	3	Intro to Probability & Statistics	MA 201	FA/SP/SU
_			Major Requiremen		
			Computer Science Core		
	CS 121	3	Computer Science I		FA/SP/SU
			·	CS 102/103/104, prereq w/ conc: MA 113+	
	CS 214	3	Intro to Discrete Structures	MA 171, (CS 121 or CPE 211)	FA/SP/SU
	CS 221	3	Computer Science II: Date Structures	CS 121, MA 113 or 115, prereq w/ conc: MA 171	FA/SP/SU
	CS 309/309L	3	Computer Org & Switching Theory + Lab	CS 214	FA/SP/SU
	CS 317	3	Intro Design/Analysis of Alg	MA 171, 244, CS 214, (CS 221 or CPE 212)	FA/SP/SU
	CS 321	3	Intro Object-Oriented Prog Java	CS 221	FA/SP/SU
	CS 413/413L	3	Intro to Digital Comp Architecture + Lab	CS 309	FA/SP
	CS 424	3	Principles Programming Language	CS 317	FA/SP/SU
	CS 490	3	Intro to Operating Systems	CS 413	FA/SP
	CS 499	3	Sr Project: Team Software Design	CS 317	FA/SP
	33,		Computer Science Elective Requi		.,,,,,,
	Chanca	our CS co.		ourses above to reach a minimum of 9 credit hours.	
	CHOOSE	oui Co COC	in acade at the add-level of higher flot listed in the Co	Juises above to reach a millimum of 7 credit flours.	
	Choose th	ree CS co	urses at the 400-level or higher not listed in the c	ourses above to reach a minimum of 9 credit hours.	
			General Elective	s	
	F	lective cou	ırses can be taken from any department and do r		
			Total = 120+ credits to g		
			36 of the 120 credits must be taken at		
			30 of the 120 credits must be taken at	. 300-16 ver or migner.	



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		Charger Foundations Choices					
I. Freshman Composition	Choose 1	College Writing I & II (EH 101 + 102) Intensive Writing & Studio & Freshman Comp II (EH 101S + 101L & EH 102) Honors English Seminar (EH 105; equivalent to EH 101 & EH 102) Accelerated College Writing (EH 103: equivalent to EH 101 & EH 102)					
II. 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)					
II. Humanities (Literature)	Choose 1	Readings Literature/Culture I (EH 207) Readings Literature/Culture II (EH 208) Honors Literature/Culture I (EH 209) Honors Literature/Culture II (EH 210) 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)				
II. Humanities (Non-Literature)	Choose 1	Intro to Ethics (PHL 102) Science, Tech & Human Values (PHL 150)					
III. Mathematics	$\longrightarrow$	Calculus A (MA 171 or MA 171S)					
III. Natural Sciences (Lab) Sequence	Choose one 2-course sequence	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)					
IV. History	Choose 1	World History I (HY 103) World History II (HY 104)	United States to 1877 (HY 221) United States Since 1877 (HY 222)				
IV. Social & Behavioral Sciences	Choose 2	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) Analysis of Social Problems (SOC 102) Intro to Criminology (SOC 103)				
Students	: must also take	Students must take one literature and one leither a second literature or history/social & behavior					
Area II Sequence	Students must also take <u>either</u> a second literature <u>or</u> history/social & behavioral science course to complete a sequence.  Area II Sequence  Take a 2 <sup>nd</sup> Literature AND History or Social & Behavioral Science						
<u>OR</u>							
Area IV Sequence	Take either 2 <sup>nd</sup> History <b>OR</b> 3 <sup>nd</sup> Social & Behavioral Science <b>AND</b> Fine Arts or Non-Literature Humanities or Literature Humanities						
Area V. Choices							
Computer Programming	Choose 1	Intro to C Programming (CS 102) Intro to Programming Using Java (CS 103) Intro to Computer Science Using Python (CS 104)					

Optional Concentrations Offered					
Data Science Concentration					
Entertainment Computing Concentration					
Web Programming Concentration					
Please work with your Academic Advisor to determine substitute/additional courses to take if you are interested in a degree with a specific concentration.					