**Computer Science, BS** 



COLLEGE OF

SCIENCE



Entertainment Computing Concentration

2022-2023 Catalog | catalog.uah.edu

ompleted	Course Number	Credits	Course Name	Prerequisites, Corequisites and/or Prerequisites with Concurrency*	Semester Usuall Offered
			Charger Foundation		
			Area I: Freshman Composition 3-6 credits - se		
	EH 101	3	College Writing I	Placement*	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 A	rts 12 credits	
		3	Fine Art	See attached for choices	
		3	Literature	Completion of Area I	
	*	3	Non-Literature Humanity - Ethics requirement	See attached for choices	
	*	3	Humanities/Fine Arts/Literature	See attached for choices	
_		-	Area III: Mathematics and Science		
			Mathematics 4 credi		
	MA 171	4	Calculus A	Placement* or MA 113 or MA 115	FA/SP/SU
	1 50 400 4000		Natural Sciences (Lab) 8	credits	
	AES 103/103L & AES 104/104L	4 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 <sup>*</sup> or CH 101, prereq w/ conc: MA 113+ CH 121	FA/SP/SU
	PH 111/114	3/1	General Physics w/ Calculus I + Lab	MA 171	
	PH 112/115	3/1	General Physics w/ Calculus II + Lab	MA 172, PH 111/114	FA/SP/SU
			Area IV: History and Social & Behavior		
		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	
			Area V: Pre-Professio	nal	
			For Computer Science Major	s 21 credits	
	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		MA 172 MA 120 or MA 172	FA/SP/SU
			Intro to Linear Algebra		
	MA 385	3	Intro to Probability & Statistics Major Requirement	MA 201	FA/SP/SU
			Computer Science Core 3		
	CS 121	3	Computer Science I	CS 102/103/104, prereq w/ conc: MA 113+	FA/SP SU
	CS 214	3	Intro to Discrete Structures	MA 171, (CS 121 or CPE 211)	FA/SP SU
		3			
	CS 221		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 413/413	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
			Entertainment Computing Concentration	Requirements 12 credits	
	CS 143	3	Intro to Technologies, Multimedia, & Gaming		
				CS 221	
	CS 330	3	Artificial Intelligence & Game Development	CS 221 CS 221	
	CS 330 CS 347	3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming	CS 221	
	CS 330	3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics	CS 221 CS 221, MA 244 or CS 217	
	CS 330 CS 347	3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics Data Science Concentration Elective Re	CS 221 CS 221, MA 244 or CS 217 equirements 9credits	
	CS 330 CS 347 CS 445	3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics	CS 221 CS 221, MA 244 or CS 217	
Choose	CS 330 CS 347 CS 445 two:	3 3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics <b>Data Science Concentration Elective Re</b> Dramatic Media Elements	CS 221 CS 221, MA 244 or CS 217 equirements 9credits See attached for choices	
Choose	CS 330 CS 347 CS 445 two: CS 371	3 3 3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics <b>Data Science Concentration Elective Re</b> Dramatic Media Elements Mobile Computing Appl Inct & Design	CS 221 CS 221, MA 244 or CS 217 equirements 9credits See attached for choices CS 221 or CPE 212	
	CS 330 CS 347 CS 445 two: CS 371 CS 443	3 3 3 3 3 3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics <b>Data Science Concentration Elective Re</b> Dramatic Media Elements Mobile Computing Appl Inct & Design Intro to Multimedia Systems	CS 221 CS 221, MA 244 or CS 217 equirements 9credits See attached for choices CS 221 or CPE 212 CS 317	
	CS 330 CS 347 CS 445 two: CS 371 CS 443 CS 446	3 3 3 3 3 3 3 3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics <b>Data Science Concentration Elective Re</b> Dramatic Media Elements Mobile Computing Appl Inct & Design Intro to Multimedia Systems Advanced Computer Graphics	CS 221 CS 221, MA 244 or CS 217 equirements 9credits See attached for choices CS 221 or CPE 212 CS 317 CS 445, junior or senior standing	
	CS 330 CS 347 CS 445 two: CS 371 CS 443	3 3 3 3 3 3 3 3	Artificial Intelligence & Game Development Intro to Video Game Design & Programming Intro to Computer Graphics <b>Data Science Concentration Elective Re</b> Dramatic Media Elements Mobile Computing Appl Inct & Design Intro to Multimedia Systems	CS 221 CS 221, MA 244 or CS 217 equirements 9credits See attached for choices CS 221 or CPE 212 CS 317 CS 445, junior or senior standing CS 330 and 445	

36 of the 120 credits must be taken at 300-level or higher.



COLLEGE OF SCIENCE



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

		Charger Foundations Choi	ices				
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		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	$\rightarrow$	Calculus A (MA 171)					
III. Natural Sciences (Lab) Sequence	Choose one 2-course sequence	Environmental Earth Science (AES 103/103L) <b>and</b> Weather & Climate Change (AES 104/104L) Principles of Biology (BYS 119/121) <b>and</b> Organismal Biology (BYS 120/122) General Chemistry I (CH 121/125) <b>and</b> General Chemistry II (CH 123/126) General Physics w/ Calculus I (PH 111/114) <b>and</b> General Physics w/ Calculus II (PH 112/115)					
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	Students must take one literature and o s must also take <u>either</u> a second literature <u>or</u> histo					
Area II Sequence							
OR							
Area IV Sequence Take a 2 <sup>nd</sup> History <b>AND</b> Fine Arts or Non-Literature Humanities or Literature Humanities							
		Area V. Choices					
Intro to 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)					
		Major Choices					
Dramatic Media Elements	Choose 1	Animation: Introduction (ARS 220) Graphic Design: Introduction (ARS 230) Photography: Introduction (ARS 250) Animation: Organic Modeling (ARS 321) Animation: 3D Animation (ARS 322) Animation: Technical Arts (ARS 324) Animation: Visual Story Development (ARS 327) Animation: Concept Art (ARS 328) Graphic Design: Web User Experience I (ARS 334) Photo: Digital I (ARS 350) Photo: Documentary (ARS 355) Multimedia I (ARS 393) Music Technology IV (MU 306) Special Topics in Comm Arts (CM 340) Fiction Writing (EH 410) Elements of Theatre Production (TH 225)	)				