

COLLEGE OF SCIENCE

Physics, BS **Optics Concentration**

2025 - 2026 Catalog | catalog.uah.edu

Completed	Course Number	Credits	Course Name	Semester Usually Offered
			Charger Foundations	
Choose one		,	Area I: Freshman Composition 3-6 credits	EA/CD/CLI
	EH 101 & EH 102	6	College Writing, I & II*	FA/SP/SU
	EH 103	3	Accelerated College Writing*	SP
	EH 105	3	Honors English Seminar* Area II: Humanities and Fine Arts 12 credits	FA
		3	Fine Art	FA/SP/SU
		3	Literature	FA/SP/SU
		3	Non-Literature Humanity FA/SP/	
		3	Humanities/Fine Arts/Literature	FA/SP/SU
			Area III: Mathematics and Sciences 11-12 credits	
			Mathematics 4 credits	
	MA 171, MA 171S MA 150 & 151	4	Calculus I* Calculus I with Foundations A & B	FA/SP/SU
			Natural Sciences (Lab) 8 credits	
	CH 121/125	3/1	General Chemistry I + Lab	FA
	CH 123/126	3/1	General Chemistry II + Lab	SP
_	311.120.120		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/Social & Behavioral Science	FA/SP/SU
			Area V: Pre-Professional	
			Additional Requirements 18 credits	
	FYE 101S	1	Charger Success - Science	FA
	CS 104	3	Intro to Computer Science Using Python	FA/SP/SU
	MA 172	4	Calculus II	FA/SP/SU
	MA 201	4	Calculus III	FA/SP/SU
	MA 238	3	Appl Differential Equations	FA/SP/SU
	MA 244	3	Intro to Linear Algebra FA/SI	
			Major Requirements Physics Core 28 credits	
	PH 110	3	Frontiers in Science	FA
	PH 111/114	3/1	General Physics w/ Calculus I + Lab	FA/SP/SU
	PH 112/115	3/1	General Physics w/ Calculus II + Lab	FA/SP/SU
			General Physics w/ Calculus III + Lab	FA/SP/SU
	PH 251	1	Special Relativity	FA/SP
	PH 301			SP
	PH 305			SP
	PH 351	3	Introduction to Modern Physics	FA
	PH 499	3	Physics Practicum FA	
			Optics Concentration Requirements 9 credits	
	OPT 341	3	Geometrical Optics FA	
	OPT 342	3	Physical Optics SP	
	OPT 411	3	Optics Lab	SP
_	2	,	Optics Concentration Elective Requirements 6 credits	5.

Choose two 300+ or 400+ level AST/OPT/PH courses

General Electives

Elective courses can be taken from any department and do not have to be taken in your major or minor. Only 4 HPE credits can apply.

Total = 120+ credits to graduate

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.

The Catalog is the final authority for all degree requirements.

*Placement Requirements: https://www.uah.edu/admissions/undergraduate/admitted-students/academic-placement



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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	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 or MA 171S) or Calculus I with Foundations A & B (MA 150 & 151)				
Natural Sciences (Lab) Sequence	Required	General Chemistry I + Lab (CH 121/125) General Chemistry II + Lab (CH 123/126)				
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) Analysis of Social Problems (SOC 102) Intro to Criminology (SOC 103)			
Students		dents must take one literature and ake either a second literature or h	d one history course. iistory course to complete a sequence.			
	Take a 2 nd Literature AND History or Social & Behavioral Science					
	Take a 2 nd History AND Fine Arts or Non-Literature Humanities or Literature Humanities					