

Academic Map: Physics, Chemical Physics

Department: _____ Physics and Astronomy _____ **Degree:** _____ BS _____
Program/Major: _____ Physics _____
Track/Emphasis: _____ Chemical Physics _____
Does this program require a minor? (Yes/No) _____ No _____

Important program information in the online *Undergraduate Bulletin*:

UCA Core Requirements: <https://uca.edu/ubulletin/general-policies-information/uca-core/>
LD UCA Core Check Sheet: <https://uca.edu/academicbulletins/ld-uca-core/>
UD UCA Core Course List: <https://uca.edu/academicbulletins/ud-uca-core/>
Degree Requirements: <https://uca.edu/ubulletin/general-policies-information/degree-requirements/>
Program Description: <https://uca.edu/ubulletin/colleges-departments-programs/college-of-natural-sciences-and-mathematics/department-of-physics-and-astronomy/>
Course Descriptions: <https://uca.edu/ubulletin/courses/>

This degree program requires a total of 120 semester credit hours, including at least 40 upper-division credit hours.

Comparable courses in the Arkansas Course Transfer System (ACTS) are cross-referenced in the ACTS column of each semester block below; a [core link](https://uca.edu/academicbulletins/ld-uca-core/) (<https://uca.edu/academicbulletins/ld-uca-core/>) takes the user to the *Undergraduate Bulletin's* UCA Lower-Division Core check sheet, where UCA Core options and ACTS course numbers are listed in full; an [acts link](#) takes the user to the *Undergraduate Bulletin's* ACTS page (<https://uca.edu/academicbulletins/acts/>) for additional information and a UCA-ACTS crosswalk.

Scholarship recipients: Please be aware of eligibility criteria for your scholarship(s). In particular, pay attention to (1) the enrollment requirements each semester for disbursement of your scholarship(s) and (2) the number of hours and GPA required each semester and/or year for renewal of your scholarship(s). Some Academic Maps may suggest enrollment in fewer hours than required for disbursement of your scholarship(s). In such cases, work with your academic advisor to adjust your schedule to meet requirements most efficiently. Contact the Office of Student Financial Aid at (501) 450-3140 with any questions regarding enrollment/renewal requirements of your scholarship(s). For online information resources, see endnote ¹.

Year 1

Fall – Semester 1 (credit hours: 15)²

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1441	University Physics 1	4	PHYS2034
MATH	1496	Calculus I	4	MATH2405
CHEM	1450	College Chemistry I	4	CHEM1414
WRTG	1310	Introduction to College Writing	3	ENGL1013

Spring – Semester 2 (credit hours: 15)²

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1442	University Physics 2	4	PHYS2044
MATH	1497	Calculus II	4	MATH2505
CHEM	1451	College Chemistry II	4	CHEM1424
WRTG ENGL	1320 1320	Academic Writing and Research or Interdisciplinary Writing and Research or Other approved alternative (LD UCA Core: Research/Writing) ³	3	ENGL1023 ENGL1023 core link

Year 2**Fall – Semester 3 (credit hours: 15)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	2443	University Physics 3	4	
MATH	2471	Calculus III	4	MATH2603
CHEM	2401	Organic Chemistry I	4	
		LD UCA Core ³	3	core link

Spring – Semester 4 (credit hours: 17)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3341	Mathematical Methods in Physics	3	
MATH	3331	Ordinary Differential Equations (UD UCA Core: C)	3	
CHEM	3520	Quantitative Analysis	5	
		LD UCA Core ³	3	core link
		LD UCA Core ³	3	core link

Year 3**Fall – Semester 5 (credit hours: 15)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3210	Experiments in Physics 1	2	
PHYS	3342	Mechanics	3	
		LD UCA Core ³	3	core link
BIOL	1400	Exploring Concepts in Biology or Approved alternative (LD UCA Core: Life Science) ³	4	BIOL1004 core link
WRTG	3310	Technical Writing (UD UCA Core: C)	3	

Spring – Semester 6 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3220	Experiments in Physics 2	2	
		General Elective Course (UD UCA Core: D, I or R as needed)	3	
CHEM		Chemistry Elective ⁴	4	
		LD UCA Core ³	3	core link
		LD UCA Core ³	3	core link

Year 4**Fall – Semester 7 (Credit hours: 15)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	4111	Senior Capstone 1	1	
PHYS	3353	Quantum Mechanics 1	3	
PHYS	3360	Electromagnetism 1	3	
		LD UCA Core ³	3	core link
CHEM		Chemistry Elective ⁴	4	
		General Elective Course (UD UCA Core: D, I or R as needed)	1	

Spring – Semester 8 (Credit hours: 13)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	4211	Senior Capstone 2 (UD UCA Core: Z)	2	
CHEM		Chemistry Elective ⁴	4	
		General Elective Course	1	
PHYS	3361	Electromagnetism 2	3	
		General Elective Course (UD UCA Core: D, I or R as needed)	3	

SIGNED – DEPARTMENT CHAIR

DATE

SIGNED – COLLEGE DEAN

DATE

To be completed by the advisor when an Eight-Semester plan is accepted by the student:

If applicable, has student selected a minor? Type “x” as appropriate. ____ No ____ Yes

If “yes,” specify: _____

Notes

¹ See online information resources for UCA scholarships at <https://uca.edu/scholarships/> and for state scholarships at <https://scholarships.adhe.edu/scholarships-and-programs/a-z/>.

² Prior to completion of 30 semester hours, a student must complete a UCA Core course designated as a First-Year Seminar (FYS) in Critical Inquiry, Diversity, or Responsible Living.

³ See appropriate choices, alternatives, or substitutions under “UCA Core” in the *Undergraduate Bulletin*.

The student will also need to complete major, minor, or general elective courses designated as fulfilling the upper-division and capstone requirements of the UCA Core. See annotations in this Academic Map for courses that fulfill these upper-division requirements. Consult the *Undergraduate Bulletin* and your academic advisor for other available courses.

⁴ CHEM elective courses must be approved by the Chair of the Department of Physics and Astronomy.