Academic Map: Physics, Physics (Calculus Ready)

Department: Physics and Astronomy **Degree:** BS
Program/Major: Physics
Track/Emphasis: Physics (Calculus Ready)
Does this program require a minor? (Yes/No) No[1]

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/cn/physics-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 ld core link (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; a ud core link (https://uca.edu/academicbulletins/ud-uca-core/) takes the user to the *Undergraduate Bulletin*'s list of Upper-Division (UD) UCA Core courses; 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 2.

Year 1

Fall – Semester 1 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1301	Introduction to Physics	3	
MATH	1496	Calculus I	4	MATH2405
WRTG	1310	Introduction to College Writing	3	ENGL1013
		LD UCA Core (First Year Seminar) [3]	3	ld core link
		General Elective Course[4]	2	

Spring – Semester 2 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1441	University Physics 1	4	PHYS2034
MATH	1497	Calculus II	4	MATH2505
WRTG ENGL	1320 1320	Academic Writing and Research or Interdisciplinary Writing and Research or Other approved alternative (LD UCA Core: Research/Writing)	3	ENGL1023 ENGL1023 ld core link
		LD UCA Core (First Year Seminar if not taken semester 1)	3	ld core link

SUBJ	NUM	TITLE	SCH	ACTS
		General Elective Course[4]	1	

Year 2

Fall – Semester 3 (credit hours: 17)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1442	University Physics 2	4	PHYS2044
MATH	2471	Calculus III	4	MATH2603
		LD UCA Core	3	ld core link
		LD UCA Core	3	ld core link
		LD UCA Core	3	ld core link

Spring – Semester 4 (credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	2443	University Physics 3	4	
PHYS	2320	Introductory Computational Physics	3	
MATH	3331	Ordinary Differential Equations (UD UCA Core: C)	3	
		LD UCA Core	3	ld core link
		LD UCA Core[3]	3	ld 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	
		Major Elective[4,5]	3	
WRID	3310	Technical Writing (UD UCA Core: C)	3	
		General Elective Course (UD UCA Core: D, I, or R as needed) [4]	3	ud core link
		General Elective Course[4]	1	

Spring – Semester 6 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3220	Experiments in Physics 2	2	
PHYS	3341	Mathematical Methods in Physics	3	
PHYS	3343	Thermal Physics	3	
		General Elective Course (UD UCA Core: D, I, or R as needed) [4]	3	ud core link
		General Elective Course[4]	3	
		General Elective Course[4]	1	

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	

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3360	Electromagnetism 1	3	
		General Elective Course (UD UCA Core: D, I, or R as needed) [4]	3	ud core link
		General Elective Course[4]	3	
		General Elective Course[4]	2	

Spring – Semester 8 (Credit hours: 12)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	4211	Senior Capstone 2 (UD UCA Core: Z)	2	
PHYS	3361	Electromagnetism 2	3	
		Major Elective[4,5]	3	
		General Elective Course[4]	3	
		General Elective Course[4]	1	

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] Students completing the requirements for the program are only three hours short of completing the requirements for a minor in Mathematics.

[2] 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/.

[3] See appropriate choices, alternatives, or substitutions under "UCA Core" in the *Undergraduate Bulletin.* 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.

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 in the major that fulfill these upper-division requirements. Consult the *Undergraduate Bulletin* and your academic advisor for other available courses.

[4] Major Elective and General Elective courses must be selected so that a minimum of 40 hours of credit is earned at the 3000 level or above.

[5] Major elective courses must be approved by the Chair of the Department of Physics and Astronomy.