Academic Map: Physics, Engineering

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

Important program information in the online *Undergraduate Bulletin*:

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

This degree program requires a total of 126 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 (http://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 (http://uca.edu/academicbulletins/acts/) for additional information and a UCA-ACTS crosswalk.

Year 1

Fall – Semester 1 (credit hours: 14)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1441	University Physics 1	4	PHYS2034
MATH	1496	Calculus I[1]	4	MATH2405
WRTG	1310	Introduction to College Writing	3	ENGL1013
ENGR	1301	Introduction to Engineering (FYS) [1]	3	core link

Spring – Semester 2 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1442	University Physics 2	4	PHYS2044
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 core link
CSCI	1470	Computer Science I	4	

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
CSCI	1480	Computer Science II	4	
ENGR	2311	Statics	3	

Spring – Semester 4 (credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
ENGR	2447	Electronics	4	
ENGR	3311	Engineering Dynamics	3	
MATH	3331	Ordinary Differential Equations (UD UCA Core: C)	3	
		LD UCA Core	3	core link
		LD UCA Core	3	core link

Year 3

Fall – Semester 5 (credit hours: 18)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3360	Electromagnetism 1	3	
ENGR	3421	Robotics 1	4	
ENGR	3447	Microelectronics	4	
		Engineering Elective[2]	4	
WRTG	3310	Technical Writing (UD UCA Core: C)	3	

Spring – Semester 6 (credit hours: 17)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3361	Electromagnetism 2	3	
ENGR	3410	Microcontrollers	4	
ENGR	4421	Robotics 2	4	
		LD UCA Core	3	core link
PHIL	3320	Ethics (UD UCA Core: I, R) or General Elective (UD UCA Core: D)[3]	3	

Year 4

Fall – Semester 7 (Credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
PHYS		Physics Elective[2]	3	
ENGR		Engineering Elective[2]	3	
ENGR	4311	Senior Design 1	3	
		LD UCA Core	3	core link
		LD UCA Core	3	core link

Spring – Semester 8 (Credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
ENGR	4312	Senior Design 2 (UD UCA Core: Z)	3	
ENGR		Engineering Elective[2]	3	
BIOL	1400	Exploring Concepts in Biology or Approved alternative (LD UCA Core: Life Science)	4	BIOL1004 core link
		LD UCA Core	3	core link
PHIL	3320	Ethics (UD UCA Core: I, R) or General Elective (UD UCA Core: D)[3]	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 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 LD UCA Core Check Sheet may be reached through the core link provided throughout this Academic Map (AMAP).

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 AMAP for courses in the major that fulfill these upper-division requirements. Consult the *Undergraduate Bulletin* and your academic advisor for other available courses; a comprehensive list of UD UCA Core courses is provided here: http://uca.edu/academicbulletins/ud-uca-core/.

[2] Engineering Elective and Physics Elective courses must be approved by the Chair of the Department of Physics and Astronomy.

[3] PHIL 3320 is a required course in the Engineering Physics degree program. It is only offered during spring semesters of odd numbered years.