

## Academic Map: Physics, Applied Physics

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

Important program information in the online *Undergraduate Bulletin*:

**UCA Core Requirements:** <http://uca.edu/ubulletin2015/general-policies-information/uca-core/>  
**LD Core Check Sheet:** <http://uca.edu/ubulletin/ldcore/>  
**Degree Requirements:** <http://uca.edu/ubulletin2015/general-policies-information/degree-requirements/>  
**Program Description:** <http://uca.edu/ubulletin2015/colleges-departments-programs/college-of-natural-sciences-and-mathematics/department-of-physics-and-astronomy/>  
**Course Descriptions:** <http://uca.edu/ubulletin2015/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](http://uca.edu/ubulletin/ldcore/) (http://uca.edu/ubulletin/ldcore/) 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](http://uca.edu/ubulletin/arkansas-course-transfer-system/) takes the user to the *Undergraduate Bulletin's* ACTS page (http://uca.edu/ubulletin/arkansas-course-transfer-system/) for additional information and a UCA-ACTS crosswalk.

### Year 1

#### Fall – Semester 1 (credit hours: 15)<sup>1</sup>

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1441	University Physics 1	4	<a href="#">PHYS2034</a>
MATH	1496	Calculus I	4	<a href="#">MATH2405</a>
WRTG	1310	Introduction to College Writing	3	<a href="#">ENGL1013</a>
BIOL	1400	Exploring Concepts in Biology or Approved alternative (LD UCA Core: Life Science) <sup>2</sup>	4	<a href="#">BIOL1004</a>

#### Spring – Semester 2 (credit hours: 15)<sup>1</sup>

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	1442	University Physics 2	4	<a href="#">PHYS2044</a>
MATH	1497	Calculus II	4	<a href="#">MATH2505</a>
WRTG ENGL	1320 1320	Academic Writing and Research or Interdisciplinary Writing and Research or Other approved alternative (LD UCA Core: Research/Writing) <sup>2</sup>	3	<a href="#">ENGL1023</a> <a href="#">ENGL1023</a> <a href="#">core link</a>
CSCI	1340	Introduction to Programming	3	
		General Elective Course	1	

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

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	2443	University Physics 3	4	
MATH	2471	Calculus III	4	<a href="#">MATH2603</a>
CHEM	1450	College Chemistry I	4	<a href="#">CHEM1414</a>
ECON	1310	Modern Political Economy	3	

**Spring – Semester 4 (credit hours: 16)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3341	Mathematical Methods in Physics	3	
MATH	3331	Ordinary Differential Equations (UD UCA Core: C)	3	
CHEM	1451	College Chemistry II	4	<a href="#">CHEM1424</a>
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>

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

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3210	Experiments in Physics 1	2	
PHYS	3342	Mechanics	3	
MATH	4371	Introduction to Probability (UD UCA Core: R)	3	
WRTG	3310	Technical Writing (UD UCA Core: C)	3	
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>
		General Elective Course	1	

**Spring – Semester 6 (credit hours: 15)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	3220	Experiments in Physics 2	2	
PHYS	3343	Thermal Physics	3	
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>
		LD UCA Core <sup>2</sup>	3	<a href="#">core link</a>
		General Elective Course	1	

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

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	4111	Senior Capstone 1	1	
PHYS	3360	Electromagnetism 1	3	
PHYS	4380 or 4303	Internship in Applied Physics <sup>3</sup> or Special Problems in Physics <sup>3</sup>	3	
		General Elective Course <sup>4</sup>	3	

SUBJ	NUM	TITLE	SCH	ACTS
		General Elective Course <sup>4</sup>	3	
		General Elective Course <sup>4</sup>	2	

**Spring – Semester 8 (Credit hours: 14)**

SUBJ	NUM	TITLE	SCH	ACTS
PHYS	4211	Senior Capstone 2 (UD UCA Core: Z)	2	
PHYS	4380 4303	Internship in Applied Physics <sup>3</sup> or Special Problems in Physics <sup>3</sup>	3	
PHIL	3320 3325	Ethics (UD UCA Core: I, R) or Political Philosophy (UD UCA Core: I, R)	3	
		General Elective Course <sup>4</sup>	3	
		General Elective Course <sup>4</sup>	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**

<sup>1</sup> Prior to completion of 30 semester hours, a student must complete a LD UCA Core course designated as a First-Year Seminar (FYS) in Critical Inquiry, Diversity, or Responsible Living.

<sup>2</sup> 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.

<sup>3</sup> PHYS 4303 or 4380 can be repeated for up to 6 credit hours.

<sup>4</sup> General Elective courses must be selected so that a minimum of 40 hours of credit is earned at the 3000 level or above.