## PHYSICS B.S.



## **ACADEMIC ADVISING**

Partnering with students to successfully navigate college

**Location:** Main Hall 208 **Phone:** 719.255.3260 **Website:** Academic Advising

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## **GENERAL ACADEMIC INFORMATION**

#### **Minimum Graduation Requirements**

- 120 credit hours
- 45 upper-division credit hours (3000-4999 level)
- 2.0 CU cumulative GPA
- Residency: At least 30 credit hours of the degree must be completed while registered in the College of Letters, Arts, and Sciences at UCCS.

#### **Student Responsibilities**

Students are required to know and follow:

- All academic policies set forth by the University, College, and academic department in the UCCS Catalog: <u>catalog.uccs.edu</u>
- All course prerequisites designated by the University. Failure to meet course prerequisites may result in an administrative drop of the course from a student's schedule. See degree audit for course prerequisites within the academic major.

### **DEGREE REQUIREMENTS**

Explore Physics: B.S. in Physics | Department of Physics & Energy Science (uccs.edu)

	M	ajor Requ	irements					
BS Physics Major	Course/Area	Course Title			Credit Hours			
(51-53 hours)	PES 1110	General Phys	ics I – Calculus Based		4			
	PES 1120	General Phys	4					
Requires a minimum of 51 to 53 credit	PES 1160	1160 Advanced Physics Lab I – Calculus Based						
hours of PES course work, and an additional 28 to 34 hours of auxiliary	PES 2130	General Phys	3					
coursework.	PES 2160	Advanced Ph	1					
	PES 3130	Modern Phys	siCS (alternate even years – fall; alternate odd	years – spring)	3			
<ul> <li>Requires a minimum of 20 to 25 credit</li> </ul>	PES 3170	Instrumentat	ion Laboratory I		2			
hours of upper-division (3000+ level)	PES 3180	Instrumentat	ion Laboratory II		2			
PES course work, depending on which	PES 3210	Classical Med	chanics		3			
option is chosen.	PES 3310	Principles of	Electricity & Magnetism		3			
All DEC	PES 3410	Thermodyna	mics and Statistical Mechanics		3			
<ul> <li>All PES courses must be completed with a grade of "C" or better.</li> </ul>	PES 4170	Optics Lab			2			
a grade of C. of better.	PES 4810	Senior Physic	s Seminar (alternate even years – fall; altern	nate odd years – spring)	2			
All auxiliary courses must be completed			Auxiliary Requirements					
with a grade of "C-" or better.	CHEM 1401/1402	General Cher	5					
· ·	CHEM 1411/1412	General Cher	5					
	Computer Science	Complete one 3140	3					
*NOTE: Energy Science also requires the	MATH 1350	Calculus I	4					
completion of ECON 1010 and GEOL 1010.	MATH 1360	360 Calculus II						
	MATH 2350	Calculus III						
	MATH 3400	Differential E	quations		3			
	ECON 1010	Introduction	(3)					
	GEOL 1010	Physical Geol		(3)				
	Traditional (18 ho	urs) all UD	Energy Science (19 hours)*	Solid State (20	Solid State (20 hours)			
	PES 3250 (3 credit ho	urs)	PES 2500 (3)	PES 3250 (3)				
	PES 3320 (3)		ECON 1010 (3)	PES 3320 (3)				
	PES 4250 (3)		GEOL 1010 (4)	PES 4150 (2)				
	PES 4510 (3)			PES 4250 (3)				
	PES Elective – PES 300	50, 3650,		PES 4460 (3)				
	3950, 3970, 4150, 420							
	4460, 4490, 4600, 47							
	MATH elective 3100 o	or higher	3 Technical Courses – ENSC 3610, 4800 or PES 4800; GEOL 3700; GES 3060, 3100, 3200, 4090; PES 3320,	2 Technical Courses – 4111; CS 3160, 4600, 2210, 3020, 4020; MA				
			3650, OR 3670 4450, 4470; PES 42 OR 4490		•			

# PHYSICS B.S.



Core Writing Requirement	<ul> <li>ENGL 1310, 1308, or 1305 (Students choosing EN</li> </ul>	GL 1305 must complete FNGL 1300 first.)				
(9 hours)	ENGL 1410					
,	• TCID 2090					
	<ul> <li>Writing Portfolio – PORT 3000 (0 credits) or PORT</li> </ul>	4000 (1 credit) or alternative – See Degree Audit				
Reasoning Skills	MATH 1350 (included in auxiliary requirements)					
	PES 4170 (included in major requirements)					
Core Humanities	• HUM 3990					
(3 hours)	<ul> <li>This course also fulfills Navigate and c</li> </ul>	ne Writing Intensive course.				
Natural Sciences Lab	CHEM 1402 or 1412					
Oral Communication	• PES 4810					
LAS Language other than English	Complete two semesters of a language other than English equivalent to 1010 & 1020 with high school, transfer, placement exam, or UCCS coursework. Courses taken to fulfill this requirement may also count toward Compass Curriculum Explore - Arts, Humanities and Cultures or general electives. See degree audit for details.					
Requirement	placement exam, or UCCS coursework. Courses taken to	o fulfill this requirement may also count toward Compass				
	placement exam, or UCCS coursework. Courses taken to	o fulfill this requirement may also count toward Compass				
Requirement	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or g	o fulfill this requirement may also count toward Compass eneral electives. See degree audit for details.				
Requirement  Compass Curriculum	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Component	o fulfill this requirement may also count toward Compass general electives. See degree audit for details.  Course				
Requirement  Compass Curriculum  (15 hours)	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Component  Gateway Program Seminar	o fulfill this requirement may also count toward Compass seneral electives. See degree audit for details.  Course  GPS 1010				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Gomponent  Gateway Program Seminar  Explore – Arts, Humanities and Cultures (2 courses)  Explore – Society, Behavior and Health (2 courses)	o fulfill this requirement may also count toward Compass teneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit See Degree Audit  • CHEM 1401 (included in auxiliary requirements)				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be taken in departments other than the major.	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Component  Gateway Program Seminar  Explore – Arts, Humanities and Cultures (2 courses)	o fulfill this requirement may also count toward Compass teneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit See Degree Audit  CHEM 1401 (included in auxiliary requirements) CHEM 1411 (included in auxiliary requirements)				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be taken in departments other than the major.  Writing Intensive, Inclusiveness, and	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Gomponent  Gateway Program Seminar  Explore – Arts, Humanities and Cultures (2 courses)  Explore – Society, Behavior and Health (2 courses)	o fulfill this requirement may also count toward Compass seneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit  See Degree Audit  CHEM 1401 (included in auxiliary requirements)  CHEM 1411 (included in auxiliary requirements)  HUM 3990 (included in LAS gen ed requirements)				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be taken in departments other than the major.  Writing Intensive, Inclusiveness, and Sustainability courses may count	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Gomponent  Gateway Program Seminar  Explore - Arts, Humanities and Cultures (2 courses)  Explore - Society, Behavior and Health (2 courses)  Explore - Physical and Natural World (2 courses)	o fulfill this requirement may also count toward Compass teneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit See Degree Audit  CHEM 1401 (included in auxiliary requirements) CHEM 1411 (included in auxiliary requirements)				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be taken in departments other than the major.  Writing Intensive, Inclusiveness, and Sustainability courses may count toward other requirements within the	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Component  Gateway Program Seminar  Explore - Arts, Humanities and Cultures (2 courses)  Explore - Society, Behavior and Health (2 courses)  Explore - Physical and Natural World (2 courses)  Navigate  Summit  Writing Intensive Courses (WIC) (2 courses)	o fulfill this requirement may also count toward Compass seneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit  • CHEM 1401 (included in auxiliary requirements) • CHEM 1411 (included in auxiliary requirements)  HUM 3990 (included in LAS gen ed requirements)  PES 4810 (included in major requirements)  • HUM 3990 (included in LAS gen ed requirements)				
Requirement  Compass Curriculum (15 hours)  Explore and Navigate courses must be taken in departments other than the major.  Writing Intensive, Inclusiveness, and Sustainability courses may count	placement exam, or UCCS coursework. Courses taken to Curriculum Explore - Arts, Humanities and Cultures or Component  Gateway Program Seminar  Explore - Arts, Humanities and Cultures (2 courses)  Explore - Society, Behavior and Health (2 courses)  Explore - Physical and Natural World (2 courses)  Navigate  Summit  Writing Intensive Courses (WIC) (2 courses)  Must include one upper-division (3000+ level)	o fulfill this requirement may also count toward Compass seneral electives. See degree audit for details.  Course  GPS 1010  See Degree Audit  • CHEM 1401 (included in auxiliary requirements) • CHEM 1411 (included in auxiliary requirements) HUM 3990 (included in LAS gen ed requirements)  PES 4810 (included in major requirements)  • HUM 3990 (included in LAS gen ed requirements) • See Degree Audit				
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Please note that this is an example degree program and your program may vary. Students are responsible for completing all course prerequisites.

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One		1	FALL	Hours	1	SPRING	Hours		
	ַ		ENGL 1310	3		ENGL 1410	3		
	5		PES 1110/1160	5		PES 1120/2160	5		
ď	3		MATH 1350	4		MATH 1360	4		
>	- [		GPS 1010	3		Explore – Arts, Humanities and Cultures Course	3		
	Ī		TOTAL	15		TOTAL	15		

0	1	FALL	Hours	1	SPRING	Hours
		PES 2130	3		PES 3130	3
.š		CHEM 1401/1402	5		CHEM 1411/1412	5
Year T		MATH 2350	4		MATH 3400	3
		Explore – Society, Behavior and Health Course	3		Computer Science Course	3
					Explore – Arts, Humanities and Cultures Course	3
		TOTAL	15		TOTAL	17

	1	FALL	Hours	1	SPRING	Hours
		TCID 2090	3		PES 3180 (spring only)	2
ee		PES 3170 (fall only)	2		PES 3210 (spring only)	3
Year Th		PES 3310 (fall only)	3		PES 3410 (spring only)	3
		PES 4170 (fall only)	2		Physics Option Course	3
		Physics Option Course	3		General Elective (Inclusiveness)	3
		Explore – Society, Behavior and Health Course	3			
		TOTAL	16		TOTAL	14

	J	FALL	Hours	1	SPRING	Hours		
		Physics Option Course	3		PES 4810	2		
Ž		Upper-Division (UD) Physics Option Course 3 UD Physics Option Course						
요		UD Physics Option Course	3		UD General Elective or Physics Option Course (Solid	2		
ar					State option)			
Ye		HUM 3990	3		UD General Elective (Writing Intensive)	3		
		UD General Elective (Inclusiveness)	3		UD General Elective (Sustainability)	3		
		TOTAL	15		TOTAL	13		