

## College of Letters, Arts and Sciences – Physics – Solid State Option

### Contact Information:

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### Student Success Center Advising Hours:

Monday: 9am-5pm Walk-in Advising  
Tuesday–Friday: 9am-4pm Appointments Only  
*To schedule an appointment, call 719-255-3260.*

## General Academic Information

### Academic Policies

It is the responsibility of each student to know and follow all Academic policies established by the University and the College of Letters, Arts & Sciences (LAS) that are set forth in the Catalog ([catalog.uccs.edu](http://catalog.uccs.edu)).

### Course Prerequisites

Students are responsible for knowing and completing all course prerequisites. Course prerequisites are strictly enforced for all classes at UCCS.

### Email Accounts

All students are assigned an official UCCS email address. Email is the official means of communication for UCCS, so it is imperative that students check their email accounts regularly.

### Advising

LAS students in good standing are not required to see their academic advisor before registering for courses in any semester, but it is recommended. Academic advising assists students in selecting their classes so that they can progress effectively through their degree program.

### Restrictions and Limitations

Students may apply a maximum of 30 credit hours towards the bachelor's degree from course work taken outside the College of Letters, Arts & Sciences. Students may apply a maximum of 8 credit hours of independent study towards the major area of study and a maximum of 16 credit hours towards the bachelor's degree. Students may apply a maximum of 21 credit hours of Military

Science/ROTC towards general electives and towards the bachelor's degree.

### Probation/Suspension

To remain in good academic standing within the College of Letters, Arts & Sciences, students must maintain a cumulative CU GPA of 2.0, or better. Students whose cumulative CU GPA falls below a 2.0 will be placed on probation for the next semester in which they are enrolled. While on probation students must achieve a minimum semester GPA of a 2.25. If the required semester GPA is not met, the student will be suspended from the College of Letters, Arts & Sciences for a full academic year (Fall and Spring semesters). PLEASE NOTE: *While on probation, registration for the subsequent semester will be blocked until final grades are posted for the current semester. This is to verify that the minimum semester GPA for each student has been fulfilled.*

### Course Load

A full-time course load is 12 credit hours in a semester. The maximum course load is 18 credit hours in a semester. If a student wishes to take more than 18 credit hours in a given semester, special permission must be obtained through the Student Success Center. Students who expect to work while enrolled in university courses should register for course loads that they can complete without unusual difficulty. Recommended course loads based on work hours is listed below.

Employed Hours	Enrolled Credit Hours
40 hours per week	6-9 credit hours
30 hours per week	8-11 credit hours
20 hours per week	10-13 credit hours



## DEPARTMENT OF PHYSICS – SOLID STATE OPTION

Department Chair: Dr. Tom Christensen, 719-255-3063, [tchrste@uccs.edu](mailto:tchrste@uccs.edu), OCSE B-423

Department website: [www.uccs.edu/physics](http://www.uccs.edu/physics)

Degree Requirements	Courses					
<p><b>Physics Major</b> (54 hours)</p> <p>The Physics major requires a minimum of 54 credit hours of PES course work and a minimum of 39 credit hours of upper-division (3000+ level) PES course work.</p> <p>All PES courses must have a grade of "C" or better.</p> <p>All auxiliary requirements must be completed in addition to the required major courses.</p>	Course Number	Course Title				Credit Hours
	PES 1110	General Physics I				4
	PES 1120	General Physics II				4
	PES 1160	Advanced Physics Lab I				1
	PES 2130	General Physics III				3
	PES 2160	Advanced Physics Lab II				1
	PES 3130	Modern Physics				3
	PES 3170	Instrumentation Laboratory I				2
	PES 3180	Instrumentation Laboratory II				2
	PES 3210	Classical Mechanics				3
	PES 3250	Mathematical Methods of Physics and Engineering				3
	PES 3310	Principles of Electricity and Magnetism I				3
	PES 3320	Principles of Electricity and Magnetism II				3
	PES 3410	Thermodynamics and Statistical Mechanics				3
	PES 4150	Solid State Laboratory				2
	PES 4170	Optics Lab				2
	PES 4250	Quantum Mechanics				3
	PES 4460	Solid State Physics				3
	PES 4810	Senior Physics Seminar				2
	Technical Electives	Complete two of the following courses: PES 4260, PES 4480, PES 4490, CHEM 3010, CHEM 4510, CHEM 4520, ECE 2210, ECE 3020, ECE 4020, MATH 3810, MATH 4450, MATH 4470, CS 3160, CS 4600, CS 4720				6
<b>Auxiliary Requirements</b>						
CHEM 1030	General Chemistry I				5	
CHEM 1060	General Chemistry II				5	
Computer Science	Complete one of the following: CS 1070, CS 1150, CS 2060, CS 2080, CS 2160				3	
MATH 1350	Calculus I				4	
MATH 1360	Calculus II				4	
MATH 2350	Calculus III				4	
MATH 3400	Differential Equations				3	
<p><b>Composition</b> (9 hours)</p>	Complete ENGL 1310, 1410, and 2090.					
	ENGL 1310	Rhetoric & Writing I				3
	ENGL 1410	Rhetoric & Writing II				3
	ENGL 2090	Technical Writing and Presentation				3
<p><b>Reasoning Skills</b> (4 hours)</p>	Complete the courses listed below. Please note that PES 4170 is a required major course and MATH 1350 is part of the auxiliary requirements.					
	MATH 1350					PES 4170
<p><b>Area Requirements</b> (36 hours)</p> <p>All LAS students are required to complete 12 credit hours in each of three areas - humanities, social sciences, and natural sciences. The total requirement is 36 hours.</p>	<b>HUMANITIES</b> – Complete 12 hours from the list of courses below. <i>Course selection must include one occurrence of HUM 3990.</i>					
	AH 1000	AH 1001	AH 2800	AH 2810	AH 2820	AH 2860
	AH 2890	AH 3430	COMM 2250	COMM 3100	COMM 3500	COMM 4000
	ENGL 1500	ENGL 2600	ENGL 2610	ENGL 3320	ENGL 3900	FCS 3180
	FCS 3190	FCS 3240	FCS 3690	FCS 3890	FCS 4210	FILM 1000
	FILM 2000	FILM 3690	FR 3240	GER 3180	GER 3190	HIST 1110
	HIST 1120	HIST 1130	HIST 1140	HIST 1400	HIST 1410	HIST 1600
	HIST 1610	<b>HUM 3990</b>	ID 2000	MUS 1000	MUS 2050	MUS 2850
	PHIL 1000	PHIL 1020	PHIL 1120	PHIL 1300	PHIL 3100	PHIL 3160
	PHIL 3180	PHIL 4070	SPAN 3690	SPAN 4210	THTR 1000	THTR 3201
	THTR 3202	VA 1010	VA 1020	WEST 2030	WEST 2040	WEST 3070

<p>Specific Limitations:</p> <p>&gt; No more than two courses from any one discipline may be applied to the area requirements.</p> <p>&gt; Courses in the primary major may not be applied to area requirements.</p> <p>&gt; Courses may not be taken pass/fail.</p>	WEST 3100	WEST 3460	WEST 3550	WEST 4050	WEST 4280	
	<b>SOCIAL SCIENCE</b> – Complete 12 hours from the list of courses below.					
	ANTH 1020	ANTH 1040	ANTH 2800	ANTH 3040	ANTH 3260	ANTH 3270
	COMM 1020	COMM 2150	COMM 3440	COMM 3650	COMM4200	COMM 4220
	COMM 4250	ECON 1000	ECON 1010	ECON 1050	ECON 2020	ECON 3150
	ECON 3710	GES 1980	GES 1990	GRNT 3000	PHIL 3200	PHIL 4260
	PSC 1010	PSC 1100	PSC 2080	PSC 2100	PSC 3300	PSC 4190
	PSC 4210	PSC 4470	PSY 1000	SOC 1110	SOC 2120	SOC 2200
	SOC 2220	SOC 2250	SOC 2500	SOC 3610	SOC 4700	WEST2010
	WEST 3000	WEST 3060	WEST 3620	WEST 4100	WEST 4120	WEST 4700
	<b>NATURAL SCIENCE</b> – Complete CHEM 1030 and CHEM 1060 which are part of the auxiliary requirements. Complete an additional two hours from the list below.					
	ANTH 1030	ANTH 3320	ANTH 3340	ANTH 3370	BIOL 1000	BIOL 1050
	BIOL 1060	BIOL 1510	BIOL 1530	BIOL 2000	ENSC 1500	ENSC 1510
	ENSC 1600	ENSC 1620	ENSC 3200	GES 1000	GES 1010	GES 1050
	GES 3200	GES 3250	GEOL 1010	GEOL 1020	GEOL 1530	GEOL 3170
	GEOL3700	GEOL 4660	ID 2050			
	<p><b>Oral Communication, Cultural Diversity, and Global Awareness Requirements</b></p> <p>Students are required to take one course with a substantial component involving oral communication, one course that increases their awareness of cultural diversity, and one course that increases their awareness of global issues.</p> <p><i>All courses in this section can count towards other requirements. Courses marked with an asterisk (*) can count towards specific requirements; courses without an asterisk will count towards General Electives.</i></p>	<b>ORAL COMMUNICATION</b> – Complete one of the courses listed below.				
CHEM 4890		CHEM 4950	CHEM 4960	COMM 2010	COMM 2100	COMM 3240
COMM 4100		PES 4810*	PHIL 1040*	PHIL 4950	TED 4600	TED 4700
THTR 2020		THTR 2030	THTR 2040	THTR 2050	THTR 3100	
<b>CULTURAL DIVERSITY</b> – Complete one of the courses listed below.						
AH 3430		ANTH 3250	ANTH 3420	COMM 3280	ENGL 3320*	ENGL 4060
FCS 3360		FCS 4210*	HIST 3510	HIST 3520	HIST 3580	MUS 2050*
PHIL 3180*		PHIL 3230	PHIL 4550	SOC 2200*	SOC 2250*	SOC 3250
SOC 3290		SOC 4240	SOC 4390	SPAN 4210*	SPAN 4420	WEST 2010*
WEST 2020		WEST 3090	WEST 3130	WEST 3150	WEST 3250	WEST 3290
WEST 3360		WEST 3420	WEST 3430	WEST 3520	WEST 3580	WEST 4120*
WEST 4140		WEST 4280*	WEST 4550			
<b>GLOBAL AWARENESS</b> – Complete one of the courses listed below.						
ANTH 1040*		ANTH 3040*	AH 3450	AH 3460	AH 4450	AH 4470
BIOL 1510*		CHEM 1510*	CHEM 3410	ECON 3590	ECON 3710*	ENGL 2600*
ENGL 2610*		ENGL 4065	FCS 3180*	FCS 3190*	FCS 3250	FCS 3340
FCS 3380		FCS 3690*	FCS 3890*	FILM 2000*	FILM 3690*	FR 3250
GER 3180*		GER 3190*	GES 1980*	GES 1990*	GES 3070	GES 3400
GES 3820		GES 3980	GRNT 3560	HIST 1110*	HIST 1120*	HIST 1130*
HIST 1140*		HIST 1400*	HIST 1410*	HIST 1600*	HIST 1610*	HIST 3220
HIST 3560		HIST 3590	HIST 3680	HIST 4050	HIST 4060	HIST 4130
HIST 4150		HIST 4860	MUS 3150	PHIL1400	PHIL 3100*	PHIL 3240
PHIL 3400		PHIL 3480	PHIL 3490	PHIL 3500	PSC 1010*	PSC 2070
PSC 2080*	PSC 2090	PSC 4170	PSC 4190*	PSC 4210*	PSC 4570	
PSC 4580	PSC 4590	PSY 3560	SOC 3340	SOC 4380	SOC 4700*	
SPAN 3690*	WEST 3040*	WEST 3340	WEST 3380	WEST 3480*	WEST 3560	
WEST 3680	WEST 4050	WEST 4060	WEST 4150	WEST 4160	WEST 4170	
WEST 4700*						
<p><b>General Electives</b> (0-4 hours)</p>	Complete additional courses to meet total and upper-division requirements for your degree program.					

**UCCS Bachelor of Science, Physics – Solid State Option Major Degree Requirements**

- > A minimum of 120 hours must be completed with a cumulative CU grade point average of 2.0; at least 45 of these hours must be at the upper-division level (courses numbered 3000-4999).
- > No more than 54 hours of PES course work can count towards the degree.
- > The last 30 hours of the degree must be completed while registered in the College of Letters, Arts and Sciences at UCCS.

> Courses numbered below 1000 do not count towards degree completion.



## Four-Year Degree Plan – Physics – Solid State Option

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Physics degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

### Suggested First Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	ENGL 1310	3		ENGL 1410	3
	MATH1350	4		MATH1360	4
	PES 1110/11160	5		PES 1120/2160	5
	I D 1010	3		Humanities Elective	3
	<b>TOTAL</b>	15		<b>TOTAL</b>	15

### Suggested Second Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	PES 2130	3		PES 3130	3
	CHEM 1030	5		CHEM 1060	5
	MATH 2350	4		MATH3400	3
	Social Science Elective	3		CS Elective	3
				Natural Science Elective	2
	<b>TOTAL</b>	15		<b>TOTAL</b>	16

### Suggested Third Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	ENGL2090	3		PES 3180 (SPRING ONLY)	2
	PES 3170 (FALL ONLY)	2		PES 3210 (SPRING ONLY)	3
	PES 3310 (FALL ONLY)	3		PES 3320 (SPRING ONLY)	3
	PES 4170 (FALL ONLY)	2		PES 3410 (SPRING ONLY)	3
	Humanities Elective	3		Social Science Elective	3
	Technical Elective	3			
	<b>TOTAL</b>	16		<b>TOTAL</b>	14

### Suggested Fourth Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	PES 3250 (FALL ONLY)	3		PES 4460 (SPRING ONLY)	3
	PES 4250 (FALL ONLY)	3		PES 4150 (SPRING ONLY)	3
	PES 4810	2		Technical Elective	3
	Humanities Elective	3		HUM3990	3
	Social Science Elective	3		Social Science Elective	3
				General Elective	1
	<b>TOTAL</b>	14		<b>TOTAL</b>	15

