

# Physics, BS



## University of Wyoming, 2016-17

The Bachelor of Science (BS) in Physics degree program traditionally prepares students for graduate school or a career in physics or a related field in the physical sciences.

Freshman Fall Semester			Hrs	Min	Grade	Notes
		USP First-Year Seminar	3		C	FY
CHEM	1020	General Chemistry I *	4			PN
MATH	2200	Calculus I ** ***	4		C	Q
PHYS	1310	College Physics I *** ^	4			Can substitute PHYS 1210 (Engineering Physics I).
Credit hours subtotal:			<b>15</b>			

Freshman Spring Semester			Hrs	Min	Grade	Notes
		USP Communication 1	3		C	C1
		USP Physical & Natural World	4			PN
MATH	2205	Calculus II ***	4		C	
PHYS	1320	College Physics II *** ^^	4			Can substitute PHYS 1220 (Engineering Physics II).
Credit hours subtotal:			<b>15</b>			

Sophomore Fall Semester			Hrs	Min	Grade	Notes
		USP Communication 2	3		C	C2
COSC	1010	Computer Science I	4			
MATH	2210	Calculus III ***	4		C	
PHYS	2310	College Physics III: Waves and Optics ***	4			Offered fall semester.
Credit hours subtotal:			<b>15</b>			

Sophomore Spring Semester			Hrs	Min	Grade	Notes
		USP Human Culture ****	3			H
		USP US & Wyoming Constitutions	3			V
MATH	2250	Elementary Linear Algebra	3			
PHYS	2320	College Physics IV: Modern Physics ***	3			Offered spring semester.
PHYS	4210	Classical Mechanics I	3			Offered spring semester.
Credit hours subtotal:			<b>15</b>			

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

### University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

### College of Arts and Sciences requirements:

Students must take two "core" courses in addition to the USP requirements: Diversity in the United States (ASD) and Global Awareness (ASG). • No more than 60 hours in the major subject may be used toward the 120 credit hours required for graduation. • At least 30 hours in the major subject must be completed with a grade of C or better (the major may require more).

### Physics BS Program Notes:

\* Requires MATH ACT  $\geq 23$ , MATH SAT  $\geq 600$ , Math Placement Exam  $\geq 3$ , or concurrent enrollment in MATH 1400, 1405, or 1450. (University standard)

\*\* Requires MATH ACT  $\geq 27$ , MATH SAT  $\geq 600$ , Math Placement Exam  $\geq 5$ , or  $\geq C$  in MATH 1405 or 1450.

\*\*\* Not finishing this class in the listed semester may greatly delay degree completion.

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Junior Fall Semester			Hrs	Min Grade	Notes
MATH	2310	Applied Differential Equations	3	C	
PHYS	3640	Modern Electronics & Experimental Tech	4		Offered fall semester.
PHYS	4310	Quantum Mechanics I	3		Offered fall semester.
PHYS	4410	Electricity and Magnetism I	3		Offered fall semester.
		Elective	3		
Credit hours subtotal:			<b>16</b>		

Junior Spring Semester			Hrs	Min Grade	Notes
		USP Human Culture ****	3	H	
PHYS	3650	Advanced Lab/Modern Physics & Electronics	4	C	C3; offered spring semester.
PHYS	4420	Electricity and Magnetism II	3		Offered spring semester.
PHYS	4840	Mathematical and Computational Physics II	3		Offered spring semester.
		Upper Division Elective	3		Recommend PHYS 4350 (Advanced Quantum Mechanics - offered spring semester) or PHYS 4830 (Mathematical & Computational Physics I).
Credit hours subtotal:			<b>16</b>		

Senior Fall Semester			Hrs	Min Grade	Notes
		A&S Core Global Awareness	3	ASG	
MATH	4440	Introduction to Partial Differential Equations I	3		Offered fall semester.
PHYS	4510	Thermodynamics and Statistical Mechanics	3		Offered fall semester.
		Upper Division Elective	3		Recommend PHIL 3140 (Philosophy of Science); may take this semester or another based on course offering.
		Elective	3		
Credit hours subtotal:			<b>15</b>		

Senior Spring Semester			Hrs	Min Grade	Notes
		A&S Core Diversity in the US	3	ASD	
MATH	4230	Introduction to Complex Analysis	3		Offered spring semester.
		Upper Division Physics Elective	3		Substitute PHYS 4840 if not taken spring of junior year.
		Upper Division Elective	3		Recommend PHYS 4350 (Advanced Quantum Mechanics) or PHYS 4830 (Mathematical & Computational Physics I); offered spring semester.
		Elective	3		
Credit hours subtotal:			<b>15</b>		

**TOTAL CREDIT HOURS: 122**

### Physics BS Program Notes con't:

\*\*\*\* Students are strongly encouraged to enroll in Human Culture requirement courses that correspond to the College of Arts & Sciences Core required US Diversity (ASD) and Global Awareness (G) electives or else they will have to take separate ASD and ASG courses. A list of ASD & ASG courses that transfer is available.

^ For declared physics majors, the prerequisite of MATH 2200 is waived and concurrent enrollment is approved.

^^ For declared physics majors, the prerequisite of MATH 2205 is waived and concurrent enrollment is approved.

- If intending to apply to graduate school, students should take the physics GRE by fall semester of the senior year.