

BS: Physics Curriculum Planner

Following is a sample curriculum for Physics majors. It may not be necessary to complete these courses in the order given; please consult your advisor. **Bold indicates major courses**; *asterisk indicates cognates; *italic indicates General Education requirements*.

Freshman Year

<input type="checkbox"/> PHYS277	0.5		Physics Colloquium
<input type="checkbox"/> CHEM131	4		*General Chemistry w/lab I
<input type="checkbox"/> CHEM132		4	*General Chemistry w/lab II
<input type="checkbox"/> MATH141	4		*Calculus I
<input type="checkbox"/> MATH142		4	*Calculus II
<input type="checkbox"/> HIST117	2		<i>Civilization and Ideas I</i>
<input type="checkbox"/> HIST118		3	<i>Civilization and Ideas II</i>
<input type="checkbox"/> ENGL115	3		<i>English Composition I</i>
<input type="checkbox"/> RELT100	3		<i>God and Human Life</i>
<input type="checkbox"/> BHSC100		2	<i>Philosophy of Service</i>
<input type="checkbox"/> COMM104		2	<i>Communication Skills</i>
<input type="checkbox"/> HLED120		1	<i>Fit and Well</i>
	<u>16.5</u>	<u>16</u>	

Sophomore Year

<input type="checkbox"/> PHYS241,271	5		Physics for Scientists w/lab I
<input type="checkbox"/> PHYS242,272		5	Physics for Scientists w/lab II
<input type="checkbox"/> PHYS277	0.5		Physics Colloquium
<input type="checkbox"/> MATH240	4		*Calculus III
<input type="checkbox"/> MATH215		3	*Introduction to Linear Algebra
<input type="checkbox"/> MATH286		3	*Differential Equations
<input type="checkbox"/> CPTR125		3	*Computer Science
<input type="checkbox"/> ENGL215	3		<i>English Composition II</i>
<input type="checkbox"/> PEAC _____	1		<i>Physical Education Activity Course</i>
<input type="checkbox"/> Religion	3		<i>(select one of the following)</i>
			<input type="checkbox"/> RELB210 <i>Jesus in His Time and Ours</i>
<input type="checkbox"/> Soc. Science		3	<input type="checkbox"/> RELT250 <i>Personal Spirituality and Faith</i>
			<input type="checkbox"/> ANTH124 <i>Introduction to Anthropology</i>
			<input type="checkbox"/> PLSC104 <i>American Government</i>
			<input type="checkbox"/> ECON225 <i>Macroeconomics</i>
			<input type="checkbox"/> PSYC101 <i>Introduction to Psychology</i>
			<input type="checkbox"/> GEOG110 <i>Survey of Geography</i>
			<input type="checkbox"/> SOC119 <i>Principles of Sociology</i>
	<u>16.5</u>	<u>17</u>	

Junior Year

<input type="checkbox"/> PHYS411	2.5		Theoretical Mechanics
<input type="checkbox"/> PHYS430		2.5	Thermodynamics
<input type="checkbox"/> PHYS431	3		Electricity and Magnetism
<input type="checkbox"/> PHYS432		3	Electricity and Magnetism II[†]
<input type="checkbox"/> PHYS377		1	Advanced Physics Laboratory
<input type="checkbox"/> Physics elect.	2.5	2.5	(select two of the following)
			<input type="checkbox"/> PHYS350 Optics
			<input type="checkbox"/> PHYS412 Theoretical Mech. II
<input type="checkbox"/> PEAC _____	1		<input type="checkbox"/> PHYS416 Biophysics
<input type="checkbox"/> Religion	3		<input type="checkbox"/> PHYS420 Topics in Relativity
			<input type="checkbox"/> PHYS460 Solid State Physics
<input type="checkbox"/> IDSC211	3		<input type="checkbox"/> RELB210 <i>Jesus in His Time and Ours</i>
<input type="checkbox"/> Soc. Science	3		<input type="checkbox"/> RELT250 <i>Personal Spirituality and Faith</i>
			<input type="checkbox"/> RELT225 <i>Doctrines of the Adventist Faith</i>
			<input type="checkbox"/> BHSC220 <i>Contemporary Social Issues</i>
<input type="checkbox"/> _____	0+		<input type="checkbox"/> BHSC235 <i>Culture, Place, Interdependence</i>
<input type="checkbox"/> Humanities		3	<input type="checkbox"/> ARTH220 <i>Language of Art</i>
			<input type="checkbox"/> PHTO210 <i>History of Photography</i>
			<input type="checkbox"/> PHIL224 <i>Introduction to Philosophy</i>
			<input type="checkbox"/> IDSC237 <i>Individual, State, Marketplace Service Fieldwork (or "S" designated class or waiver)</i>
			<input type="checkbox"/> ENGL255 <i>Studies in Literature</i>
			<input type="checkbox"/> MUHL214 <i>Enjoyment of Music</i>
	<u>14+</u>	<u>16</u>	

Senior Year

<input type="checkbox"/> PHYS481	3		Quantum Mechanics I
<input type="checkbox"/> PHYS482		3	Quantum Mechanics II[†]
<input type="checkbox"/> PHYS477		1	Advanced Physics Laboratory II
<input type="checkbox"/> PHYS495	1		Research
<input type="checkbox"/> Physics elect.	2.5	2.5	(select two of the following or any other physics electives listed above)
			<input type="checkbox"/> PHYS445 Particle Physics
			<input type="checkbox"/> PHYS475 Physics Review
<input type="checkbox"/> PEAC _____	1		<i>Physical Education Activity Course</i>
<input type="checkbox"/> RELT340	3		<i>Religion and Ethics in Modern Society</i>
			<i>(or one of the following: RELB210, RELT225, RELT250)</i>
<input type="checkbox"/> Electives [‡]	<u>6</u>	<u>8</u>	
	<u>15.5</u>	<u>15.5</u>	

[†]Suggested courses; other upper-division physics courses may be substituted.

[‡]See back for list of suggested electives.

Suggested Electives and Second Majors and Minors

Students seeking the mathematical foundation for Research

Additional mathematics courses above the cognate requirements are beneficial for a deeper understanding of physics. A Mathematics minor or second major shows that you have the mathematical foundation needed to do graduate level research.

Mathematics Minor: 2 additional units

Students take the required Physics cognates plus one additional course:

- MATH405 3 Applied Mathematics[‡]

Mathematical Studies Major: 9 additional units

Students take the required Physics cognates plus three additional courses:

- MATH315 3 Linear Algebra[‡]
- MATH405 3 Applied Mathematics[‡]
- MATH408 3 Complex Analysis[‡]

Mathematics Major: 21 additional units

Students take the required Physics cognates plus:

- MATH315 3 Linear Algebra
- STAT340 3 Probability Theory

And an additional five courses selected from the following:

- | | | | | |
|---|--------------------------|--------------------------|-----------------|-------------------|
| <input type="checkbox"/> MATH355 3 Discrete Mathematics | <input type="checkbox"/> | <input type="checkbox"/> | MATH431,432 3+3 | Advanced Calculus |
| <input type="checkbox"/> MATH405 3 Applied Mathematics | <input type="checkbox"/> | <input type="checkbox"/> | MATH441,442 3+3 | Algebra |
| <input type="checkbox"/> MATH408 3 Complex Analysis | <input type="checkbox"/> | <input type="checkbox"/> | MATH475 3 | Geometry |
| <input type="checkbox"/> MATH426 3 Math Modeling in Biology | <input type="checkbox"/> | <input type="checkbox"/> | MATH487 3 | Special Topics |

[‡]Suggested courses; other upper-division mathematics courses may be substituted

Students with other interests: variable additional units

We strongly support and encourage development in other areas of personal interest. Our physics students have taken second majors in diverse areas such as anthropology, religion, music, and German. Consult your academic advisor for assistance in planning for other minors or second majors.