

APPLIED PHYSICS MAJOR (PHYSA.BS)

<u>Required Courses</u>		<u>Hrs.</u>	<u>Prereq.</u>	<u>Rec.Yr.</u>
PHYS 161	General Physics I w/Calculus	4	Pre or coreq MATH 161	Fr
PHYS 162	General Physics II w/Calculus	4	Pre or coreq MATH 161	Fr
PHYS 210	Light & Atomic Physics	3	MATH 161, PHYS 152 or 162; Coreq PHYS 211L	Soph
PHYS 211L	Light & Atomic Physics Lab	1	Coreq PHYS 210	Soph
PHYS 220	Nuclear Physics	3	PHYS 210; Coreq PHYS 221L	Soph
PHYS 221L	Nuclear Physics Lab	1	Coreq PHYS 220	Soph
PHYS 250	Electronics	3	PHYS 152 or 162, MATH 161 Coreq PHYS 251L	Soph
PHYS 251L	Electronics Lab	1	Coreq PHYS 250	Soph
PHYS 260	Digital Electronics	3	PHYS 152 or 162; Corereq PHYS 261L	Soph
PHYS 261L	Digital Electronics Lab	1	Corereq PHYS 260	Soph
PHYS 305L	Electro-Optics Lab	1	PHYS 210	Jr
PHYS 309	Engineering Mechanics	3	MATH 161, PHYS 152 or 162	Jr
PHYS 310	Analytical Mechanics	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 311	Mechanics of Materials	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 320	Materials Science	3	PHYS 152 or 162, MATH 161; Coreq PHYS 321L	Jr
PHYS 321L	Materials Science Lab	1	Coreq PHYS 320	Jr
PHYS 330	Solid State Physics	3	PHYS 152 or 162, MATH 162; Coreq PHYS 331L	Jr
PHYS 331L	Solid State Physics Lab	1	Coreq PHYS 330	Jr
PHYS 340	Engineering Thermodynamics	3	MATH 161, PHYS 151 or 161	Jr
PHYS 342	Quantum Mechanics	3	PHYS 151 or 161, PHYS 152 or 162, MATH 162	Jr
PHYS 345L	Engineering Measure Lab	1	Pre or coreq PHYS 162	Jr
PHYS 350	Fluid Mechanics	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 360	Electromagnetic Theory	3	PHYS 151 or 161, 152 or 162; Pre or coreq MATH 230	Jr
^PHYS 497	Research Seminar I	1	Physics Major	Sr
^PHYS 498	Research Seminar II	1	PHYS 497	Sr
CHEM 161	Acc Gen Chem for Science Maj	3	HS Chemistry and proficiency or CHEM 105, 107L; Coreq CHEM 163L	Fr
CHEM 163L	Acc Gen Chem for Sci Maj Lab	1	Coreq CHEM 161	Fr
	<u>OR</u>			
CHEM 131	Gen Chemistry for Sci Majors I	3	*Coreq CHEM 133L	Fr
<i>*Prerequisite: Must have passed at least one year of high school chemistry or one semester of college chemistry equivalent to CHEM 105/107L or above AND at least one of the following: MATH ACT score of 20, MATH SAT score of 500, grade of C or better in one of the classes: MATH 103, 110, 112, 115, 130, 161.</i>				
CHEM 133L	Gen Chemistry for Sci Maj I Lab	1	Coreq CHEM 131	Fr
	<u>AND</u>			
CHEM 132	Gen Chemistry for Sci Majors II	3	C- or better in CHEM-131/133L; Coreq CHEM 134L	Fr
CHEM 134L	Gen Chemistry for Sci Maj II Lab	1	Coreq CHEM 132	Fr
CSCI 230	Scientific Programming	3	PHYS 152 or 162	Soph
MATH 161	Calculus I	4	C or better in MATH 130 or equiv. or placement	Fr
MATH 162	Calculus II	4	C (2.0) or better in MATH 161;	Fr
MATH 163	Technology for Calculus	1	Coreq MATH 162	Fr
MATH 223	Calculus III	4	C (2.0) or better in MATH 162; Pre or coreq MATH 163	Soph
MATH 230	Differential Equations	4	MATH 162; Pre or coreq MATH 163	Soph
MATH 311	Applied Linear Algebra	3	MATH 223	Jr

84 total hours

^Satisfies advanced writing requirement

NAME: _____

B.S. Degree: Applied Physics Major (for students entering in Fall 2024/Spring 2025)

In the "WHAT" column, enter the specific course number when applicable--e.g. HIST 121. In the "WHEN" column, enter the term and year in which the requirement is satisfied--e.g., sp '20.

Liberal Arts Core	
WHAT	WHEN
_____	ENGL 101* w/ C (2.0) [3 hrs]
_____	ENGL 110 w/ C (2.0)* [3 hrs]
_____	COMM 211 w/ C (2.0) [3 hrs]
_____	Dept senior seminar/writing course
_____	Met by: _____ PHYS 497 [1 hr]
_____	AND _____ PHYS 498 [1 hr]
_____	FYEX 101 [3 hrs]
_____	FYEX 102 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	FYEX 401 [1 hr]
_____	Foundational Scientific Inquiry [3-4 hrs]
_____	Foundational Quantitative Analysis [3-4 hrs]
<i>No more than two lens courses may come from same departmental prefix and one lens must be taken at 300 level or above.</i>	
_____	Ethical/Spiritual Explor Lens (ETSP) [3 hrs]
_____	Aesthetic Expression Lens (AEXP) [3 hrs]
_____	Per & Soc Well Being Lens (PSWB) [3 hrs]
_____	Cultural Perspectives Lens (CEXP) [3 hrs]
_____	Experimental Inquiry Lens (EXIN) [3 hrs]
_____	37 – 39 Total semester hours
_____	120 semester hours required for graduation

*Enter NA (not applicable) if waived upon admission

Applied Physics Major	
WHAT	WHEN
_____	PHYS 161 [4 hrs]
_____	PHYS 162 [4 hrs]
_____	PHYS 210 [3 hrs]
_____	PHYS 211L [1 hr]
_____	PHYS 220 [3 hrs]
_____	PHYS 221L [1 hr]
_____	PHYS 250 [3 hrs]
_____	PHYS 251L [1 hr]
_____	PHYS 260 [3 hrs]
_____	PHYS 261L [1 hr]
_____	PHYS 305L [1 hr]
_____	PHYS 309 [3 hrs]
_____	PHYS 310 [3 hrs]
_____	PHYS 311 [3 hrs]
_____	PHYS 320 [3 hrs]
_____	PHYS 321L [1 hr]
_____	PHYS 330 [3 hrs]
_____	PHYS 331L [1 hr]
_____	PHYS 340 [3 hrs]
_____	PHYS 342 [3 hrs]
_____	PHYS 345L [1 hr]
_____	PHYS 350 [3 hrs]
_____	PHYS 360 [3 hrs]
_____	PHYS 497 [1 hr]
_____	PHYS 498 [1 hr]
_____	CHEM 161 [3 hrs]
_____	CHEM 163L [1 hr]
	<u>OR</u>
_____	CHEM 131/133L [4 hrs] +
_____	CHEM 132/134L [4 hrs]
_____	CSCI 230 [3 hrs]
_____	MATH 161 [4 hrs]
_____	MATH 162 [4 hrs]
_____	MATH 163 [1 hr]
_____	MATH 223 [4 hrs]
_____	MATH 230 [4 hrs]
_____	MATH 311 [3 hrs]
_____	84 semester hours

>Applied Physics majors may count up to 57 hours in Physics toward graduation. Three hours over the limit may count to accommodate an internship in the discipline.

> Only six hours of any minor may overlap with the required credit hours of a student's chosen major. The overlap constraint is not applicable to courses that majors or minors MUST take in others departments.