

## PHYSICS/ENGINEERING DUAL MAJOR

3 Years at WVWC followed by 2 years of Engineering at either UVA, WVU or Marshall

<u>Required Courses</u>		<u>Hrs.</u>	<u>Prereq.</u>	<u>Rec.Yr.</u>
PHYS 145	Engineering Design I	1		Fr
PHYS 146	Engineering Design II	1		Fr
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	PHYS 152 or 162, MATH 161; Coreq PHYS 211L	Soph
PHYS 211L	Light & Atomic Physics Lab	1	Coreq PHYS 210	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 305L	Electro-Optics Lab	1	PHYS 210	Jr
PHYS 309	Engineering Mechanics	3	PHYS 152 or 162, MATH 161	Jr
PHYS 310	Analytical Mechanics	3	PHYS 151 or 161, 152 or 162, MATH 162	Jr
PHYS 311	Mechanics of Materials	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 340	Engineering Thermodynamics	3	MATH 161, PHYS 151 or 161	Jr
PHYS 345L	Engineering Measurements 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
CHEM 161	Acc Gen Chem for Science Majors	3	HS Chemistry or CHEM 105, 107L; Coreq CHEM 163L	Fr
CHEM 163L	Acc Gen Chem for Sci Majors Lab	1	HS Chemistry of CHEM 105, 107L; Coreq CHEM 161	Fr
CHEM 131	General Chem 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	General Chem for Sci Maj I Lab	1	Coreq CHEM 131	Fr
CHEM 132	General Chem for Sci Majors II	3	C- or better in CHEM 131, 133L; Coreq CHEM 134L	Fr
CHEM 134L	General Chem 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 or equiv.;Coreq MATH 163	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 301	Advanced Engineering Math	3	MATH 223	Jr
		65-69 total hrs		

Six credits of Wesleyan's general studies requirements may be transferred from the engineering university.

**For more information regarding Physics/Engineering Dual Degree Programs at West Virginia University, Marshall University or the University of Virginia please contact Dr. Bert Popson, Chair of the Physics Department. Specific track information for Marshall programs is available in the catalog or from the dept.**

NAME: \_\_\_\_\_

**B.A. Degree: Physics/Engineering Dual-Degree (for students entering in Fall 2019/Spring 2020)  
3 Years at WV Wesleyan College followed by 2 years of Engineering at either UVA, WVU or Marshall**

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 '00.

General Education		Physics/Engineering Dual-Degree WVWC Coursework	
WHAT	WHEN	WHAT	WHEN
_____	ENGL 101/INDS 106* w/ C (2.0) [3 hrs]	_____	PHYS 145 [1 hr]
_____	ENGL 102/INDS 102* w/ C(2.0)* [3 hrs]	_____	PHYS 146 [1 hr]
_____	COMM 211/INDS 103 w/ C(2.0) [3 hrs]	_____	PHYS 161 [4 hrs]
	Dept senior seminar/writing course	_____	PHYS 162 [4 hrs]
	To be completed at WVU/UVA/Marshall	_____	PHYS 210 [3 hrs]
_____	BIOL/CHEM/ENVS/PHSC/PHYS w/ lab	_____	PHYS 211L [1 hr]
	[3 hrs]/INDS 112 [4 hrs]	_____	PHYS 250 [3 hrs]
_____	BIOL/CHEM/ENVS/PHSC/PHYS w/ lab	_____	PHYS 251L [1 hr]
	[3 hrs]/INDS 112 [4 hrs]	_____	PHYS 305L [1 hr]
_____	MATH (except 112,141,203,205)/	_____	PHYS 309 [3 hrs]
	BIOL 215/PSYC 230/INDS 114 [3-4 hrs]	_____	PHYS 310 [3 hrs]
_____	RELG/INDS 111 [3-4 hrs]	_____	PHYS 311 [3 hrs]
_____	PHIL [3 hrs]/INDS 110 [4 hrs]	_____	PHYS 340 [3 hrs]
_____	INDS 120 [3 hrs]/INDS 116 [4 hrs]	_____	PHYS 345L [1 hr]
_____	Any literature course/INDS 113[3 hrs]	_____	PHYS 350 [3 hrs]
	Fine Arts	_____	PHYS 360 [3 hrs]
	_____ ART (except 265)/	_____	CHEM 161 [3 hrs]
	DANC/MUSC/THRE/ENGL 213/	_____	CHEM 163L [1 hr]
	INDS 107 [3-4 hrs]		
	OR	_____	CSCI 230 [3 hrs]
	_____ MUSC/THRE [2 hrs]		
	_____ same discipline [1 hr]	_____	MATH 161 [4 hrs]
	OR	_____	MATH 162 [4 hrs]
	_____ MUSC/THRE [1 hr]	_____	MATH 163 [1 hr]
	_____ same discipline [1 hr]	_____	MATH 223 [4 hrs]
	_____ same discipline [1 hr]	_____	MATH 230 [4 hrs]
		_____	MATH 301 [3 hrs]
_____	HIST 100 or 200 level except HIST 201/		
	or INDS 117 [3-4hrs]	_____	65-69 semester hours
_____	CJUS/ECON/GEOG/GNST/POLS/PSYC/		
	SOCI [3hrs]/INDS 104 [4 hrs]		
_____	US Cultural Studies [3 hrs]/INDS 109 [4 hrs]		
_____	Non-Western Cultural Studies [3 hrs]/		
	INDS 108 [4 hrs]		
_____	EXSC 110/120/121/130/201/240		
	[3 hrs]/INDS 105 [4 hrs]		
_____	120 semester hours		

➤Physics/Engineering dual-degree majors may count up to 52 hours in Physics and Engineering 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.

\*Enter NA (not applicable) if waived upon admission or if completing the honors program.