

Engineering Physics Major

Student Name: \_\_\_\_\_

Requirements for Major						
Course Prefix	Course Number	Major Requirements ( <i>Pre-Requisite</i> )	Liberal Studies	Req. Hours	Semester Taught	Earned Hours
Math	145	Calculus 1	X	4	Fall	
Math	245	Calculus 2		4	Spring	
Math	246	Calculus 3		4	Fall	
Math	310	Differential Equations		3	Even Spring	
Chem	123	General Chem 1		4	Fall	
Chem	124	General Chem 2		4	Spring	
Phys	221	General Physics 1		5	Fall	
Phys	222	General Physics 2		5	Spring	
Phys	227	Modern Physics		3	Fall	
Phys	340	Advanced Lab 1		2	Fall	
Phys	440	Advanced Lab 2		2	Fall	
Phys	321	Classical Mechanics		3	Even Spring	
Phys	323	Optics		3	Odd Fall	
Phys	250	Physics Seminar (3 courses at 1 credit hour each)		3	Spring	
Phys	486	Physics Capstone I		1	Fall	
Phys	496	Physics Capstone II		3	Spring	
Phys	165	Data Science		3	Odd Fall	
Phys	265	Scientific Programming		3	Even Spring	
Comp	160	3D Design, Digitizing, and Printing		3	Every Semester	
		<b>Subtotal</b>		<b>62</b>		

		<b>Students must pick 6 credit hours of the following Physics electives</b>			
Phys	260	Circuit Analysis and Electronics Laboratory		3	Odd Spring
Phys	325	Thermodynamics		3	Even Fall
Phys	335	Electromagnetic Theory		3	Even Spring
Phys	425	Intro to Quantum Mechanics		3	Odd Spring
Phys	485	Special Topics (Repeatable with different sub topics)		3	On Demand
		Physics electives at 300-400 level		3-6	
		<b>Subtotal</b>		<b>6</b>	
		Students must take 15 hours of engineering courses from an accredited Engineering Program. At least 9 hours must be at the 300/400 level.		<b>15</b>	
<b>Total Major Hours:</b>				<b>83</b>	

<b>DEGREE REQUIREMENTS</b>			
<b>BACHELOR OF ARTS:</b>			
Total Hours in Major:	83		
Liberal Studies:	33		
Suggested Courses:	0		
ELECTIVES:	4		
<b>TOTAL GRADUATION HOURS:</b>	<b>120</b>		

**SUGGESTED SEQUENCE**  
**Major: Engineering Physics Concentration**  
**Starting Even Year Fall Semester**

FALL OF YEAR ONE -Even			SPRING OF YEAR ONE -Odd		
Prefix and Number	Course Title	Credit Hours			
Math 145	Calculus I	4	Math 245	Calculus 2	4
Phys 221	General Physics 1	5	Phys 222	General Physics 2	5
			Phys 250	Physics Seminar	1
			Comp 160	3D Design & Printing	3
	Electives/Liberal Studies	6		Electives/Liberal Studies	3
	Total	15		Total	16

FALL OF YEAR TWO - Odd			SPRING OF YEAR TWO -Even		
Prefix and Number	Course Title	Credit Hours			
Phys 227	Modern Physics	3	Math 310	Differential Equations	3
Phys 340	Advanced Lab I	2	Phys 321	Classical Mechanics	3
Math 246	Calculus III	4	Phys 250	Physics Seminar	1
Phys 165	Data Science	3	Phys 265	Scientific Programming	3
Phys 323	Optics	3	Phys 335	Electromagnetic Theory*	3
	Electives/Liberal Studies	3		Electives/Liberal Studies	6-9
	Total	18		Total	18

**SUGGESTED SEQUENCE**  
**Major: Engineering Physics Concentration**  
**Starting Even Year Fall**

FALL OF YEAR THREE Even			SPRING OF YEAR THREE –Odd		
Phys 325	Thermodynamics*	3	Phys 425	Quantum Mechanics*	3
Phys 440	Advanced Lab II	2	Phys 250	Physics Seminar	1
Chem 123	General Chemistry I	4	Phys 260	Circuits*	3
	Physics Capstone I	1	Phys 496	Physics Capstone II	3
	Electives/Liberal Studies	6-9	Chem 124	General Chemistry II	4
				Electives/Liberal Studies	3-9
	Total	15		Total	17

FALL OF YEAR FOUR – Odd			SPRING OF YEAR FOUR – Even		
	Courses from Dual Degree			Courses from Dual Degree	
	Engineering Partner University			Engineering Partner University	
	Total	15		Total	15

**Total Hours = 120+**

\* Select 6 credit hours of course from the marked courses, Phys 485 Special Topics, or other physics electives at the 300/400 level.

Note: This 4-year plan assumes all liberal studies, core, and major courses with the exception of the engineering courses are completed in 3 years of fall and spring semesters. Course load each semester may be reduced by completing the 4-2 instead of 3-2 Dual Degree Engineering Programs, taking summer courses, or by transferring in credits from a Dual Degree Engineering Program to fulfill the above requirements. See your advisor for help planning alternative schedule.

**SUGGESTED SEQUENCE**  
**Major: Engineering Physics Concentration**  
**Starting Odd Year Fall**

FALL OF YEAR ONE - Odd			SPRING OF YEAR ONE - Even		
Prefix and Number	Course Title	Credit Hours			
Math 145	Calculus I	4	Math 245	Calculus 2	4
Phys 221	General Physics 1	5	Phys 222	General Physics 2	5
Phys 165	Data Science	3	Phys 250	Physics Seminar	1
	Electives/Liberal Studies	3	Phys 265	Scientific Programming	3
				Electives/Liberal Studies	6
		Total			Total
		15			16

FALL OF YEAR TWO – Even			SPRING OF YEAR TWO- Odd		
Prefix and Number	Course Title	Credit Hours			
Phys 227	Modern Physics	3	Phys 260	Circuits*	3
Phys 340	Advanced Lab I	2	Phys 250	Physics Seminar	1
Math 246	Calculus III	4	Chem 124	General Chemistry 2	4
Chem 123	General Chemistry 1	4	Phys 425	Quantum Mechanics*	3
Phys 325	Thermodynamics*	3		Electives/Liberal Studies	6-12
	Electives/Liberal Studies	3-6			
		Total			Total
		16			17

**SUGGESTED SEQUENCE**  
**Major: Engineering Physics Concentration**  
**Starting Odd Year Fall**

FALL OF YEAR THREE – Odd			SPRING OF YEAR THREE - Even		
Phys 440	Advanced Lab II	2	Math 310	Differential Equations	3
Phys 323	Optics	3	Phys 321	Classical Mechanics	3
Phys 486	Physics Capstone I	1	Phys 335	Electromagnetic Theory*	3
Comp 160	3D Design & Printing	3	Phys 250	Physics Seminar	1
	Electives/Liberal Studies	9	Phys 428	Physics Capstone II	3
				Electives/Liberal Studies	3-6
	Total	18		Total	15

FALL OF YEAR FOUR – Even			SPRING OF YEAR FOUR - Odd		
	Courses from Dual Degree			Courses from Dual Degree	
	Engineering Partner University			Engineering Partner University	
	Total	15		Total	15

**Total Hours = 120+**

\* Select 6 credit hours of course from the marked courses, Phys 485 Special Topics, or other physics electives at the 300/400 level.

Note: This 4-year plan assumes all liberal studies, core, and major courses with the exception of the engineering courses are completed in 3 years of fall and spring semesters. Course load each semester may be reduced by completing the 4-2 instead of 3-2 Dual Degree Engineering Programs, taking summer courses, or by completing credits at a Dual Degree Engineering Program to fulfill the above requirements. See your advisor for help planning alternative schedule.