

**Degree program: \_\_\_Bachelor of Arts with a Major in Physical Science\_\_\_\_\_**

<b>Program Student Learning Outcomes</b>
<b>1.</b> Students will be able to communicate effectively in written and oral forms, work successfully in teams, and understand ethical responsibilities.
<b>2.</b> Students will be able to think critically and be prepared for life-long learning.
<b>3.</b> Students will be able to continue graduate studies in Physical Science or related field.
<b>4.</b> Students will have a solid foundation in the concepts of Classical Mechanics, Electromagnetic Theory, and Modern Physics, and have the basic and the advanced experimental skills in group and individual setting.
<b>5.</b> Students will have the knowledge of analytical reasoning and problem-solving in the physical sciences. With this knowledge and the experimental skills students will be prepared for a career in the physical sciences.

**Worksheet #2 – Program Checklist – List required courses and indicate level/s of delivery  
By putting (I, E, R or A) into Each Box**

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**I** = Students are INTRODUCED to material  
**E** = The material is EMPHASIZED and taught in depth  
**R** = The material is REINFORCED with additional exposure to the information  
**A** = The Competencies/Skills are being APPLIED

List of courses required for the degree	Program-level outcomes addressed				
	#1 Students will be able to communicate effectively in written and oral forms, work successfully in teams, and understand ethical responsibilities.	#2 Students will be able to think critically and be prepared for life-long learning.	#3 Students will be able to continue graduate studies in Physical Science or related field.	#4 Students a solid foundation in the concepts of Classical Mechanics, Electromagnetic Theory, and Modern Physics, and have the basic and the advanced experimental skills in group and individual setting.	have the knowledge of analytical reasoning and problem-solving in the physical sciences. With this knowledge and the experimental skills students will be prepared for a career in the physical sciences.
PHYS 2325	<b>I</b>	<b>E</b>	<b>I</b>	<b>I</b>	<b>E</b>
PHYS 2125	<b>E</b>	<b>E</b>	<b>I</b>	<b>I</b>	<b>E</b>
PHYS 2326	<b>E</b>	<b>R</b>	<b>E</b>	<b>E</b>	<b>R</b>
PHYS 2126	<b>E</b>	<b>R</b>	<b>E</b>	<b>E</b>	<b>R</b>
MATH 2413		<b>I</b>	<b>I</b>	<b>I</b>	<b>I</b>
MATH 2414		<b>E</b>	<b>E</b>	<b>E</b>	<b>E</b>
MATH 2415		<b>E</b>	<b>E</b>	<b>R</b>	<b>R</b>
COSC 1336	<b>I</b>	<b>I</b>		<b>I</b>	<b>I</b>
COSC 1136	<b>I</b>	<b>I</b>		<b>I</b>	<b>I</b>
COSC 1337	<b>I</b>	<b>I</b>		<b>I</b>	<b>I</b>
COSC 1137	<b>I</b>	<b>I</b>		<b>I</b>	<b>I</b>

MATH 3310		<b>I</b>	<b>I</b>		
MATH 3330		<b>E</b>	<b>E</b>	<b>E</b>	
MATH 4340	<b>I</b>	<b>I</b>	<b>I</b>	<b>I</b>	<b>I</b>
MATH 4350	<b>E</b>	<b>I</b>		<b>I</b>	<b>I</b>
PHYS 3305	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 3310	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 3315	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 3320	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 3325	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 4305	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PHYS 4399	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

**Worksheet #3 - Order Courses by Outcome and Level of Delivery (Courses may be listed more than once)  
Indicate level of delivery by checking the appropriate box) Add cells as necessary**

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Program-level outcome addressed (write out each program level outcome)	Level of Material Delivery (List classes in order of material delivery)				Courses List courses (or groups of courses) in order of material delivery for each outcome (I, E, R and then A). Courses may provide more than one level of material delivery.	Curriculum Component/s (Class Activities) that Address Outcome	Means of Assessment
	I	E	R	A			
#1 Students will be able to communicate effectively in written and oral forms, work successfully in teams, and understand ethical responsibilities.	X				PHYS 2325		
	X				COSC 1336		
	X				COSC 1136		
	X				COSC 1337		
	X				COSC 1137		
	X				MATH 4340		
		X			PHYS 2125		
		X			PHYS 2326		
		X			PHYS 2126		
		X			MATH 4350		
				X	PHYS 3305		
				X	PHYS 3310		
				X	PHYS 3315		
				X	PHYS 3320		
#2 Students will be able to think critically and be prepared for				X	PHYS 3325		
				X	PHYS 4305		
				X	PHYS 4399		
	X				COSC 1336		
	X				COSC 1136		
				X	COSC 1337		
				X	COSC 1137		
				X	MATH 2413		

life-long learning.	X				MATH 3310		
	X				MATH 4340		
	X				MATH 4350		
		X			PHYS 2325		
		X			PHYS 2125		
		X			MATH 2414		
		X			MATH 2415		
		X			MATH 3330		
			X		PHYS 2326		
			X		PHYS 2126		
				X	PHYS 3305		
				X	PHYS 3310		
				X	PHYS 3315		
				X	PHYS 3320		
				X	PHYS 3325		
				X	PHYS 4305		
			X	PHYS 4399			
#3 Students will be able to continue graduate studies in Physical Science or related field.	X				PHYS 2325		
	X				PHYS 2125		
	X				MATH 2413		
	X				MATH 3310		
	X				MATH 4340		
		X			PHYS 2326		
		X			PHYS 2126		
		X			MATH 2414		
		X			MATH 2415		
		X			MATH 3330		
				X	PHYS 3305		
				X	PHYS 3310		
				X	PHYS 3315		
				X	PHYS 3320		
			X	PHYS 3325			
			X	PHYS 4305			
			X	PHYS 4399			
#4 Students will have	X				PHYS 2325		

	X				PHYS 2125		
	X				MATH 2413		
	X				COSC 1336		
	X				COSC 1136		
	X				COSC 1337		
	X				COSC 1137		
	X				MATH 4340		
	X				MATH 4350		
		X			PHYS 2326		
		X			PHYS 2126		
		X			MATH 2414		
		X			MATH 3330		
			X		MATH 2415		
				X	PHYS 3305		
				X	PHYS 3310		
				X	PHYS 3315		
				X	PHYS 3320		
				X	PHYS 3325		
				X	PHYS 4305		
				X	PHYS 4399		
#5 Students will have the knowledge of analytical reasoning and problem-solving in the physical sciences. With this knowledge and the experimental skills students will be prepared for a career in the physical sciences.	X				MATH 2413		
	X				COSC 1336		
	X				COSC 1136		
	X				COSC 1337		
	X				COSC 1137		
	X				MATH 4340		
	X				MATH 4350		
		X			PHYS 2325		
		X			PHYS 2125		
		X			MATH 2414		
			X		PHYS 2326		
			X		PHYS 2126		
			X		MATH 2415		
				X	PHYS 3305		
			X	PHYS 3310			

			<b>X</b>	<b>PHYS 3315</b>		
			<b>X</b>	<b>PHYS 3320</b>		
			<b>X</b>	<b>PHYS 3325</b>		
			<b>X</b>	<b>PHYS 4305</b>		
			<b>X</b>	<b>PHYS 4399</b>		

**Worksheet #4 - Needed Modifications, if any, for Curriculum Alignment**

**Goal: Degree programs are coherent in that they demonstrate 1) sequencing, 2. progression or increasing complexity, and 3) linkages between and among program core courses.**

<b>Curriculum Modifications Needed</b>	<b>Why Needed?</b>
<b>We do not think that we need to modify this program at this time, but we will reconsider this question during Fall 2008.</b>	