PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	INSTITUTIONAL STUDENT LEARNING OUTCOMES - ISLOs													
ISLO 1	**COMMUNICATION**													
1A	Read													
1B	Listen													
1C	Write													
1D	Dialogue													
ISLO 2	**TECHNOLOGY AND INFORMATION COMPETENCY**													
2A	Demonstrate Technical Literacy													
2B	Apply Technology													
2C	Access Information													
2D	Evaluate and Examine Information													
ISLO 3	**CRITICAL AND CREATIVE THINKING**													
3A	Inquire													
3B	Analyze													
3C	Problem Solve													
3D	Express													
ISLO 4	**CITIZENSHIP**													
4A	Ethics													
4B	Diversity													
4C	Sustainability/Global Awareness													
4D	Personal Responsibility													

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYSICS PROGRAM OUTCOMES - PSLOs	**Related ISLOs**	C- Completed, P- Planned											
PSLO A	Student will be able to correctly apply the appropriate mathematical tools and physical concepts to solve problems and model physical systems at a level commensurate with the level of mathematics required.	1C,3B,3C,3D												
PSLO B	Students wil be able to apply basic physical principles conceptually to explain simple physical systems and everday phenomena at a level commensurate with the level of mathematics required.	1A,1B,1C,1D,3B,3C,3D												
PSLO C	Students will be able to utilize technology as an experimental tool at a level commensurate with the curriculum.	3A,3B,3D												
PSLO D	Students will be able to evaluate, analyze, and interpret scientific data and utilize verbal and wrriten communication skills to share their results of physical measurements at a level commensurate with the curriculum.	1A,1C,1D,3B,3C,3D												
PHYSICS FOR TRANSER AS-T degree - same as the PSLOs. **PHYSICS AS degree - same as the PSLOs.**														
	PHYSICS COURSE OUTCOMES - CSLOs	**Related PSLO**												
	PHYS A - Foundations of College Physics		C- Completed, P- Planned											
CSLO 1	Apply algebra, geometry, and trigonometry to solve problems associated with Classical Physics.	A						P	C					
CSLO 2	Identify the physical concepts associated with Classical Physics that explain physical phenomena.	B												
CSLO 3	Develop an overlying global rigorous process to aid in evaluating the behavior of physical systems obeying the laws of physics.	A,B												
CSLO 4	Evaluate the integrity of a data set provided by the instructor through error analysis, numerical computation, and/or graphical analysis and interpretation.	D												

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYS 10 - Basic Concepts in Physics													
CSLO 1	Use basic algebra to associate physical concepts with fundamental physical equations of Newtonian Mechanics, electricity, magnetism, thermodynamics, and waves.	A						P						
CSLO 2	Identify the physical concepts involving Newtonian mechanics, electricity, magnetism, thermodynamics and/or waves corresponding to physical phoenomena.	B												
CSLO 3	Recognize the application of physical concepts of Newtonian mechanics, electricity, magnetism, thermodynamics, and waves in common and observable (everyday) physical phenomena.	A,B							C					
	PHYS 10L - Physical Science Laboratory													
CSLO 1	Use appropriate lab equipment to achieve successful measurements associated with motion, electric charges, thermodynamics and waves.	C							C					
CSLO 2	Use appropriate software and numerical calculations to perform data analysis on measurements associated with the motion of macroscopic objects, electric charges, waves and heat.	D												
CSLO 3	Communicate experimental results in written and oral form.	D												
CSLO 4	Integrate theoretical constructs of Newtonian mechanics, electricity and magnetism, thermodynamics, and waves from Physics 10 into concrete applications via experiemental methodology.	C,D												
	PHYS 28 - Independent Study													
CSLO 1														
CSLO 2														
CSLO 3														
	PHYS 105 - General Physics I													
CSLO 1	Solve problems associated with Newtonian mechanics and thermodynamics using trigonometry and algebra.	A				P	C							
CSLO 2	Identify which physical concepts associated with linear motion, rotational motion, and thermodynamics explain physical phenomena.	B										P	C	
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying Newtonian mechanics and thermodynamics.	A,B												

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYS 105L - General Physics I Laboratory		C- Completed, P- Planned											
CSLO 1	Use the appropriate lab equipment to achieve successful measurements associated with Newtonian mechanics and thermodynamics.	C											P	C
CSLO 2	Use the appropriate software and numerical calculations to perform data analysis on measurements associated with Newtonian mechanics and thermodynamics.	D					P	C						
CSLO 3	Communicate experimental results in written and oral form.	D												
CSLO 4	Integrate theoretical constructs of Newtonian mechanics and thermodynamics from Physics 105 into concrete applications via experimental methodology.	C,D												
	PHYS 110 - General Physics II													
CSLO 1	Solve problems associated with electricity, magnetism, and waves using trigonometry and algebra.	A				P	C							
CSLO 2	Identify which physical concepts associated with electricity, magnetism, and waves to use to explain physical phenomena.	B										P	C	
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems involving electricity, magnetism and waves.	A,B												

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYS 110L - General Physics II Laboratory		C- Completed, P- Planned											
CSLO 1	Use the necessary lab equipment to achieve successful measurements associated with the motion of electric charges and waves.	C											P	C
CSLO 2	Use the necessary software and numerical calculations to perform data analysis on measurements associated with the motion of electric charges and waves.	D					P	C						
CSLO 3	Successfully communicate comprehension of measurements of moving electric charges and waves in written reports using software, communication skills, and clear presentation of data.	D												
CSLO 4	Integrate theoretical constructs of electricity, magnetism, and waves from Physics 110 into concrete applications via experimental methodology.	C,D												
	PHYS 140 - Survey of Chemistry and Physics													
CSLO 1	Investigate physical phenomena using appropriate equipment and methods, make valid comparisons with theoretical predictions, and communicate those results.	C,D												
CSLO 2	Identify and explain phenomena that illustrate the interdependence of physics and chemistry.	A,B												
CSLO 3	Apply basic principles of physics and chemistry to explain everyday phenomena.	B												
CSLO 4	Apply basic algebra to analyze simple physical and chemical systems.	A												
	PHYS 205 - Principles of Physics: Mechanics													
CSLO 1	Use calculus, trigonometry, and algebra to solve problems associated with Newtonian mechanics.	A		P	C									
CSLO 2	Identify which physical concepts associated with linear and rotational motion explain physical phenomena.	B								P	C			
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying Newtonian mechanics.	A,B												
	PHYS 205L - Prinicples of Physics Laboratory: Mechanics													
CSLO 1	Use the appropriate lab equipment to achieve successful measurements associated with Newtonian mechanics.	C												
CSLO 2	Use the appropriate software and numerical calculations to perform data analysis on measurements associated with Newtonian mechanics.	D			P	C						C		
CSLO 3	Communicate comprehension of measurements of moving macroscopic objects in written reports using software, communication skills, and clear presentation of data.	D									P	C		
CSLO 4	Integrate theoretical constructs of Newtonian mechanics from Physics 205 into concrete applications via experimental methodology.	C,D												

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYS 210 - Principles of Physics: Electricity and Magnetism													
CSLO 1	Solve problems associated with electricity and magnetism using calculus, trigonometry, and algebra.	A		P	C						C			
CSLO 2	Identify which physical concepts associated with electricity and magnetism to use to explain physical phenomena.	B								P	C			
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying Maxwells Equations.	A,B									C			
	PHYS 210L - Principles of Physics Laboratory: Electricity and Maganetism													
CSLO 1	Use appropriate lab equipment to achieve successful measurements associated with the motion of electric charges.	C												
CSLO 2	Use appropriate software and numerical calculations to perform data analysis on measurements associated with the motion of electric charges.	D			P	C						C		
CSLO 3	Communicate experimental results in written and oral form.	D									P			
CLSO 4	Integrate theoretical constructs of electriciy and magnetism from Physics 210 into concrete applications via experimental methodology.	C,D												
	PHYS 210R - Problem Solving for Physics 210													
CSLO 1	Solve problems associated with electricity and magnetism using calculus, trigonometry, and algebra.	A							P	C				
CSLO 2	Identify which physical concepts associated with electricity and magnetism to use to explain physical phenomena.	B												
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying Maxwell's Equations.	A,B												
	PHYS 215 - Principles of Physics: Heat, Waves and Modern Physics													
CSLO 1	Solve problems associated with thermodynamics and waves using calculus, trigonometry, and algebra.	A		P	C									
CSLO 2	Identify which physical concepts associated with thermodynamics or waves to use to explain physical phenomena.	B								P	C			
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying wave properties and the laws of thermodynamics.	A,B												

PHYSICS Program

ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
			F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
	PHYS 215L - Principles of Physics Laboratory: Heat, Waves and Modern Physics													
CSLO 1	Use necessary lab equipment to achieve successful measurements associated with the motion of waves and heat.	C												
CSLO 2	Use necessary software and numerical calculations to perform data analysis on measurements associated with the motion of waves and heat.	D										C		
CSLO 3	Communicate comprehension of measurements of moving waves and heat energy in written reports using software, communication skills, and clear presentation of data.	D			P	C					P			
CLSO 4	Integrate theoretical constructs of waves and thermodynamics from Physics 215 into concrete applications via experimental methodology.	C,D												
	PHYS 215R - Problem Solving for Physics 215		C- Completed, P- Planned											
CSLO 1	Solve problems associated with thermodynamics and waves using calculus, trigonometry, and algebra.	A							P	C				
CSLO 2	Identify which physical concepts associated with thermodynamics or waves to use to explain physical phenomena.	B												
CSLO 3	Develop an overlying and rigorous process to evaluate the behavior of physical systems obeying wave properties and the laws of thermodynamics.	A,B												
CSLO#	**COURSE NUMBER: COURSE NAME**	**Related PSLO**												