



School of Education
Physical Science
 Program Outline
 For Students Entering 2019-2020 Academic Year

Name _____ ID# _____ Advisor _____

Course #	Course Title	Hours	Advising Notes
Required Courses in Physics:			
PHY 103	Sci & Hist on Development of Nuclear Weapons in WWII	3	
PHY 131 & PHY 151 OR PHY 145	General Physics I & Introductory Physics Lab I OR Applied College Physics I	5	
PHY 132 & PHY 152 OR PHY 146	General Physics II Introductory Physics Lab II OR Applied College Physics II	5	
PHY 233	Modern Physics	4	
PHY 311	Electronic Instrumentation	3	
PHY 312	Advanced Laboratory	3	
Required Courses in Chemistry:			
CHM 111	General Chemistry I	4	
CHM 112	General Chemistry II	4	
CHM 115	General Chemistry Lab	1	
CHM 221	Quantitative Analysis	3	
CHM 225	Quantitative Analysis Laboratory	1	
CHM 251	Organic Chemistry I	4	
CHM 255	Organic Chemistry Laboratory	0.5	
CHM 311	Biochemistry	3	
CHM 315	Biochemistry Laboratory	1	
Required Courses in Mathematics:			
MTH 141	Calculus I	4	
MTH 142	Calculus II	4	
Choose TWO of the following courses: (6-7.5 credits)			
CHM 321 & CHM 325	Instrumental Analysis & Instrumental Analysis Laboratory	4	
CHM 331 & CHM 335	Physical Chemistry & Physical Chemistry Laboratory	3.5	
PHY 362	Physics of Waves	3	
PHY 371	Thermal Physics	4	
PHY 372	Quantum Physics	3	
Choose at least FOUR courses in FOUR departments:			
<i>These courses MUST include 1 Astronomy course, 1 Geology course, and 1 Biology course (12-14 credits)</i>			
AST 170 & AST 111 OR AST 121	Observational Astronomy Lab & Astronomy of the Stars OR Astronomy of the Solar System	4	
AST 131	Exploratory Astronomy	4	Lab included
BIO 111	Field Biology	3	

Choose at least FOUR courses in FOUR departments: (continued)			
BIO 121	Principles of Biology I	4	
BIO 122	Principles of Biology II	4	
GEO 104	Geology of National Parks	4	
GEO 111	The Dynamic Earth	4	
GEO 121I	Physical Geography	4	
GEO 200	Planets, Moons, & Meteorites	3	
PHY 102	Topics in Physics	3	
PHY 331	Physical Mechanics I	3	
PHY 341	Theoretical Physics	3	
The following courses are RECOMMENDED, but NOT REQUIRED			
MTH 243	Calculus III	4	
MTH 245	Differential Equations	3	
Additional Teaching Field Requirements:			
<i>Must meet all EDU requirements, including GPA and prerequisite coursework requirements before taking methods</i>			
EDU 356	Special Methods: Science	3	Only offered in Fall semester