

**Recommended Course Sequence – Fall 07 entrance**
**FRESHMAN YEAR**

Fall	Credits	Spring	Credits
<b>PHYS 211 GAP I</b>	<b>4</b>	<b>PHYS 212 GAP II</b>	<b>4</b>
CHEM 121 General Chemistry I	5	CHEM 122 General Chemistry II	5
MATH 115 Calculus I	4	MATH 116 Calculus II	4
COSC 160 C++	3	UCOR 1	3
UCOR Information Literacy	1		
	<b>17</b>		<b>16</b>

**SOPHOMORE YEAR**

Fall	Credits	Spring	Credits
<b>PHYS 302 Optics</b>	<b>3</b>	<b>PHYS 374 Modern Physics</b>	<b>4</b>
<b>PHYS 312 Optics Lab</b>	<b>1</b>	<b>PHYS 364 Modern Physics Lab</b>	<b>1</b>
MATH 215 Calculus III	4	MATH 310 Linear Algebra	3
<b>PHYS 332 Analog Electronics</b>	<b>3</b>	MATH 314 Differential Equations	3
UCOR 2	3	UCOR 4	3
UCOR 3	3	UCOR 5	3
	<b>17</b>		<b>16</b>

**JUNIOR (SENIOR) YEAR**

Even Fall	Credits	Odd Spring	Credits
<b>PHYS 474 Quantum Mechanics</b>	<b>3</b>	ENGL 302 Science Writing	3
MATH 308 Numerical Analysis or MATH 301 Probability & Statistics I	3	UCOR 7	3
HIST 307 History of Science (or BSNES-Core free elective 1)	3	UCOR 8 (or <b>PHYS 499 Senior Research + SPRG 105 Career Development Seminar</b> )	3
<b>PHYS 482W Particle Physics</b>	3 (2)	<b>PHYS 481 Cosmology</b>	<b>3</b>
UCOR 6 (or Free elective 1)	3	<b>BIOL 111 or BIOL 112</b>	<b>4</b>
	<b>15 (14)</b>		<b>16</b>

**SENIOR (JUNIOR) YEAR**

Odd Fall	Credits	Even Spring	Credits
<b>PHYS 461 Mechanics</b>	<b>4</b>	[ <b>PHYS 499 Senior Research</b>	2
<b>PHYS 401 Thermal Physics</b>	<b>3</b>	[ SPRG 105 Career Development Seminar (or UCOR 8)	1
BSNES-Core free elective 1 (or HIST 307 History of Science)	3	<b>PHYS 472 Electromagnetism</b>	<b>4</b>
UCOR 9	3	BSNES-Core free elective 2 (or UCOR 7)	3
Free elective 1 (or UCOR 6)	2 (3)	<b>UCOR 124 Earth Science</b>	<b>3</b>
	<b>15 (16)</b>	Free elective 2 (or ENGL 302 Science Writing)	3
			<b>16</b>

**TOTAL: 128 credits**
**Recommended free electives for the MS in Education**

BSNES-Core free elective 1 (3):	GSCE 520 Introduction to Teaching (3)
Free elective 1 (2):	GSCE 58x Field Experience (1) and GSCE 570 Gateway 1: Technology (1)
BSNES-Core free elective 2 (3):	GRLA 529/521 Reading Course (3)
Free elective 2 (3):	GREV 525 Educational Research Literacy (3)

**Failure to take the recommended graduate education courses before graduating from the Physics program may result in significantly delayed graduation from the school of Education**

**Graduate Secondary Leading Teacher Program (GSLTP)**  
**Dual Degree – BSNES/SOE**  
**Entering in Fall of Senior year**

**Apply for Admission to School of Education in April of Junior Year**

		→SOE				
		BSNES←				
		SENIOR YEAR		YEAR 5		
Course	Credits	Fall	Spring	Summer	Fall	Spring
Orientation	0	X				
Introduction to Teaching	3	X				
Field Experience	1	X				
Reading course	3		X			
Introduction to Research	3		X			
Gateway 1: Technology	1	X				
Special Education	3			X		
Special Education	3			X		
Educational Diversity	3			X		
Gateway 2: Diversity	0			X		
Educational Psychology	3			(X)	X ( )	
Instruction	3				X	
Methods Course	3				X	
Field Experience	1				X	
Gateway 3: Readiness for Student Teaching	0				X	
Student Teaching	6					X
Gateway 4: Leadership	0					X
<b>GSLTP Total Credits</b>	<b>36</b>	<b>5</b>	<b>6</b>	<b>9 (12)</b>	<b>10 (7)</b>	<b>6</b>

**At the end of year five, students would have acquired a BS in physics, a MEd in Secondary Education, and Initial Certification (Instructional I) to teach at the secondary level in the Commonwealth of Pennsylvania (grades 7-12)**