

**Department of Education & School Psychology**  
**Curriculum Content—Physical Science Dual Field Licensure**  
**Chemistry Major/Physics Minor**

(75-78 hours required)

**OAE Tests – Chemistry (009) and Physics (035)**

Course #	Course Title	Hours	Gr.	Sem.
CH 141/143 <sup>1</sup>	General Chemistry I and Lab	5		Fall, Summer
CH 142/144	General Chemistry II and Lab	5		Spring, Summer
CH 221/223	Organic Chemistry I and Lab	4		Fall, Summer
CH 222/224	Organic Chemistry II and Lab	4		Spring, Summer
CH 261/263	Analytical Chemistry and Lab	4		Spring
CH 441/443	Instrumental Analysis and Lab	4		Fall
CH 478	Chemistry Seminar	0		Spring & Fall
CH 431 <sup>3</sup>	General Biochemistry	4		Spring
PH 135/135L	Physics I and Lab	5		
PH 136/136L	Physics II and Lab	5		
PH 246	Modern Physics	3		
EP 217	Mathematical methods of Physics and Engineering	3		

Plus additional upper division courses in physics depending on chemistry electives (see footnotes 2)

BL 155/156	Principles of Biology I and II	6		
BL 157/158	Principles of Biology Lab I and II	2		
MT 135	Calculus and Analytic Geometry I	4		
MT 136	Calculus and Analytic Geometry II	4		
MT 233	Calculus and Analytic Geometry III	4		

**Select One:**

CH 361	Introductory Physical Chemistry	3		Fall
CH 367 <sup>2</sup>	Physical Chemistry Lab I	2		Spring & Fall
CH 365	Physical Chemistry I	3		Fall
CH 366	Physical Chemistry II	3		Spring
CH 367	Physical Chemistry Lab I	2		Spring & Fall

**Select One**

PH 115/L	Environmental Earth Science and Lab	4		Fall
PH 206	Earth System Science	3		Spring

<sup>1</sup>CH 151/153 may be substituted for CH 141/142/143/144 to save the student 5 credit hours

<sup>2</sup>CH 361/367 may be used to satisfy only one of the additional upper division physics courses with the approval of the physics department chairperson. An additional upper division physics course is therefore needed.

<sup>3</sup>CH 435/436 may substitute for CH 431 with Chair's approval