

**MIDDLE SCHOOL OPTION: SCIENCE**

**INTRODUCTORY SUBJECT MATTER AUTHORIZATION IN SCIENCE  
(added to your multiple subject credential)**

*For students in the LIBERAL STUDIES SPECIALIZATION IN SCIENCE (AY 2009)*

If you would like to teach science at the middle school level, as well as multiple subjects at the elementary level, in addition to a multiple subjects credential, you will need a total of 32 units of science course work, with at least 6 units in the specific content areas as described below. The additional courses you complete to satisfy the requirements for the middle school authorization can be used as elective units for graduation (if necessary).

**REQUIREMENTS:**

**Minimum of 32 total units; at least 6 units in each content area; grade of C or higher required.**  
(units can also count towards requirements in the major\* and/or specialization^)

Content areas (take **two** classes for each area):

1. Biological sciences                      Biology 100\*, 100L\*, 315^, 319^, 324^, 327^
2. Chemistry                                  Any two college level chemistry courses. Examples:  
Chemistry 308\* **and** Chemistry 100. See adviser.
3. Geosciences                                Astronomy 310^, Geology 104\*, 301^, 303^, 412^; Oceans 320^
4. Physics                                        Physics 107, Physics 301^, Natural Science 412\*
5. Additional courses in the areas above to total 32 units overall, including units in specialization.  
Recommended: Astronomy 101, Geography 101, Geography 103, Natural Science 100\*, Oceans 100.

**NOTE: N SCI 100** will count towards the 32 unit total, but because it's half chemistry and half physics, it won't count towards any of the content areas above

<b>Courses in Major</b>		<b>Courses in Specialization</b>		<b>Additional Courses (see reverse and/or adviser)</b>	
SCI-1 Geology 104	3	SP-2 Biology 315 (etc)	3	Chemistry 100	4
SCI-2 Biology 100	3	SP-3 GEOL 303 or OCEAN 320	3	Additional Chemistry	3-4
SCI-3 Biology 100L or GEOL 101	1	SP-4 Geology 412	4	Intro Physics	4
SCI-4 Natural Science 100	3				
SCI-5 N SCI 412 (physics)	4				
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>10</b>	<b>Units needed</b>	<b>8+</b>

**Your total:**                      \_\_\_\_\_

**Overall total:**                      \_\_\_\_\_

**NOTE:** If you apply for the subject matter authorization at the time you apply for your credential, all the paperwork is handled through the SDSU Credential Office. If you apply later, you do it through the Commission on Teacher Credentialing, and there is an extra fee.

### Middle School Science Worksheet

Content area	Courses in the major	Courses in the specialization	Additional courses	Content area units (need 6 in each area)
1. Biological sciences	BIO 100 (3), 100L (1)	BIO 315 or 319 or 324 or 327 (3)	N/A	
2. Chemistry	N/A	N/A	CHEM 100 (4) <b>and</b> *Other LD CHEM (3-4): _____.	
3. Geosciences	GEOL 104 (3)	GEOL 303 or OCEAN 320 (3) <b>and</b> GEOL 412 (4)		
4. Physics	N SCI 412 (4)	N/A	^Intro physics for non-majors (3-4): _____.	
5. Electives (any area)	N SCI 100 (3)			
	14 units	10 units	10-12 units	

**Total units (need 32)**

\*possibilities for other lower division chemistry **after** CHEM 100 include:

SDSU	Grossmont	San Diego CCs	MiraCosta	Palomar
N/A	CHEM 110 (3) CHEM 113 (4)	CHEM 111 & 111L (4)	CHEM 102 & 103 (4)	CHEM 101 (3) CHEM 102 (3) CHEM 109 (3)

^possibilities for lower division introductory physics include:

SDSU	Grossmont	San Diego CCs	MiraCosta	Palomar
PHYS 107 (3)	PHYC 110 (4)	PHYS 100 (4)	PHYS 111 (4)	PHYS 101 (4)

To see SDSU course equivalents at JCs, visit [www.assist.org](http://www.assist.org)  
We encourage students who take any of these JC classes to give us feedback about them