

2008-2009 CURRICULUM CHECK SHEET is a guide to the requirements of this major. **It is NOT necessary to take these courses in the order given.** Please consult the online Bulletin for specific details (<http://www.lasierra.edu/academics/bulletin>).

	FALL	WINTER	SPRING
FIRST YEAR			
* General Chemistry (CHEM 111, 112, 113 & Labs)(15 units)	_____	_____	_____
* Chemistry Seminar (CHEM 205)(1 unit)	_____	_____	_____
** Calculus I, II (MATH 131, 132)(8 units)	_____	_____	_____
<i>Calculus prerequisite satisfies Math Foundational Studies Requirement</i>			
First Year Seminar (UNST 101/100)(2-6 units)	_____	_____	_____
College Writing (ENGL 111, 112, 113)(9 units)	_____	_____	_____
Growing Up in America (SSCI 104) OR Identity & Society (SSCI 105) OR Childhood in Gobar Perspective (SSCI 106)(4 units)	_____	_____	_____
THEME IA: Understanding Human Beings OR National and Global Citizenship (4 units)	_____	_____	_____
THEME III: Religious Beliefs and Practice (4 units)	_____	_____	_____
Lifetime Fitness (PEAC 120)(2 units)	_____	_____	_____
SECOND YEAR			
* Organic Chemistry I, II, III (CHEM 371, 372, 373 & Labs)(12 units)	_____	_____	_____
* Analytical Chemistry (CHEM 224)(4 units)	_____	_____	_____
* Chemistry Seminar (CHEM 205)(1 unit)	_____	_____	_____
** General Physics (PHYS 231, 232, 233 & Labs)(15 units)	_____	_____	_____
THEME IIA: Arts Appreciation or History (4 units)	_____	_____	_____
World Language Foundational Studies requirement (12 units)	_____	_____	_____
Exploring American Culture through Literature (HUMN 204) OR Expl. Amer. Culture through Visual & Perf. Arts (HUMN 205)(4 units)	_____	_____	_____
THIRD YEAR			
* Physical Chemistry (CHEM 351, 352, 353 & Labs)(12 units)	_____	_____	_____
* Advanced Organic Laboratory (CHEM 375)(1 unit)	_____	_____	_____
* Chemistry Elective to complete 60 units (4 units)	_____	_____	_____
Upper Division Rhetorical Course (This requirement met by CHEM 405, 408, and 1 from CHEM 424, 425, or 426)(4 units)	_____	_____	_____
THEME IIB: Historical or Contemporary Culture & Context (4 units)	_____	_____	_____
Adventism in a Global Perspective (RLGN 304) OR The Experience of Religion in Three Cultures (RLGN 305)(4 units)	_____	_____	_____
THEME III: Religious Beliefs and Practice (4 units)	_____	_____	_____
Electives	_____	_____	_____
FOURTH YEAR			
* Instrumental Analysis: Select 2 courses from CHEM 424 & Lab OR 425 & Lab OR 426 & Lab (8 units)	_____	_____	_____
* Senior Seminar (CHEM 405)(1 unit)	_____	_____	_____
* Introduction to Research (CHEM 408)(1 unit)	_____	_____	_____
THEME III: Religious Beliefs & Practice (4 units)	_____	_____	_____
Scientific Foundations: Choose one course from the following: NSCI 404, 405, 406, 407 (4 units)	_____	_____	_____
Religious, Moral & Social Aspects of Chemistry (UNST 404D)(4 units)	_____	_____	_____
Electives to complete 190 quarter units	_____	_____	_____
* Major Requirements (60 units)			
** Cognate Requirements			

CHEMISTRY

B.A. Degree

CAREER OPPORTUNITIES AND RELATED OCCUPATIONS: Chemists work in research and in industry as chemical engineers, occupational safety/health managers, agricultural scientists, chemical technicians, and in fields such as quality control, research and development, environmental testing crime laboratories, food chemistry, manufacturing industries, pharmaceuticals. Chemists also may teach and work in health-related fields including medicine, dentistry, allied health, health science, and medical technology. The majority of industry-related jobs in chemistry are filled by B.S. Chemistry applicants. Education-related jobs in chemistry may be filled by either B.A. or B.S. Chemists.

EDUCATIONAL QUALIFICATIONS: Entry-level jobs in industry require the bachelor's degree in chemistry. Advanced study or training beyond the bachelor's degree is required for the jobs listed above involving research and management training.

DENOMINATIONAL OPPORTUNITIES: Opportunities are limited to the teaching field. Students with bachelor's degrees in chemistry, biochemistry, or physical science will have good denominational employment opportunities for teaching the physical sciences, including chemistry and biochemistry, in academies.

JOB OUTLOOK: Employment of chemists is expected to grow more slowly than the average rate for all occupations through 2014. Job growth will be concentrated in pharmaceutical and medicine manufacturing and in professional, scientific, and technical services firms. Employment in the nonpharmaceutical segments of the chemical industry, a major employer of chemists, is expected to decline over the projection period.

ENTERING SALARY: The National Association of College and Employers reports that for Spring 2006 the national entering wage level for those with a Bachelor's degree in Chemistry was **\$38,646** per year and those with a Doctoral degree was **\$63,446**. According to the Occupational Outlook Handbook, the median annual earnings of chemists in 2004 were **\$56,060**.

SOURCES OF ADDITIONAL INFORMATION

Websites:

La Sierra University

<http://www.lasierra.edu/>

Department Contacts:

Chairperson:

Marvin Payne

Advisors:

Nate Brandstater

Jennifer Helbley

Michael Malarek

Krista Motschieder

Roger Tatum

Location:

Palmer Hall Room 230

951-785-2148

Professional Organizations & Career *Information:*

American Chemical Society,

Education Division

1155 16th St. NW.

Washington, DC 20036

<http://www.acs.org>

**Academic Advising
Center for Student Academic Success
Sierra Vista Hall, Room 114
(951) 785-2452**

**LA SIERRA
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