

**2006-2007 SAMPLE CURRICULUM:** It may not be necessary to take these courses in the order given. Please consult your advisor.

		FALL	WINTER	SPRING
<b>FIRST YEAR</b>	Orientation Seminar (UNST 101)	1	-	-
	College Writing (ENGL 111, 112, 113)	3	3	3
	Growing Up in America (SSCI 104) OR Identity & Society (SSCI 105) OR Childhood in Global Perspective (SSCI 106)	-	4	-
	THEME IA: Understanding Human Beings OR National & Global Citizenship	-	-	4
	THEME III: Religious Beliefs & Practice	-	-	4
	Lifetime Fitness (PEAC 120)	2	-	-
	* General Chemistry (CHEM 111, 112, 113 & Labs)	5	5	5
	** Calculus I, II (MATH 131, 132)	4	4	-
		<u>15.0</u>	<u>16.0</u>	<u>16.0</u>
	<b>SECOND YEAR</b>	* Chemistry Seminar (CHEM 205)	0.5	-
* Analytical Chemistry (CHEM 224)		4	-	-
* Organic Chemistry I, II, III (CHEM 371, 372, 373 & Labs)		4	4	4
** General Biology (BIOL 111, 112, 113 & Labs)		5	5	5
Exploring American Culture through Literature (HUMN 204) OR Expl. Amer. Culture through Visual & Perf. Arts (HUMN 205)		-	4	-
THEME III: Religious Beliefs & Practice		-	-	4
Modern Language through Intermediate Level (101, 102, 103)		4	4	4
		<u>17.5</u>	<u>17.0</u>	<u>17.5</u>
<b>THIRD YEAR</b>	* Chemistry Seminar (CHEM 205)	0.5	-	0.5
	* Advanced Organic Laboratory (CHEM 375)	1	-	-
	* Introduction to Research (CHEM 408)	1	-	-
	* Instrumental Analysis: CHEM 424 & Lab OR 425 & Lab OR 426 & Lab	-	-	4
	* Biochemistry (CHEM 491, 492, 493, & Labs)	4	4	4
	** General Physics (PHYS 231, 232, 233 & Labs)	5	5	5
	THEME IIB: Historical or Contemporary Culture & Context Adventism in a Global Perspective (RLGN 304) OR The Experience of Religion in Three Cultures (RLGN 305)	-	4	-
	Modern Language through Intermediate Level (201)	4	-	-
		<u>15.5</u>	<u>17.0</u>	<u>13.5</u>
	<b>FOURTH YEAR</b>	* Physical Chemistry (CHEM 351, 352 & Labs)	4	4
* Senior Seminar (CHEM 405)		-	-	1
* Directed Research (CHEM 498)		-	1	-
* Chemistry Electives to complete 69 units		4	-	4
THEME III: Religious Beliefs & Practice		-	4	-
Scientific Foundations: Choose one course from the following: NSCI 404, 405, 406, 407		4	-	-
THEME IIA: Arts Appreciation or History		-	-	4
Religious, Moral & Social Aspects of Chemistry (UNST 404D)		-	-	4
Upper Division Rhetorical Course (This requirement met by CHEM 405, 408, and 1 from CHEM 424, 425, or 426)		-	-	(4)
Electives to complete 190 units		8	4	4
		<u>17.0</u>	<u>17.0</u>	<u>17.0</u>
* Major Requirements			** Cognate Requirements	

# BIOCHEMISTRY

## *B.S. Degree*

**CAREER OPPORTUNITIES AND RELATED OCCUPATIONS:** Biochemists perform basic research and applied research and product development in industry or university-operated laboratories, and in hospitals. Many also teach or work in universities, private industry, or government agencies, or as self-employed consultants to industry and the government. Career opportunities may also involve work as an oceanographer, soil conservationist, agricultural scientist, biological scientist, life science technician, in the fields of nutrition, dietetics, molecular biology, health science, microbiology and pharmacology.

**EDUCATIONAL QUALIFICATION:** A B.S. degree in biochemistry is the entry level for technical positions in industry. For more advanced research and management positions in Biochemistry, Masters and Ph.D. degrees are eventually needed.

**DENOMINATIONAL OPPORTUNITIES:** Biochemists perform vital research in the medical fields. Biochemistry teachers are in demand in Seventh-day Adventist colleges and universities.

**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

Krista Motschieder

Marvin Payne

Raymond Shelden

### **Location:**

Palmer Hall Room 230

951-785-2148

### **Pre-Professional Coordinator:**

Becky Connell; [bconnell@lasierra.edu](mailto:bconnell@lasierra.edu)

Palmer Hall Room 242A

951-785-2490

### *Professional Organizations:*

American Society for Biochemistry  
and Molecular Biology

9650 Rockville Pike

Bethesda, MD 20814

<http://www.faseb.org/asbmb>

American Chemical Society

Education Division

1155 16th Street NW.

Washington, DC 20036

<http://www.acs.org>

Academic Advising  
Administration Building  
Room 206  
(951) 785-2951

LA SIERRA  
UNIVERSITY