LA SIERRA UNIVERSITY

COMPUTER SCIENCE

B.S. Degree

Approved by Department. Last updated 7/1/09

2009-2010 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	* Introduction to Computer Science (CPTG 121, 122)(8 units)	_____	_____	_____
	* Data Structures (CPTG 244)(4 units)	_____	_____	_____
	* Calculus I, II, III (MATH 131, 132, 133)(12 units)			
	Calculus prerequisite satisifies Math Foundational Studies Requirement	_____	_____	_____
	First Year Seminar (UNST 101/100)(2-6 units)	_____	_____	_____
	College Writing (ENGL 111, 112, 113)(9 units) OR (ENGL 124) (4 units)	_____	_____	_____
	Lifetime Fitness (PEAC 120)(2 units)	_____	_____	_____
	Theme IC: Globalization, Identity, & Citizenship. *Choose 1 course from:* SSCI 104, 105, 106, 107 (4 units)	_____	_____	_____
	Theme IIA: History & Appreciation of Arts (4 units)	_____	_____	_____
	Theme III: Religious Beliefs & Practice (4 units)	_____	_____	_____
SECOND YEAR	* Computer Organization and Assembly Language Programming (CPTG 245)(4 units)	_____	_____	_____
	* Systems and Network Programming (CPTG 255)(4 units)	_____	_____	_____
	* Intro. to Linear Algebra & Discrete Mathematics (MATH 231)(4 units)	_____	_____	_____
	* Discrete Mathematics (MATH 276)(4 units)	_____	_____	_____
	** General Physics (PHYS 231, 232 & Labs)(10 units) *Meets Theme IVB*	_____	_____	_____
	World Language Foundational Requirement *(Proficiency through 153)*	_____	_____	_____
	Theme IIC: Exploring American Culture. *Choose 1 course from:* HUMN 204, 205 (4 units)	_____	_____	_____
	Theme III: Religious Beliefs & Practice (4 units)	_____	_____	_____
	Theme IVA: Life Science (4 units)	_____	_____	_____
THIRD YEAR	* Programming Languages (CPTG 324)(4 units)	_____	_____	_____
	* Digital Logic Design (CPTG 345)(4 units)	_____	_____	_____
	* Operating Systems (CPTG 434)(4 units)	_____	_____	_____
	* Computer Architecture (CPTG 445)(4 units)	_____	_____	_____
	* Software Engineering (CPTG 455)(4 units)	_____	_____	_____
	* Mathematics Seminar (MATH 485) OR Computing Seminar (CPTG 485) [2 units required](1 unit)	_____	_____	_____
	* Major Courses: Select 16 additional units (at most 8 from MATH) from CPTG 334, 364, 424, 454, 486, 494, 499; MATH 361, 362, 461, 462 (8 units)	_____	_____	_____
	Theme IA/B: Understanding Human Beings OR National & Global Citizenship (4 units)	_____	_____	_____
	Theme III: Religious Beliefs & Practice (4 units) *Choose 1 course from*: (RLGN 304, 305)(4 units)	_____	_____	_____
	Upper Division Rhetorical Course (requirement met by CPTG 334 and 455)(4 units)	_____	_____	_____
FOURTH YEAR	* Major Courses to complete 16 additional units (see above)(8 units)	_____	_____	_____
	* Mathematics Seminar (MATH 485) OR Computer Science Seminar (CPTG 485)(.5-1 unit)[2 units required]	_____	_____	_____
	Theme IIB: Historical or Contemporary Culture & Context (4 units)	_____	_____	_____
	Theme III: Religious Beliefs and Practice (4 units) *Must be in Scripture, Theme IIIC, unless previously taken*	_____	_____	_____
	Theme IVC: Scientific Foundations: *Choose 1 course from:* NSCI 404, 405, 406, 407 (4 units)	_____	_____	_____
	Theme V: Religious, Moral, & Social Aspects of Math & Computing (UNST 404)(4 units)	_____	_____	_____
	Electives	_____	_____	_____

* Major Requirements (78 units) ** Cognate Requirements

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The department provides a curriculum in mathematics and computing sciences as a cultural study for all liberal arts students, as a basic tool for the scientist, and as a preparation for graduate study and teaching.

CAREER OPPORTUNITIES AND RELATED OCCUPATIONS: Computer Science graduates may find jobs in almost any major industry or scientific occupation. Such persons may become involved in systems operation in the analysis of technical methods. Other areas are system analysis, computer hardware and software design development and manufacture, and statistical and numerical analysis, as well as network engineer, website designer, web master, and web editor.

EDUCATIONAL QUALIFICATIONS: A Bachelor's degree is sufficient for entry level technical jobs and some systems analysis jobs. However, many professionals find an advanced degree facilitates advancement in research and development and is essential for the growing demand in academia.

DENOMINATIONAL OPPORTUNITIES: Currently there are job opportunities in the medical and educational fields.

JOB OUTLOOK: Employment of computer systems analysts is expected to grow much faster than the average for all occupations through the year 2014 as organizations continue to adopt and integrate increasingly sophisticated technologies. Job increases will be driven by very rapid growth in computer system design and related services, which is projected to be among the fastest-growing industries in the U.S. economy. In addition, many job openings will arise annually from the need to replace workers who move into managerial positions or other occupations or who leave the labor force.

ENTERING SALARY: The National Association of Colleges and Employers reports that for Spring 2008, the national wage level average for those with a Bachelor's degree in Computer Science was **$53,590** per year.

SOURCES OF ADDITIONAL INFORMATION

Websites:

La Sierra University
http://www.lasierra.edu/

Computer Science
www.lasierra.edu/departments/cs/

Department Contacts:

Chairperson:
Jon Vanderwerff, Ph.D.

Advisors:
Wilton Clarke, Ph.D.
Vernon Howe, Ph.D.
Enoch Hwang, Ph.D.

Location:
Price Science Complex, Rm 247
951-785-2197

Professional Organizations:

Assoc. for Computing Machinery
1515 Broadway
New York, NY 10036
http://www.acm.org

Data Processing Management Assoc.
505 Busse Highway
Park Ridge, IL 60068

Institute of Electrical and Electronics Engineers-United States of America
1828 L Street, NW., Suite 1202
Washington, D.C. 20036
http://www.ieee.org

Institute of Certification of Computing Professionals (ICCP)
2200 East Devon Ave. Ste. 268
Orlando, FL 32819
http://www.qai.org

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

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