

La Roche College
COMPUTER SCIENCE PROGRAM GUIDE
 Degree: Bachelor of Science Department: Computer Science

Student Name _____ ___ First-Year Student ___ Transfer
 I.D. Number _____ ___ Change of Major ___ Readmit

Unofficial Eval Completed by/date: _____

This is the **unofficial evaluation** of your credits to date including transfer credits (if applicable) in your chosen major. **This evaluation is official when all official transcripts for all previous college work are received; and reviewed and approved for transferability by the Registrar's Office.** Beginning with your first semester of enrollment, your Degree Audit Report in My.LaRoche will automatically track your progress toward your degree, and guide you in planning future class schedules. Review your updated Degree Audit Report with your advisor prior to registering each semester.

PURPOSE: A major in Computer Science is meant to prepare students for jobs and careers in the computer industry or for further study at the graduate level in computer science, telecommunications, or related fields, or to provide students with a background in a fundamental science.

REQUIREMENTS: To successfully complete the Computer science major, the following coursework is required:

- 56 Major Component credits (34 Computer Science, 14 Mathematics, 8 Physics)
- 9 Computer Science elective credits
- 37 Core credits
- 18 General Electives
- A minimum of 120 credits is required for degree, the last 30 of which, and 50% of the major must be earned at La Roche College. (Developmental course work does not count toward the minimum number of required credits for graduation.)

COMPUTER SCIENCE COMPONENT: 34 CREDITS		Credits	Transfer Course #/Comments
___ CSCI1002	Introduction to Computer Science	3	_____
___ CSCI1010	Programming I	3	Prerequisite: CSCI 1002 or SLSC1005
___ CSCI1010L	Programming I Lab	1	Co-requisite CSCI 1010
___ CSCI 2010	Programming II	3	Prerequisite: CSCI1010/L
___ CSCI2010L	Programming II Lab	1	Co-requisite CSCI2010
___ CSCI2020	Algorithm Analysis	3	Prerequisite: CSCI 2010/L, MATH 2050
___ CSCI2025	Systems Programming	3	Prerequisite: CSCI 2010/L
___ CSCI2025L	Systems Programming Lab	1	Co-requisite: CSCI 2025
___ CSCI2035	Computer Organization & Design	3	Prerequisite: CSCI 2025
___ CSCI2035L	Computer Organization & Design Lab	1	Prerequisite: CSCI 2025; Co-requisite CSCI2035
___ CSCI2055	Database Systems Theory OR	3	Prerequisite: CSCI 1010/L
___ ISTC2045	Database Management Systems	3	Prerequisite: CSCI 1002
___ CSCI3040	Operating Systems	3	Prerequisite: CSCI 2035
___ CSCI4098	CS Capstone Experience I	3	Prerequisite: Junior/Senior Status
___ CSCI4099	CS Capstone Experience II	3	Prerequisite: CSCI4098 Capstone I

COMPUTER SCIENCE ELECTIVES: SELECT ANY 3 COURSES (9 CREDITS)			
___ CSCI3042	Intro to Computer Security	3	_____
___ CRIM4030	Computer Forensics Investigation	3	_____
___ CSCI4xxx	Any 4000-level CS course	3	_____
___ ISTC3005	Intro to Intellectual Property	3	Prerequisite: Junior/Senior Status
___ ISTC3008	Web Page Usability & Programming	3	Prerequisite: CSCI 2010, CSCI 2055
___ ISTC3015	Human-Computer Interaction	3	Prerequisite: CSCI1010, CSCI 2055 or ISTC 2045
___ CSCI4051	Internship	3	_____

MATHEMATICS COMPONENT: 14 CREDITS

___ MATH1032	Analytical Geometry & Calculus I	4	<u>Prerequisite: Math Placement Exam or MATH1010</u>
___ MATH1033	Analytical Geometry & Calculus II	4	<u>Prerequisite: MATH 1032</u>
___ MATH1040	Probability & Statistics	3	<u>Prerequisite: MATH 1010</u>
___ MATH2050 OR	Discrete Mathematics I	3	<u>Prerequisite: MATH 1032</u>
___ CSCI2017	Discrete Structures		<u>Prerequisite: MATH1010</u>

PHYSICS COMPONENT: 8 CREDITS

___ PHYS1032	Physics I	3	_____
___ PHYS1032L	Physics I Lab	1	<u>Co-requisite PHYS 1032</u>
___ PHYS1033	Physics II	3	_____
___ PHYS1033L	Physics II Lab	1	<u>Co-requisite PHYS 1033</u>

ACADEMIC CORE COURSES – 37 CREDITS

Fundamentals: 12 credits

___ ISTC1005	Practical Computer Applications	3	_____
___ ENGL1011	College Writing I	3	_____
___ ENGL1012	College Writing II	3	_____
___ MATH1010	College Algebra	3	_____

La Roche Experience: 4 credits

___ LRCX1001	Intro & History	1	_____
___ LRCX1002	Diversity/Discrimination	1	<u>Prerequisite: LRCX 1001</u>
___ LRCX2001	Regions of Conflict	1	<u>Prerequisite: LRCX 1001</u>
___ LRCX2002	Economic Justice	1	<u>Prerequisite: LRCX 1001</u>

***Note to transfer students:** Students transferring more than 15 credits must attend an LRC Experience orientation session in lieu of LRCX1001. They will be expected to complete the remainder of the LRC Experience series of courses

SELECT: The Select courses are designed to introduce students to different disciplines of study. Students select courses within each of the domains below. Computer Science majors are exempt from the Select Science requirement as this domain is fulfilled by the major. Note: The remaining five domains can be fulfilled with only four courses (earning a total of 12 credits) by completing “dual-domain” SELECT courses (SLDD). Student earns 3 credits only for each SLDD course. An additional major or general elective course may be necessary to meet the degree minimum credit requirements.

___ SELECT Aesthetics (SLAE)	_____	3	_____
___ SELECT Religion/Philosophy (SLRS)	_____	3	_____
___ SELECT Literature (SLLT)	_____	3	_____
___ SELECT History (SLHS)	_____	3	_____
___ SELECT Science	_____		<u>Fulfilled by major</u>
___ SELECT Soc/Cult (SLSO)	_____	3	<u>ISTC 2005 IT: A Global Perspective: recommended</u>

All students at LRC are required to have been exposed to a modern language either here or in high school. Any student who did not have a modern language in high school must take one modern language course to graduate and can count this as their SELECT Social/Cultural course. Bilingual and adult students are exempt from this requirement. Other than this, SELECT course substitutions may be made only in extreme circumstances and must be approved in advance by completion of a Core substitution form.

Community/Global: 6 credits required. (or 6 credits in same Foreign Language)

___ COMM	_____	3	_____
___ GLBL	_____	3	_____

General Electives: 18 Credits: Electives may be used to fulfill a second major, minor or certificate program. Recommended programs are: Accounting, Computer Information Technology, Computer Security and Forensics, Criminalistics, Criminal Justice, English, Information Technology, Management, Marketing, and Web Design and Development. A minor in Mathematics is highly recommended for graduate study in CS.

<u>Course #</u>	<u>Credits</u>	<u>Course #</u>	<u>Credits</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

NOTE TO TRANSFER STUDENTS: Credits earned at technical schools may not be accepted for upper-level Computer Science courses. All transfer decisions will be determined by the Department Chair.

FOR REGISTRAR USE ONLY

	<u>TOTAL</u>	<u>Completed</u>	<u>Need</u>	<u>Comments:</u>
Major Component	56	_____	_____	_____
Major Electives	9	_____	_____	_____
CORE	37	_____	_____	_____
General Electives	18	_____	_____	_____
Accepted into transfer	_____	_____	_____	_____
La Roche College Credit	_____	_____	_____	_____
TOTAL	120	_____	_____	_____

Registrar's Signature _____ **Date** _____

Advisor Signature _____ **Date** _____

(When signed by Advisor, all required coursework/credits have been completed for graduation.)

**BACHELOR OF SCIENCE IN COMPUTER SCIENCE
RECOMMENDED FULL-TIME COURSE SEQUENCE**

YEAR I

<u>Fall Semester</u>		<u>Credits</u>	<u>Comments</u>
___CSCI1002	Introduction to Computer Science	3	_____

__	ISTC1005	Practical Computer Apps.	3	_____
__	ENGL1011/L	College Writing I/Lab	3	_____
__	MATH1032	Analytical Geometry & Calculus I	4	<i>Prerequisite: Math Placement Exam or MATH1010</i>
__	LRCX1001	LRC Experience: Intro & History	1	_____
			14	_____

Spring Semester

__	CSCI1010/L	Programming I/Lab	4	<i>Prerequisite: CSCI1002 or SLSC1005</i>
__	ENGL1012	College Writing II	3	<i>Prerequisite: ENGL1011</i>
__	MATH1033	Analytical Geometry & Calculus II	4	<i>Prerequisite: MATH1032</i>
__	SELECT	(AE, HS, LT, RS, SO)	3	_____
__	LRCX1002/2001/2002		1	_____
			15	_____

YEAR II

Fall Semester

Credits

__	CSCI2010/L	Programming II/Lab	4	<i>Prerequisite: CSCI1010/L</i>
__	CSCI2055/ISTC2045	Database course*	3	<i>Prerequisite: CSCI1010/L</i>
__	SELECT	(AE, HS, LT, RS, SO)	3	_____
__	MATH2050	Discrete Mathematics I*	3	<i>Prerequisite: MATH1032</i>
__		General Elective	3	_____
			16	_____

Spring Semester

__	CSCI2020	Algorithm Analysis	3	<i>Prerequisite: CSCI2010/L, MATH2050</i>
__	MATH1040	Probability & Statistics	3	<i>Prerequisite: MATH1010</i>
__	SELECT	(AE, HS, LT, RS, SO)	3	_____
__		General Elective	3	_____
__		General Elective	3	_____
__	LRCX1002/2001/2002		1	_____
			16	_____

YEAR III

Fall Semester

Credits

__	CSCI2025/L	Systems Programming/Lab*	4	<i>Prerequisite: CSCI2010/L</i>
__	PHYS1032/L	Physics I/Lab	4	_____
__	COMM		3	_____
__		General Elective	3	_____
			14	_____

Spring Semester

__	CSCI2035/L	Computer Organization & Design*	4	<i>Prerequisite: CSCI2025</i>
__	PHYS1033/L	Physics II/Lab	4	<i>Prerequisite: PHYS1032</i>
__		CS Elective	3	_____
__		General Elective	3	_____
__	LRCX1002/2001/2002		1	_____
			15	_____

YEAR IV

Fall Semester

Credits

__	CSCI3040	Operating Systems*	3	<i>Prerequisite: CSCI2035</i>
__	CSCI4098	CS Capstone I*	3	<i>Prerequisite: Junior/Senior Status</i>
__	SELECT	(AE, HS, LT, RS, SO)	3	_____
__	GLBL		3	_____
__		CS Elective	3	_____
			15	_____

Spring Semester

__	CSCI4099	CS Capstone II*	3	<i>Prerequisite: CSCI4098</i>
__		CS Elective	3	_____
__	SELECT	(AE, HS, LT, RS, SO)	3	_____
__		General Elective	4	_____
__		General Elective	3	_____
			16	_____

*These courses are offered only every 2 years. You should take these courses at your earliest opportunity after fulfilling prerequisites.