Stanford University ♦ School of Engineering

Computer Systems Engineering – Digital Systems Specialization

2009–2010 Program Sheet

Final version of completed and signed program sheet due to the department no later than one month prior to the final quarter of senior year.

Follow all requirements as stated for the year of the program sheet used.

Name: _____ SU ID: _____

Email: _____ Local Phone: _____

Date: _____ Date B.S. expected: _____

Mathematics and Science Requirements

Dept	Course	Title	Transfer/AP Approval ✓ if Transfer	Initials	Date	Unit	Grade
Mathematics (25 units minimum)							
MATH	41	Calculus				5	
MATH	42	Calculus				5	
MATH	51	Calculus				5	
MATH	52 *or* 53	Calculus				5	
CS	109	Introduction to Probability for Computer Scientists[1]				5	
					Mathematics Unit Total (25 units minimum)		
Science (12 units minimum)							
PHYSICS	41	Mechanics				4	
PHYSICS	43	Electricity and Magnetism				4	
PHYSICS	45	Light and Heat				4	
					Science Unit Total (12 units minimum)		
					Mathematics and Science Unit Total (37 units minimum)		

Technology in Society Requirement *(1 course required; see UGHB Fig. 3-3 for approved list)*

Engineering Fundamentals *(13 units minimum)*

CS	106	Programming Abstractions (B or X)				5	
ENGR	40	Introductory Electronics				5	
		Elective *(see UGHB Fig.3-4; 1 course required; may not be CS 106A, B or X)*					
					Engineering Fundamentals Total (13 units minimum)		

NOTES

* This form is available as an Excel file at http://ughb.stanford.edu/. The printed form must be signed by the departmental

* Read all emails from the Office of Student Affairs; this is the SoE's only method of conveying key information to Eng majors.

* All courses listed on this form must be taken for a letter grade if offered by the instructor.

* Minimum Grade Point Average (GPA) for all courses in Engineering Fundamentals and Computer Systems Engineering Core and Depth (combined) is 2.0.

* Transfer and AP credits in Math, Science, Fundamentals, & TIS must be approved by the SoE Dean's office. Transfer credits in CSE Core and Depth must be approved by the Computer Science undergraduate program representative. Transfer credit information and petitions are available at http://ughb.stanford.edu/transfer.html.

* All courses listed on this form must only be included under one category. Delete courses not taken.

(1) Students who complete STATS 116, MS&E 120, or CME 106 in Winter 2008-09 or earlier may count that course as satisfying the CS 109 requirement. These same courses taken in Spring 2008-09 or later cannot be used to satisfy the CS 109 requirement.

Computer Systems Engineering *(55 units minimum)*

Dept	Course	Title	Transfer/AP Approval ✓ if Transfer	Initials	Date	Unit	Grade
Core (32 units minimum)							
CS	103	Mathematical Foundations of Computing[2]				5	
CS	107	Computer Organization and Systems[3]				5	
CS	108 or 110	Object-Oriented Systems Design, *or* Principles of Comp Sys				4 or 5	
EE	108A	Digital Systems I				4	
EE	108B	Digital Systems II				3 or 4	
Senior Project		CS191, 191W, 194, 210B, 294 or 294W (see notes 4,5)				3	
Plus two of the following (delete courses not taken)							
EE	101A	Circuits I				4	
EE	101B	Circuits II				4	
EE	102A	Signals and Systems I				4	
EE	102B	Signals and Systems II				4	
		Computer Systems Engineering Core Total (32 units minimum)					

Depth (20 units minimum)

CS	140 or 143	Operating Systems or Compilers				4	
EE	109	Digital Systems Design Lab				4	
EE	271	VLSI Systems				3	
Plus three to four of the following (see note 6; delete courses not taken)							
CS	140 or 143	*if not counted above*				4	
CS	144	Introduction to Computer Networking				4	
CS	149	Parallel Programming				4	
CS	240E	Low Power Wireless System Software				3	
CS	244	Advanced Topics in Networking				4	
CS	244E	Low-Power Wireless Networking				3	
EE	273	Digital Systems Engineering				3	
EE	282	Computer Architecture				3	
		Computer Systems Engineering Depth Total (20 units minimum)					

Computer Systems Engineering Core + Depth Total (53 units minimum) ____

Program Approvals

Departmental

Printed Name: _____ Date: _____

Signature: _____

School of Engineering (signature not required prior to graduation)

Printed Name: _____ Date: _____

Signature: _____

NOTES (continued from page 1)

(2) Students who have taken either CS 103X or CS 103A, B are considered to have satisfied the CS 103 req't. Students taking CS103A/B may complete the lower number of elective courses in a given specialization (see footnote 6).

(3) The name of CS107 has changed. The previous CS 107 course titled *Programming Paradigms* also fulfills this req't.

(4) The WIM req't may be met by taking CS 181 for TIS or through the Senior Project course (191W, 194, 210B, or 294W only).

(5) Independent study projects (CS 191 or 191W) require faculty sponsorship and must be approved, in advance, by the advisor, faculty sponsor, and the CSE senior project advisor (Robert Plummer or Patrick Young). A signed approval form, along with a brief description of the proposed project, should be filed with the department representative in Gates 182 the quarter before work on the project is begun.

(6) Students who take CS 103A, B may complete the lower number of elective courses in a given specialization (I.e., one less elective than students taking CS 103X or CS 103).