

**Stanford University ♦ School of Engineering**  
**Computer Science**  
**Information Track**  
**2012-2013 Program Sheet**

*Final version of program sheet due to the department no later than one month prior to the last quarter of senior year.*

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

Name: \_\_\_\_\_ SU ID: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Email: \_\_\_\_\_  
 Today's Date: \_\_\_\_\_ Month/Yr B.S. expected: \_\_\_\_\_

**Mathematics and Science Requirement** (*Delete courses and units not taken*)

Dept	Course	Title	Transfer/AP Approval by SoE			Unit	Grade
			✓ if Transfer	SoE Initials	Date		
<b>Mathematics (26 units minimum)</b>							
MATH	41	Calculus (see note 1)				5	
MATH	42	Calculus				5	
CS	103	Mathematical Foundations of Computing (see note 2)				5	
CS	109	Introduction to Probability for Computer Scientists (see note 3)				5	
<i>Plus two electives (see note 4)</i>							
<i>Mathematics Unit Total (26 units minimum)</i>							
<b>Science 11 units minimum</b>							
PHYS	41	Mechanics (or PHYS 21 or 61)				4	
PHYS	43	Electricity and Magnetism (or PHYS 23 or 63)				4	
		Elective (see note 5)					
<i>Science Unit Total (11 units minimum)</i>							
<i>(37 units min. Math/Sci combined)</i>							
<b>Technology in Society Requirement</b> ( <i>1 course required; see UGHB Figure 3-3 for approved list; see note 12</i> )							
<b>Engineering Fundamentals (13 units minimum)</b>							
CS	106	Programming Abstractions (B or X)				5	
ENGR	40	Introductory Electronics (40N also allowed)				5	
		Elective (see note 6; CS 106A, B, and X not allowed)					
<i>Engineering Fundamentals Total (13 units minimum)</i>							

**NOTES**

- \* **All courses listed on this form must be taken for a letter grade (if offered), and listed only once.**
  - \* The printed form must be signed by the departmental representative. Changes must be petitioned (see UGHB pg 27-29) and initialed in ink.
  - \* Minimum Grade Point Average (GPA) for all courses in ENGR Fundamentals and CS Core, Depth, and Senior Project (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 Computer Science Core, Depth and Senior Project must be approved by the Computer Science undergraduate program office.
  - \* All courses listed on this form may only be included under one category. Delete courses not taken.
- (1) Math 19, 20 and 21 may be taken instead of Math 41 and 42 as long as at least 26 math units are taken.
  - (2) Students who took CS 103X are required to complete one additional unit in depth (i.e., 26 units minimum for track and elective courses).
  - (3) 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.
  - (4) Math electives: Math 51, 104, 108, 109, 110, 113; CS 157, 205A; PHIL 151; CME 100, 102, 104. Completion of Math 52 & 53 will (together) count as one Math elective. Restrictions: CS 157+ Phil 151 may not be used in combination to satisfy the Math electives req't. Students who have taken both Math 51 & 52 may not count CME 100 as an elective.
  - (5) Any course of 3 or more units from the SoE Science List (Fig. 3-2 in the UGHB), PSYCH 30 or 55, or AP Chemistry may be used.
  - (6) One course required; may not be CS 106A, B or X. See Engineering Fundamentals Chap 3, Fig. 3-4 in the UGHB for approved list.

*program sheet continued on page 2*

## CS Information Track Program Sheet (continued)

### Information Track Core, Depth and Senior Project (43 units minimum)

*Be advised, no course may be listed twice on the sheet; no double-counting.*

Dept	Course	Title	Transfer/Deviation Approval by Dept			Unit	Grade
			✓ if Transfer	Dept Initials	Date		
<b>Core (15 units minimum)</b>							
CS	107	Computer Organization and Systems				5	
CS	110	Principles of Computer Systems (see note 7)				5	
CS	161	Design and Analysis of Algorithms (see note 8)				5	
<b>Depth; Track and Electives (25 units and seven courses minimum)</b>							
CS	124	From Languages to Information (Track Requirement A)				4	
CS	145	Introduction to Databases (Track Requirement A)				4	
CS		Track Requirement B (see note 9)					
CS		Track Requirement B (see note 9)					
		Elective (see note 10)					
		Elective (see note 10)					
		Elective (see note 10)					
		Optional Elective					
<b>Senior Project (1 course required)</b>							
CS		At least 3 units of 191, 191W, 194, 194W, 210B, 294 or 294W (see note 12)				3	
<i>Computer Science Core, Depth and Senior Project Total (43 units minimum)</i>							

### 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)

- (7) Students who complete CS108 and either CS 140 or CS 143 by Winter Quarter 2008-09 or earlier may choose to count CS 108 as satisfying the CS 110 requirement. In such a case, CS 108 may not also be counted as an elective and the student will be required to complete one additional unit in their depth courses (i.e., 26 units minimum for track and elective courses).
- (8) Students who took CS161 for 4 units are required to complete one additional unit in their depth courses (i.e., 26 units minimum for track and elective courses.)
- (9) Track Requirement B: Two courses, each from a different area: Area I) Information-based AI applications [CS 224N, 224S, 229, 229A]; Area II) Database and Information Systems [CS 140, 142, 245, 246, 341, 345, 346, 347]; Area III) Information Systems in Biology [CS 262, 270, 274]; Area IV) Information Systems on the Web [CS 224W, 276, 364B]
- (10) Track Electives: At least three additional courses selected from the Track Requirement B list, or the General CS Electives list (see note 11).
- (11) General CS Electives: CS 108, 121 or 221\*, 140, 142, 143, 144, 147, 148, 149, 154, 155, 156, 157 (or PHIL 151), 164, 205A, 205B, 210A, 222, 223A, 224M, 224N, 224S, 224U, 224W, 225A, 225B, 226, 227, 227B, 228, 228T, 229, 229A, 229T, 231A, 235, 240, 240H, 241, 242, 243, 244, 244B, 245, 246, 247, 248, 249A, 249B, 254, 255, 258, 261, 262, 263, 270, 271, 272, 173 or 273A, 274, 276, 277, 295; CME 108; EE 108B, 282 \*(Students may not count both CS 121 and 221 toward their major requirements.)
- (12) The WIM requirement may be met by taking CS 181W as a Technology in Society course or through the Senior Project course (191W, 194W, 210B, or 294W only).