

Stanford University ♦ School of Engineering
Computer Science
Human-Computer Interaction Track
2019-2020 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		
Mathematics (26 units minimum)							
MATH	19	Calculus (see note 1)					
MATH	20						
MATH	21						
CS	103	Mathematical Foundations of Computing					
CS	109	Introduction to Probability for Computer Scientists					
<i>Plus two electives (see note 2)</i>							
<i>Mathematics Unit Total (26 units minimum)</i>							
Science (11 units minimum)							
PHYS	41 or 41E	Mechanics (or PHYS 21 or 61)					
PHYS	43	Electricity and Magnetism (or PHYS 23 or 63)					
		Elective (see note 3)					
<i>Science Unit Total (11 units minimum)</i>							
<i>(37 units min. Math/Sci combined)</i>							
Technology in Society Requirement (<i>1 course req'd; must be on Approved TiS list at ughb.stanford.edu the year taken; see</i>							
Engineering Fundamentals (13 units minimum)							
CS	106	Programming Abstractions (B or X)					
ENGR	40M or 40A	Introductory Electronics ENGR 40 also allowed; see note 4)					
		Elective: May be an ENGR Fundamental or an additional CS Depth course (see note 5)					
<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 can be included under only one category. There is no double-counting.
 - * This printed form must be signed by the departmental representative. Changes must be petitioned (see UGHB website) and initialed in ink.
 - * Minimum Grade Point Average (GPA) for all courses in Engineering Funds 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.
 - * Courses must be taken for the number of units on the Program Sheet. CS103, 106B/X, 107, 109, 110, and 161 must be taken for 5 units.
- (1) Math 19/20/21 or Math 41/42 or AP credit may be used, as long as at least 26 math units are taken. AP Calculus must be approved by SoE.
 - (2) Math electives list: Math 51, 52, 53, 104, 107, 108, 109, 110, 113; CS 157, 205L; Phil 151; CME 100, 102, 103 (or EE 103), 104.
Restrictions: CS 157 + Phil 151 may not be combined to satisfy the electives requirement. Students taking both Math 51 & 52 may not count CME 100.
 - (3) Any course of 3 or more units from the SoE Science List (see Approved Courses page at ughb.stanford.edu), PSYCH 30, or AP Chemistry may be used.
 - (4) Students who take ENGR 40A or 40M for fewer than 5 units must take 1-2 add'l units of ENGR Funds (13 units min), or 1-2 add'l units of Depth (26-27 units min).
 - (5) See ENGR Fundamentals Approved Courses list at ughb.stanford.edu. May not be any CS 106.

CS HCI Track Program Sheet (continued)

Human-Computer Interaction 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 Dep			Unit	Grade
			✓ if Transfer	Dept Initials	Date		
Core (15 units minimum)							
CS	107or107E	Computer Organization and Systems					
CS	110	Principles of Computer Systems					
CS	161	Design and Analysis of Algorithms					
Depth; Track and Electives (25 units and seven courses minimum) see note 6							
CS	147	Introduction to HCI Design (Track Requirement A)					
CS	247	HCI Design Studio (Track Requirement A; any suffix)					
		HCI in CS (Track Requirement B, see note 7)					
		HCI in CS (Track Requirement B, see note 7)					
		HCI in CS (Track Requirement B, see note 7)					
		Interdisciplinary HCI (Track Requirement C, see note 8)					
		Interdisciplinary HCI (Track Requirement C, see note 8)					
		Optional Elective					
Senior Project (1 course required)							
CS		At least 3 units of 191, 191W, 194, 194H, 194W, 210B, 294 or 294W (see note 10)					
<i>Computer Science Core, Depth and Senior Project Total (43 units minimum)</i>							

Example HCI depth course plans

Design thinking: CS 147, 247, 448B, 142, 194H; ME 101, 115A **Front-end dev.:** CS 147, 148, 247, 142, 448B, 194H, 221;

User experience: CS 147, 247, 194H, 210A, 376; COMM 166; MS&E 125 **Product management:** CS 142, 147, 247, 194H, 210A; 210B, 377U

Digital art: CS 142, 147, 247, 148, 448B; ARTSTUDI 160, 168 **Research frontiers:** CS 147, 247, 376, 448B; ME 216M; COMM 124, 166; PSYC

Program Approvals

Departmental

Printed Name: _____ Date: _____

Signature: _____

School of Engineering (No action required-office use only)

Printed Name: _____ Date: _____

Signature: _____

NOTES (continued from page 1)

- (6) Some HCI project courses are limited enrollment. Be careful not to create a degree plan that depends on a limited-enrollment course.
- (7) Track Requirement B: Any three of CS 142, 146, 148, 194H, 206, 210A, 278, 347, any 377A/B/C/... 'Topics in HCI' of three or more units, 448B; ME 210
- (8) Track Requirement C: At least two additional courses selected from the Track Requirement B list, the General CS Electives list (see note 9), or the following: any d.school class of three or more units, any class of three or more units at hci.stanford.edu under the 'courses' link; Communication (COMM 124/224, 154/254, 166, 172/272, 324); Art Studio (ARTSTUDI 160, 162, 163, 164, 165, 168, 264, 266, 267); Sym Sys (SYMS) Psychology (30, 35, 45, 50, 60, 70, 75, 80, 90, 95); Empirical Methods (COMM 314; MS&E 125, PSYCH 251, 253; STATS 203, EDUC 191, HUMBIO 8 ME design (ME 101, 115A, 203, 210, 216A); Learning Design+Tech (Educ 236, 281, 239, 342); MS&E (MS&E 185, 231, 330); Computer music (Music 220A/B/C, 250A, 256A)
- (9) General CS Electives: CS 108, 124, 131, 140 or 140E, 142, 143, 144, 145, 148, 149, 151, 154, 155, 157 or (PHIL 151), 166, 168, 190, 195 (4 units max), 205L, 210A, 217, 221, 223A, 224N, 224S, 224U, 224W, 225A, 227B, 228, 229, 229T, 230, 231A, 231N, 232, 233, 234, 235, 236, 237A, 237B, 238, 241, 244B, 245, 246, 248, 251, 252, 254, 254B, 255, 261, 264, 265, 269I, 269Q, 270, 272, 273A, 273B, 274, 276, 279, 330, 336, 348B, 348C, 348E, 348K, 398, CME 108; EE180, 282, 364A.
- (10) WIM requirement: may be met by taking CS 181W or 182W as a Technology in Society course or through the Senior Project course (191W, 194W,