Stanford University • School of Engineering

Computer Science
Human-Computer Interaction Track
2017-2018 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)

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<th>Course</th>
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<th>Transfer/AP Approval by SoE</th>
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Mathematics (26 units minimum)

MATH  Calculus (see note 1)

CS 103  Mathematical Foundations of Computing

CS 109  Introduction to Probability for Computer Scientists

Plus two electives (see note 2)

Mathematics Unit Total (26 units minimum)

Science (11 units minimum)

PHYS 41  Mechanics (or PHYS 21 or 61)

PHYS 43  Electricity and Magnetism (or PHYS 23 or 63)

Elective (see note 3)

Science Unit Total (11 units minimum)

(37 units min. Math/Sci combined)

Technology in Society Requirement (1 course required; see UGHB Figure 3-3 for approved list; see note 10)

Engineering Fundamentals (13 units minimum)

CS 106  Programming Abstractions (B or X)

ENGR 4OM or 4OA  Introductory Electronics (ENGR 40 also allowed; see note 4)

Elective: May be an ENGR Fundamentals or an additional CS Depth course (see note 5)

Engineering Fundamentals Total (13 units minimum)

NOTES

* All courses listed on this form must be taken for a letter grade (if offered) and can be included under only one category.
* This printed form must be signed by the departmental representative. Changes must be petitioned (see UGHB pg 27-29) and initial ed 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) The Mathematics electives list consists of: Math 51,104, 108, 109, 110, 113; CS 157, 205A; Phil 151; CME 100, 102, 103 (or EE 103), 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 requirement. Students who have taken both Math 51 and 52 may not count CME 100 as an elective.
  (3) Any course of 3 or more units from the SoE Science List (Fig. 3-2 in the UGHB), PSYCH 30, or AP Chemistry may be used.
  (4) Students who take ENGR 40A or 4OM for fewer than 5 units are required to take 1-2 additional units of ENGR Fundamentals (13 units minimum), or 1-2 additional units of Depth (26-27 units minimum for track and elective courses).
  (5) See Fig. 3-4 in the UGHB for approved ENGR Fundamentals list. 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.

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**Core (15 units minimum)**

- CS 107 or 107E 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)
  - 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)

Computer Science Core, Depth and Senior Project Total (43 units minimum)

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**Example HCI depth course plans**

**Design thinking:** CS 147, 247, 448B, 142, 194H; ME 101, 115A

**Front-end dev.:** CS 147, 247, 142, 448B, 194H, 148, 221; **User experience:** CS 147, 247, 194H, 210A, 376; COMM 121; MS&E 125

**Product management:** CS 147, 247, 194H, 210A, 142; COMM 169, 140 **Digital art:** CS 147, 247, 148, 448B, 142; ARTSTUDI 160, 168

**Research frontiers:** CS 147, 247, 376, 448B; ME 216M; COMM 124, 166; PSYCH 252

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**Program Approvals**

*Departmental*

Printed Name: ________________ Date: ________________

Signature: ________________

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

Printed Name: ________________ Date: ________________

Signature: ________________

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**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, 148, 194H, 210A, 376, any 377A/B/C/... ‘Topics in HCI’ of three or more units, 448B; ME 216M

(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 121, 124/224, 140/240, 166, 169/269, 172/272, 182, 324); Art Studio (ARTSTUDI 160, 162, 163, 164, 165, 168, 264, 266, 267); Sym Sys (SYMSYS 245); Psychology (30, 45, 70, 75, 110, 131, 154); Empirical Methods (MS&E 125, PSYCH 252, 254, 110, STATS 203, EDUC 191, HUMBIO 82A); ME design (ME 101, 115A, 203, 210, 216A); Learning Design+Tech (Educ 236, 281, 239, 338, 342); MS&E (MS&E 185, 331); Computer music (Music 220A/B/C, 250A, 256A)


(10) 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).