Stanford University ⬩ School of Engineering
Computer Science
Biocomputation Track
2018-2019 Program Sheet
Final version of program sheet due to the department 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 BS expected: _____

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

Dept	Course	Title	✓ if Transfer	SoE Initials	Date	Unit	Grade
			Transfer/AP Approval by SoE				
Mathematics (23 units minimum)							
MATH		Calculus (see note 1)					
CS	103	Mathematical Foundations of Computing					
CS	109	Introduction to Probability for Computer Scientists					
STAT		One of: Stat 141, 203, 205, 215					
					Mathematics Unit Total (23 units minimum)		
Science (22 units minimum)							
PHYS	41 or 41E	Mechanics (or PHYS 21 or 61)					
CHEM	31A/B or X	Chemical Principles					
CHEM	33	Structure and Reactivity					
BIO *or*		BIO core (complete any three of Bio 81, 82, 83, 84, 85, 86)					
HUMBIO	2A, 3A, 4A	Genetics, Evolution & Ecology/Cell & Dev Biology/The Human Organism					
					Science Unit Total (26 units minimum)		
					(49 units min. Math/Sci combined)		

Technology in Society Requirement *(1 course req'd; must be on Approved list in UGHB Fig. 4-3 the year taken; see note 7)*

		A TiS course must be on the SoE-approved list the year you take it.					

Engineering Fundamentals *(8 units minimum)*

Dept	Course	Title				Unit	Grade
CS	106	Programming Methodology (B or X)					
		Elective (see note 2)					
					Engineering Fundamentals Total (8 units minimum)		

NOTES

*   **All courses listed on this form must be taken for a letter grade (if offered) and can be included in only one category.**

*   This printed form must be signed by the department representative. Changes must be petitioned (see ughb.stanford.edu/petitions) 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, & Senior Project must be approved by the CS undergraduate program office.

*   Courses must be taken for the higher number of units offered. CS 103, 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)   One course required; may not be any CS 106. See Fig. 4-3 in the UGHB for approved ENGR Fundamentals list.

CS Biocomputation Track Program Sheet (continued)

CS Biocomputation Track Core, Depth, and Senior Project *(39 units minimum)*
Be advised: no course may be listed twice on the sheet; no double-counting.

Dept	Course	Title	✓ if Transfer	Dept Initials	Date	Unit	Grade
			Transfer/Deviation Approval by Dept				
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 (21 Units minimum)							
CS		One of: CS 221, 228, 229, 231A					
CS		One of: CS 262, 270, 273A, 274, 275, 279					
CS		One of (if not selected above): CS 124, 145, 147, 148, 221, 228, 229, 231A, 248, 262, 270, 273A, 274, 275, 279					
		Restricted Elective (see note 3)					
		Restricted Elective (see note 4)					
		Restricted Elective (see note 5)					
		Restricted Elective (see note 6)					
Senior Project (1 course required)							
CS		At least 3 units of 191, 191W, 194, 194H, 194W, 210B, 294 or 294W *(see note 7)*					
		Computer Science Core, Depth, and Senior Project Total (39 units minimum)					

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)

(3) One course selected from: CS 108, 124, 131, 140 or 140E, 141, 142, 143, 144, 145, 146, 147, 148, 149, 151, 154, 155, 157 (or PHIL 151), 164, 166, 167, 168, 190, 195 (4 units maximum), 205B, 205L, 210A, 217, 221, 223A, 224N, 224S, 224U, 224W, 225A, 227B, 228, 229, 229T, 230, 231A, 231B, 231M, 231N, 232, 233, 234, 236, 238, 240, 242, 243, 244, 244B, 245, 246, 247, 248, 251, 252, 254, 255, 261, 262, 263, 264, 265, 266, 267, 269I, 270, 272, 273A, 273B, 274, 275, 276, 278, 279, 348B, 348C, 348K, 371, 374; CME 108; EE 180, 263, 282, 364A; BioE 101; MS&E 152, 252; Stats 206, 315A, 315B; GENE 211

(4) One course selected from: CS 145, 147, 221, 228, 229, 262, 270, 273A, 273B, 274, 275, 279, 371, 373, 374; EE 263, 364A; MS&E 152, 252; Stats 206, 315A, 315B; GENE 211

(5) One course selected from note 4 or ChemEng 150, 174; AppPhys 294; Bio 104, 118, 188, 189, 214, 217, 230; Chem 141, 171; BIOC 218, 241

(6) One course selected from: BioE 220; ChemEng 150, 174; CS 262, 274, 279, 371, 374; ME 281; AppPhys 294; Bio 104, 112, 118, 158, 183, 188, 189, 214, 217, 230; Chem 141, 171; BIOC 218, 241; Dbio 210; GENE 211; Surg 101

(7) WIM requirement: may be met by taking CS 181W as a Technology in Society course or the Senior Project course (191W, 194W, 210B, or 294W only).