

Stanford University ♦ School of Engineering
Computer Science
Biocomputation Track
2015-2016 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/YrB.S. expected: _____

Mathematics and Science Requirement

Dept	Course	Title	Transfer/AP Approval by SoE		Unit	Grade
			SoE Initials	Date		
<i>Mathematics (23 units minimum)</i>			✓ if Transfer			
MATH	41	Calculus (see note 1)			5	
MATH	42	Calculus			5	
CS	103	Mathematical Foundations of Computing			5	
CS	109	Introduction to Probability for Computer Scientists			5	
STAT		One of: Stat 141, 203, 205, 215				
<i>Mathematics Unit Total (23 units minimum)</i>						

Science (22 units minimum)

PHYS	41	Mechanics			4	
CHEM	31A/B or X	Chemical Principles			4 or 8	
CHEM	33	Structure and Reactivity			4	
BIO or	41, 42 or	Principles of Biology or			10	
HUMBIO	2A,3A,4A	Genetics, Evolution & Ecology/Cell & Dev Biology/The Human Organism			or 15	
<i>Science Unit Total (22 units minimum)</i>						
<i>(45 units min. Math/Sci combined)</i>						

Technology in Society Requirement (1 course required; see UGHB Figure 3-3 for approved list; see note 7)

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Engineering Fundamentals (8 units minimum)

CS	106	Programming Methodology (B or X)			5	
		Elective (see note 2; CS 106A, B or X not allowed)				
<i>Engineering Fundamentals Total (8 units minimum)</i>						

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 departmental representative. Changes must be petitioned (see UGHB pg 27-29) and initialed in ink.
 - * Minimum Grade Point Average (GPA) for all courses in Engineering Fundamentals and Computer Science 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 Computer Science Depth 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 and 21 may be taken instead of Math 41 and 42 as long as at least 23 math units are taken.
- (2) One course required; may not be CS 106A, B or X. See Engineering Fundamentals Fig. 3-4 in the UGHB for approved list.

CS Biocomputation Program Sheet cont.

CS Biocomputation Track Core and Depth (39 units minimum).

Dept	Course	Title	Transfer/Deviation Approval by Dept		Unit	Grade
			Dept Initials	Date		
Core (15 units minimum)			✓ if Transfer			
CS	107 or 107E	Computer Organization and Systems			5	
CS	110	Principles of Computer Systems			5	
CS	161	Design and Analysis of Algorithms			5	
Depth (21 Units minimum)						
CS		One of: CS 121 or 221, 228, 229, 231A				
CS		One of: CS 262, 270, 173 or 273A, 274, 275, 279				
CS		One of (if not selected above) CS 121 or 221, 228, 229, 231A, 262, 270, 273A, 274, 275, 279, 124, 145, 147, 148, 248				
		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, 194W, 210B, 294 or 294W (see note 7)			3	
<i>Computer Science Core and Depth Total 39 units minimum)</i>						

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, 121 or 221*(Students may not count both CS 121 and 221 toward their major requirements), 124, 131, 140, 142, 143, 144, 145, 147, 148, 149, 154, 155, 157 (or PHIL 151), 164, 166, 167, 168, 190, 205A, 205B, 210A, 223A, 224M, 224N, 224S, 224U, 224W, 225A, 225B, 227B, 228, 228T, 229, 229A, 229T, 231A, 231B, 231M, 231N, 232, 233, 240, 240H, 242, 243, 244, 244B, 245, 246, 247, 248, 249A, 249B, 251, 254, 255, 261, 262, 263, 264, 265, 266, 267, 270, 271, 272, 173 or 273A, 274, 275, 276, 277, 279, 348B, 371, 374; CME 108; EE180, 263, 282, 364A; BioE 101; MS&E 152, 252; Stats 206, 315A, 315B; BMI 231, 260; GENE 211
- (4) One course selected from: CS 145, 147, 221, 228, 229, 262, 270, 273A, 274, 275, 279, 371, 374; EE 263, 364A; MS&E 152, 252; Stats 206, 315A, 315B; BMI 231, 260; GENE 211
- (5) One course selected from footnote 4 or BIOE 222A, 222B; ChemEng 150, 174; AppPhys 294; Bio 104, 118, 129A, 129B, 188, 189, 214, 217, 230; Chem 135, 171; BIOC 218, 241; Sbio 228
- (6) One course selected from: BioE 220, 222A, 222B; ChemEng 150, 174; CS 262, 274, 279, 371, 374; ME 281; AppPhys 294; Bio 104, 112, 118, 129A, 129B, 158, 183, 188, 189, 214, 217, 230; Chem 135, 171; BIOC 218, 241; Dbio 210; GENE 211; Sbio 228; Surg 101
- (7) 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).