

**DEPARTMENT OF COMPUTER SCIENCE**  
**MSCS Program Sheet (2021-22)**  
**Theoretical Computer Science Specialization**

Name: \_\_\_\_\_ Adviser: \_\_\_\_\_ Date: \_\_\_\_\_

Student ID#: \_\_\_\_\_ Email: \_\_\_\_\_ Proposed date for degree conferral: \_\_\_\_\_ HCP? \_\_\_\_\_ Coterm? \_\_\_\_\_

**GENERAL INSTRUCTIONS:** Before the end of your first quarter, complete a program sheet by filling in the number, name and units of each course you intend to take for your degree. Program sheets, as well as foundation course waiver forms, may be submitted electronically on the Gates Information Network at <http://gin.stanford.edu/> using your CS ID and password (click on the ‘Dashboard’ link). See <http://cs.stanford.edu/degrees/mscs/programsheets/psguide2022.pdf> for detailed instructions.

**FOUNDATIONS REQUIREMENT:** You must satisfy the requirements listed in each of the following areas; all courses taken elsewhere must be approved by your adviser via the foundation course waiver form. Do not enter anything in the “Units” column for courses taken elsewhere or for Stanford courses counted towards your undergraduate degree.

Required:	Equivalent elsewhere (course numbers/titles/institution)	Grade	Units
Logic, Automata & Complexity (CS103)			
Probability (CS109, Stat116, CME106, MS&E220, or EE178)			
Algorithmic Analysis (CS161)			
Computer Organ & Sys (CS107 or 107E)			
Principles of Computer Systems (CS110 or CS111)			

**TOTAL UNITS USED TO SATISFY FOUNDATIONS REQUIREMENT** (May not exceed **10** units.)

**SIGNIFICANT IMPLEMENTATION REQUIREMENT:** At least one course in your MS program should be designated as satisfying the Significant Implementation Requirement. Note that this course will also be used to satisfy some other requirement (i.e., Depth, or Elective). Must be taken for a letter grade,\* must be taken at Stanford. Coterm students who took two of these courses at Stanford as undergraduates may waive this requirement. Deviations must be approved by the faculty director of the MS program, Chris Gregg.

Course Number:	Title:	Grade

**Courses that may be used to satisfy the significant implementation requirement include:** CS 140, 140E, 143, 144, 145, 148, 151, 190, 210B, 212, 221, 227B, 231N, 243, 248, and 341.

**BREADTH REQUIREMENT:** Three courses, with each course chosen from a different Breadth area A, B, C or D. Breadth courses may not be waived, must be taken for at least 3 units each, and must be completed for a letter grade.\* Each of the three Breadth courses must be from different Areas. Note that these courses will also be used to satisfy some other requirement (i.e., Depth or Elective). Letter grade only.\*

Course Number:	Title:	Grade

**Area A.** Mathematical and Theoretical Foundations: CS 154, 157, 168, 254, 258, 261, 265, 334A; EE 364A, 364B; Phil 251

**Area B.** Computer Systems: CS 140, 140E, 143, 144, 149, 242, 243, 244, 244B, 295, 316, 358; EE 180, 282, 382E

**Area C.** Applications: CS 145, 147, 148, 155, 173, 221, 223A, 224N, 224U, 224W, 227B, 228, 229, 229M, 231A, 231N, 234, 236, 237A, 245, 246, 247 (any suffix), 248, 251, 255, 262, 273A, 273B, 279, 345, 346, 347, 348A, 348B, 348C, 348E, 348I, 348K, 355, 356, 373

**Area D.** Computing and Society: CS 152, 181, 182, 329T, 384; AMSTUD 133, 145; ANTHRO 132D; COMM 120W, 124, 145, 154, 166, 186W, 230A, 230B, 230C; DESINST 215, 240; ENGLISH 184D, ENGR 248; HISTORY 244F; LAW 4039; ME 177; MS&E 193, 231, 234, 254; POLISCI 150A; PSYCH 215; PUBLPOL 103F

**THEORETICAL COMPUTER SCIENCE DEPTH**

All depth course must be taken for a letter grade\* for 3 or more units. A maximum of 6 units of independent study may be counted towards the depth (i.e., CS 393, 395, 399). Any deviations from the stated requirements must be noted and approved by your adviser in the Adviser Notes box provided (maximum of one adviser-approved deviation allowed). Courses taken for your Stanford undergraduate degree do not need to be repeated. Enter course selection in the table below:

- a) CS 154‡, 261 (students with equivalent course work may waive ‡ courses with adviser approval)
- b) A total of at least 21 units from category (a) and the following: CS 151, 163 or 353, 166, 168, 228, 233, 236, 246, 250, 251, 252, 254, 254B, 255, 257, 259Q, 260, 263, 264, 265, 268, 269G, 269I, 269O, 345, 351, 352, 354, 355, 358, 359†, 368, 369†, 369O, 393†, 395†, 399†, 468†; EE 364A; MS&E 310, 315, 319 (courses with † notation require approval of MS adviser)

Note: Multiple CS359, CS369, and/or CS468 courses may be taken as long as they are each on different topics (denoted by different letter suffixes).

<b>Adviser Notes</b>
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Course number	Title (Depth courses must be taken for at least 3 units.)	Grade	Units
<b>TOTAL SPECIALIZATION UNITS APPLIED TO MSCS (must total at least 21 units) Letter grades only.*</b>			

**ELECTIVES**

List here any additional courses used to complete the 45-unit requirement for the MSCS degree. You may count up to a maximum of **3 units** of 1-2 unit seminars offered in the School of Engineering. All other electives must be taken for 3 or more units. CS courses numbered above 111, excluding CS196, CS198, and CS390A/B/C, can be used as MS electives. Non-CS courses must be technical courses numbered above 100, related to the degree program, and approved by the adviser and the MS program administrator. *Note that CS 129 may not be counted towards the MS if CS 229 is being counted towards any BS or MS requirement.*

Course number	Title	Grade	Units
<b>TOTAL ELECTIVE UNITS APPLIED TO MSCS</b>			

**TOTAL UNITS APPLIED TO MSCS**

**ADDITIONAL REQUIREMENTS**

- All courses submitted for the MSCS degree must be numbered 100 or greater.
- At most 10 units of Foundations requirement courses may be counted toward your 45 units.
- At most 3 units of 1-2 unit seminars may be counted toward your 45 units.
- At least 36 units submitted for the MSCS degree, including all courses taken for breadth and depth, must be taken for a letter grade.\*
- The average grade in the courses submitted for the MSCS must be at least a B (3.0 in Stanford's GPA scale).
- Units previously applied toward BS requirements may not also be counted toward the MSCS.
- You must complete at least 45 graduate units at Stanford before receiving the MSCS degree.

\*All classes taken Spring 19-20 and Fall through Summer 20-21 for a CR or S grade will satisfy MSCS requirements as if taken for a letter grade.

Adviser's signature: \_\_\_\_\_ Date: \_\_\_\_\_