

# DEPARTMENT OF COMPUTER SCIENCE

## MSCS Program Sheet (2011-12)

### Theoretical Computer Science Specialization: Single Depth

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

#### GENERAL INSTRUCTIONS

Before the end of your first quarter, complete this program sheet by filling in the number, name and units of each course you intend to use for your degree. Meet with your adviser to secure the necessary signatures on the program sheet and any foundation course waiver forms. Submit the originals to the MS Program Administrator, Claire Stager, in Gates 182. Detailed instructions are available at <http://cs.stanford.edu/Degrees/mscs/programsheets/psguide1112.pdf>.

#### FOUNDATIONS REQUIREMENT

You must satisfy the requirements listed in each of the following areas; all courses taken elsewhere must be approved by your adviser on a foundation course waiver form. Do not enter anything in the "Units" column for courses taken elsewhere.

Note: If you are amending an old program sheet, enter "**on file**" in the approval column for courses that have already been approved.

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

**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 may also be used to satisfy some other requirement (i.e., Breadth, Depth, or Elective). This requirement ensures that you have taken part in some form of substantial software development as part of the MSCS program.

Course Number:	Title:	Grade

***Courses that may be used to satisfy the significant implementation requirement include:*** CS 140, 143, 144, 145, 148, 210B, 221, 243, 248, and 346 (any deviations from this list must be approved by the Associate Chair for Education). Courses meeting the Significant Implementation Requirement must be taken at Stanford. Students who previously took at least two of these courses at Stanford as undergraduates may request a waiver of this requirement.

#### BREADTH REQUIREMENT

Choose three from list below:	(Breadth courses must be taken for at least three units.)	Grade	Units

**TOTAL UNITS USED TO SATISFY BREADTH REQUIREMENT** (*Letter grades only.*)

***Courses that may be used to satisfy the Theoretical Computer Science breadth requirement include:*** CS 121 or 221, 124, 140, 143, 144 or EE 284, 145, 147, 148, 149, 154, 155, 157, 164, 205A, 222, 223A, 224M, 224N, 224S, 224U, 224W, 226, 227, 227B, 229, 231A, 240, 240E, 242, 243, 244, 244B, 244E, 249A, 270, 273A, 274, 276, 279; CME 108, 302; EE 108B, 282.

**UNITS FOR THE THEORETICAL COMPUTER SCIENCE SINGLE DEPTH SPECIALIZATION**

The courses you submit for your depth must meet the following requirements. 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). Circle course selections and enter them in the lined table below:

- a) CS 241 or 258 or 259, 261 (361A or 361B may be used as substitutes for 261)
- b) A total of at least 27 units from category (a) and the following: CS 228, 241, 246, 254, 255, 258, 259, 262, 268, 341, 345, 355, 356, 357, 358, 359\*, 361A, 361B, 364A, 364B, 365, 369\*, 374, 393\*, 395\*, 399\*, 468\*; Man. Sci. 310 (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 for the courses).

**Adviser Notes**

Course number	Title	Grade	Units
<b>TOTAL SPECIALIZATION UNITS APPLIED TO MSCS (must total at least 27 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 **three units** of 500-level CS seminars, CS300, EE380, EE385A, or other 1-2 unit seminars offered in the School of Engineering, as Electives toward the MS degree. Electives must be technical courses numbered above 100, related to the degree program, and approved by the adviser and MS program administrator. CS courses numbered above 110, excluding CS196 or CS198, are pre-approved as MS electives.

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 CS/EE/Engineering 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.

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

Department approval (Claire Stager): \_\_\_\_\_ Date: \_\_\_\_\_

FOR DEPARTMENT USE: UNITS \_\_\_\_\_ CR/NC \_\_\_\_\_ GPA \_\_\_\_\_