

# DEPARTMENT OF COMPUTER SCIENCE

## MSCS Program Sheet (2004-05)

### 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, you should complete the following steps. Detailed instructions are included in the **Guide to the MSCS Program Sheet** in your orientation packet (an online version is available at [cs.stanford.edu/Degrees/mscs/programsheets/](http://cs.stanford.edu/Degrees/mscs/programsheets/)):

- Complete this program sheet by filling in the number, name and units of each course you intend to use for your degree.
- Attach a course schedule showing the year and quarter in which you intend to take each course in your program sheet.
- Meet with your adviser and secure the necessary signatures on the program sheet and any waiver documents checklist forms.
- Submit the originals to the MS Program Administrator, Claire Stager, in Gates 182.

#### BREADTH 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 waiver documents checklist 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.

#### Area A: Mathematical and theoretical foundations

Required:	Equivalent elsewhere (course number/title/institution)	Approval	Grade	Units
Statistics (Stat116 or MS&E220 or CME106)				
Automata and Complexity (CS154)				
Algorithmic Analysis (CS161)				

#### Choose one of:

Numerical Analysis (CS137 or CS237A)				
Logic (CS157, CS257, CS258, or Phil 251)				
Mathematical Methods (CS205)				

#### Area B: Computer systems

Required:	Equivalent elsewhere (course number/title/institution)	Approval	Grade	Units
Computer Architecture (EE108B or EE282)				

#### Choose two of:

Operating Systems (CS140)				
Compilers (CS143)				
Computer Networks (CS244A or EE284)				

#### Area C: AI and applications

Choose two, including one at 200 level	Equivalent elsewhere (course number/title/institution)	Approval	Grade	Units
AI (CS121 or CS221)				
Databases (CS145 or CS245)				
Graphics (CS148 or CS248)				

**TOTAL UNITS USED TO SATISFY BREADTH REQUIREMENT (AREAS A, B, AND C)**

Note: This total may not exceed 21 units.

#### SEMINARS

You must take at least one 500-level seminar. No more than three units of seminars or 1-2 unit courses may be counted towards the MS degree:

Course number	Title	Grade	Units

**TOTAL SEMINAR UNITS APPLIED TO MSCS**

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

The courses you submit for your specialization must meet the following requirements:

(a) Each of the following courses:

- \_\_\_ CS256      \_\_\_ CS258      \_\_\_ CS261 (CS361A, CS361B or CS365  
may be used as substitutes for CS261)

(b) At least twelve more units selected from the following. Courses with \* notation require permission of Prof. John Mitchell:

- \_\_\_ CS228      \_\_\_ CS352      \_\_\_ CS359\*      \_\_\_ CS367A  
 \_\_\_ CS255      \_\_\_ CS353      \_\_\_ CS361A      \_\_\_ CS367B  
 \_\_\_ CS259      \_\_\_ CS355      \_\_\_ CS361B      \_\_\_ CS368  
 \_\_\_ CS262      \_\_\_ CS356      \_\_\_ CS364A      \_\_\_ CS369\*  
 \_\_\_ CS345      \_\_\_ CS357      \_\_\_ CS364B      \_\_\_ CS374  
 \_\_\_ CS351      \_\_\_ CS358      \_\_\_ CS365      \_\_\_ Man Sci 310

<b>Adviser Notes</b>
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Any deviations from the stated requirements must be noted and approved by your adviser in the Adviser Notes box provided. Enter course information for the courses you've selected in the table below. All specialization courses must be taken for a letter grade.

Course number	Title	Grade	Units
<b>TOTAL SPECIALIZATION UNITS APPLIED TO MSCS (must total at least 21 units)</b>			

**ELECTIVES**

List here any additional courses used to complete the 45-unit requirement for the MSCS degree.

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 21 units of introductory courses (CS100-109) or breadth requirements courses may be counted toward your 45 units.
- At least 36 units submitted for the MSCS degree, including all courses taken for your specialization, 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 \_\_\_\_\_