

## MS CS Secondary Depth Requirements

### 1. Artificial Intelligence

Students with a secondary concentration in AI take five courses satisfying the area (a) and (b) requirements below. Students waiving out of CS221 may take an additional course in either area (b) or (c):

- CS 221\*\*
- At least four of: 223A, 224M, 224N, 224S, 224U, 224W, 228, 229, 231A
- Sufficient depth units from category (b) and the following: CS 205A, 225A, 225B, 227B, 228T, 229A, 229T, 231B, 231M, 231N, 232, 233, 238, 239, 246, 262, 270, 173 or 273A, 274, 275, 276, 277, 278, 279, 294A\*, 325, 327A, 328, 329, 331A, 331B, 334A or EE364A, 341, 345, 362, 364A, 364B, 371, 374, 377\*, 379\*, 393\*, 395\*, 399\*; AppPhys 293; BIOE 332; Elect. Eng. 263, 278, 364B, 376A, 377, 378B; Engr. 205, 209A; Man. Sci. 251, 252, 351, 352, 353; Psych. 202; Stat. 202, 315A, 315B

### 2. Biocomputation

Students with a secondary concentration in Biocomputation need to take five courses. Three of those courses must come from area (a) and the remaining two courses may come from either area (a) or (b):

- At least three of: CS 262, 270, 272, 173 or 273A, 274, 278, 279
- Sufficient depth units from category (a) and the following: CS 228, 229, 229A, 231N, 233, 245, 246, 261, 264, 265, 268, 275, 277, 325, 341, 345, 346, 362, 371, 374, 393\*, 395\*, 399\*; AppPhys 293; BIOE 332; Genetics 203, 211; SBIO 228

### 3. Computer and Network Security

Students with a secondary concentration in Computer and Network Security need to take five courses. Those courses must satisfy the area (a) requirement and additional courses from area (b) should be taken if any area (a) requirements are waived:

- All of: CS 140\*\*, 144\*\*, 155, 244, 255
- Sufficient depth units from category (a) and the following: CS 142, 240, 244B, 244C, 261, 265, 340, 344, 355

### 4. Human-Computer Interaction

Students with a secondary concentration in Human-Computer Interaction need to take five courses. Those courses must satisfy the area (a), (b) and (c) requirements. Students waiving out of one or both of the area (a) requirements should take additional course(s) from areas (b) or (c):

- CS 147, 247\*\*
- HCI in CS – Any two of : CS 142, 148, 194H, 210A, 248, 376, any 377 (A/B/C...suffix), 448B; ME 216M
- Interdisciplinary HCI – Sufficient additional units from categories (a), (b), and the following: Broader CS (CS 221, 224N, 224U, 224W, 229, 231A, 231B, 242, 246, 341, 393\*, 395\*, 399\*) (\* courses require approval of MS adviser); Art Studio (ArtStud 160, 162, 163, 164, 165, 168, 264, 266, 267); Communication (Comm 224, 240, 266, 269, 272, 282, 324); Empirical Methods (Comm 314, Educ 200B, 291X, MS&E 125, Psych 252, 254, Stats 203); Learning Design & Tech (Educ 239X, 281X, 338X, 342); Man Sci & Eng (MS&E 185, 331, 334); Mech Eng (ME 203, 210, 216A); Music (Music 220A, 220B, 220C, 250A); Psych (Psych 204, 209); Sym Sys 245; any d.school class listed at <http://dschool.stanford.edu>, or any HCI class listed at <http://hci.stanford.edu/courses/>; such courses must be numbered 100 or above and be taken for at least 3 units to count for this requirement.

### 5. Information Management and Analytics

Students with a secondary concentration in Information Management and Analytics need to take five courses satisfying the area (a) and (b) requirements below. Students waiving out of the area (a) requirement should take an additional course from either area (b) or (c) in its place:

- CS 145\*\*
- At least four of: CS 224N, 224W, 229, 245, 246, 276, 345, 346, 347
- Sufficient additional units selected from category (b) and the following: CS 144, 224S, 224U, 228, 228T, 229A, 229T, 231A, 231N, 233, 240, 242, 243, 244, 244B, 244C, 249A, 249B, 251, 255,

262, 270, 271, 272, 173 or 273A, 274, 275, 279, 315A or 316, 325, 341, 344 (any suffix), 362, 364B, 374, 393\*, 395\*, 399\*; Stat. 315A, 315B

#### 6. Mobile and Internet Computing

Students with a secondary concentration in Mobile and Internet Computing need to take five courses satisfying the area (a) through (d) requirements below. Students waiving out of an area (a) requirement should take an additional course from areas (a) through (c):

- a) Two of: CS 140\*\*, 144, 244
- b) One of: CS 142, 147, 247
- c) One of: CS 155, 255
- d) CS 294S

#### 7. Real-World Computing

Students with a secondary concentration in Real-World Computing need to take 5 courses satisfying the area (a) and two of the three courses in the area (b) requirements below (i.e., three courses in area (a) and two courses in area (b)):

- a) At least three of: CS 148, 223A, 231A, 248
- b) At least two of: CS 205A, 205B, 233, 249A, 249B, 262, 268, 277, 348A, 348B, 374; CME 302, 306

#### 8. Software Theory

Students with a secondary concentration in Software Theory need to take 5 courses satisfying the area (a)-(d) requirements below:

- a) CS 243
- b) At least one of: CS 244, 245, 341, 343, 345
- c) At least two of the following: CS 242, 255, 261, 263, 264, 265, 266, 267, 268, 355, 361A, 361B, 367
- d) Sufficient additional units selected from category (b), (c), or the following: 251, 294S\*, 346, 362, 393\*, 395\*, 399\*

#### 9. Systems

Students with a secondary concentration in Systems need to take five courses. Those courses must satisfy the area (a) requirement and additional courses should be taken from area (b):

- a) CS 140\*\*, 144\*\*, 240
- b) CS 242, 243, 244, 245, 248, 348B; Elect. Engr. 271, 282

#### 10. Theoretical Computer Science

Students with a secondary concentration in Theoretical Computer Science need to take 5 courses satisfying the area (a) and (b) requirements below:

- a) CS 261 (361B may be used as substitutes for 261)
- b) At least four of: CS 166, 168, 228, 233, 246, 251, 254, 255, 262, 263, 264, 265, 266, 267, 268, 334A or EE364A, 341, 345, 354, 355, 357, 358, 359\*, 361B, 362, 364A, 364B, 366, 367, 369\*, 374, 393\*, 395\*, 399\*, 468; Man. Sci. 310, 319

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).

\* With consent of advisor.

\*\* Students with equivalent coursework may waive with the approval of their advisor.