

CS Curriculum for Class of 2012¹

August 20, 2007

Introduction to the Program (3 cr.hrs.): CS 110 (Intro.to CS)

Basic CS Core (20 cr.hrs.): CS 121 (CS I) (or CS 124), CS 122 (CS II), CS 228 (Data Structures), CS 271,272 (Discrete Computational Structures I,II), and CS 311 (Intro.to Computer Systems).

Or CS 124 with a grade of B- or higher, CS 228, CS 271-272, CS 311, + 3 extra credits of CS electives (see below).

Advanced CS Core (17 cr.hrs.): EECE 429 (Operating Systems), CS 471, 472 (Design & Analysis of Algorithms I,II), EECE 493,495 (Software Engineering + lab), CS 592 or EECE 592 (Database Design).

CS Electives (24 cr.hrs.): ≥ 24 credit hours. (See list of options below.)

CS Capstone (9 cr.hrs.): Senior Design I,II,III (CS 561,562,563).

Math/Natural Science (45 cr.hrs.): • MATH 251,252,226,253,257 (Calculus I-III & labs).

- MATH 351 or 276 (Linear Algebra I or Matrix Methods).
- PHYS 201,211,202,212,203,213 (General Physics I-III & labs).
- ≥ 12 *additional* credit hours of Math/Natural Science electives. (See list below).

Social Science & Humanities (Engl & BoK) (39 cr.hrs.):

- ENGL 101,102. ENGL 103 or 289. ENGL 492 (Tech. Writing). COMM 171 (Effective Public Speaking).
- One of PHIL 345, 386 (Issues of the Information Age, Metaphysical Foundations of Tech.).²
- ≥ 21 *additional* credit hours of courses carrying UC BoK credit (in areas other than English Composition, Natural Science, and Quantitative Reasoning), ≥ 3 of which are designated upper level. Courses chosen must meet all UC BoK requirements.³

Professional Development (2 cr.hrs.): PD 120,502 (Co-op for Engg, Prof.Develop.2), + COOP 120 after each co-op quarter.

General electives: Enough additional courses to accumulate ≥ 186 **total credit hours**. These may be (i) any courses that would satisfy any of the above requirements, (ii) any courses numbered 200 or higher in any baccalaureate program in the Clifton or Medical College campuses of UC, or (iii) any courses required for any of the other majors in the UC College of Engineering that do not count in any other way toward the CS major..⁴

Tracks: The Department of Computer Science is preparing suggested “tracks”: focused sequences of electives to prepare students in particular specialties. These may include CS electives, Math/Natural Science electives, BoK electives, and/or General electives.

CS Electives: CS 403 (Org.of Prog.Lang.), CS 454 (Network Syst.Prog.), CS 595 (Special Topics in CS), CS 597 (Wireless Mobile Networks), any CS 600-level CS course (*except* 671, 672), AEEM 313 (Modeling & Simulation of Physical Systems), AEEM 360 (Numerical Methods for Engineers), AEEM 480 (Computational Mechanics), EECE 593 (Advanced DB Design), EECE 617 (Silicon Programming), EECE 636 (Intelligent Syst.), EECE 642 (Digital Image Proc.), EECE 683,5 (Compiler Theory & Lab).

Math/Natural Science Electives: MATH 254 (Calculus IV), MATH 273 (Diff.Eqs.), MATH 352 (Linear Algebra II) MATH 361,362,363 (Prob.& Stats.I-III), any 500-level MATH course, any courses in BIOL, CHEM, GEOL, or PHYS satisfying requirements for majors in those departments. (Other departmental-based statistics courses may be added later.)

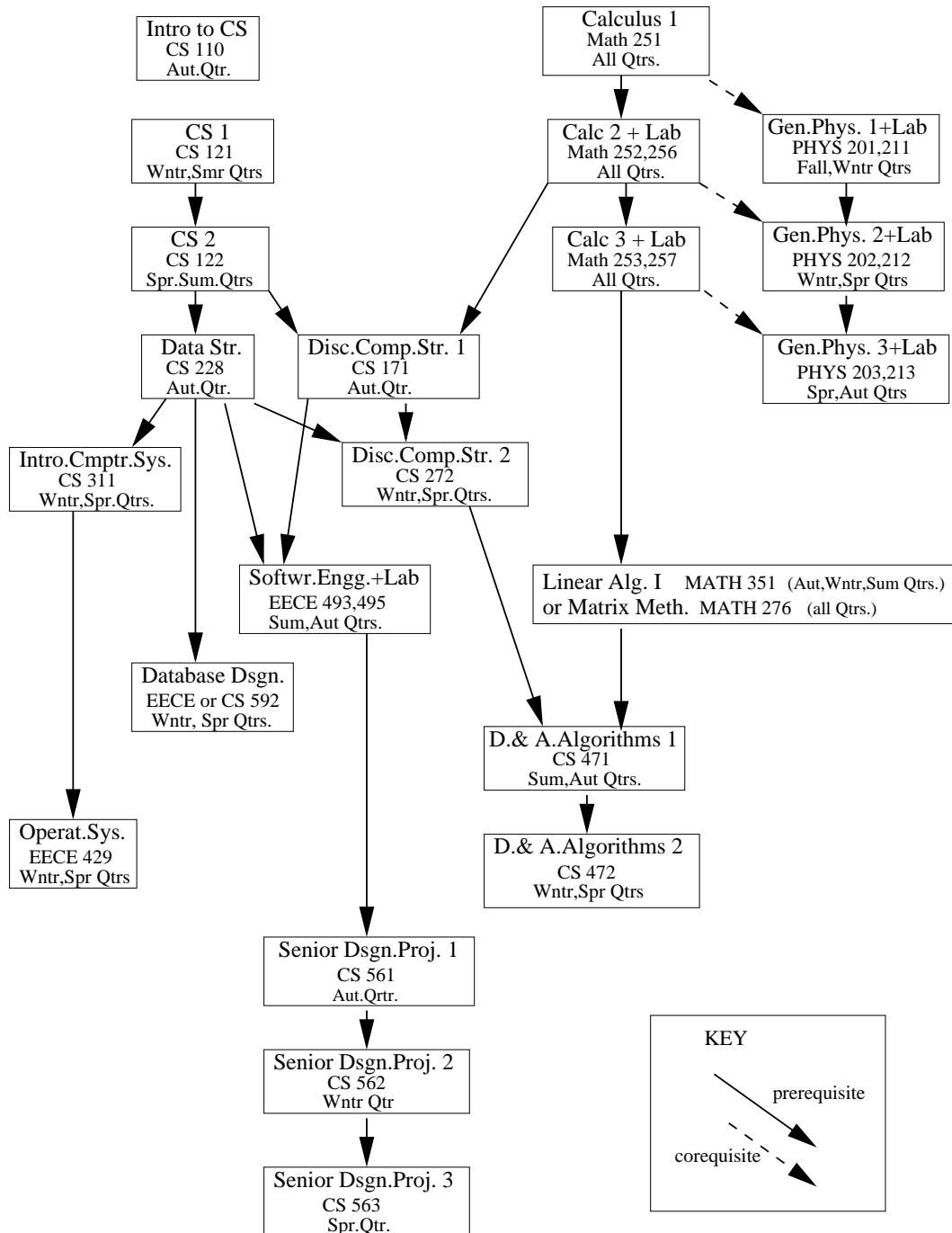
¹Course requirements are also listed on the College of Engineering web site. If by some accident the two requirement sets are different, the requirements on the College site are, *by definition*, correct.

²If both PHIL courses are taken, one counts toward BoK electives.

³The Natural Sciences, Quantitative Reasoning, and English Composition BoK requirements are met by required courses.

⁴When a transfer student is admitted, the College may also grant general elective credit for some of the transferred credits.

Prerequisite Graph of required Computer Science & Engineering, Mathematics, and Natural Science courses. Where a course and its laboratory have separate numbers, we include them both in one box, since students are expected to take both at the same time. The distances from the top correspond to the quarters in which students *typically* are expected to take the courses. (One course is a *corequisite* for another, shown with dotted lines below, if the first course must be taken before *or at the same time as* the second.)



Note that Discrete Computational Structures II is a prerequisite for Design & Analysis of Algorithms I, and Data Structures is a prerequisite for Discrete Computational Structures II, so Data Structures is implicitly also a prerequisite for Design & Analysis of Algorithms I. A prerequisite of a prerequisite of a course is always a prerequisite of the course