

Major: Computer Science (CS)

Offered by: **Department of Computer Science**
303 Upson Hall, 255-0982, www.cs.cornell.edu/ugrad

Emphasizing the underlying principles of the computing process and its applications in systems; computer vision; artificial intelligence; database design and management; information retrieval, language, and text processing; financial analysis; multimedia systems; supercomputing; computer graphics and scientific visualization, including advanced analysis and design.

Engineering Distributions

ENGRD 211 Computers and Programming (required)
ENGRD 230 Introduction to Digital Systems (recommended for students interested in computer engineering)

Required Major Courses

COM S 212 Java Practicum
COM S 280 Discrete Structures
COM S 312 Data Structures and Functional Programming
COM S 314 Computer Organization
ENGRD 322 Introduction to Scientific Computation (or COM S 321 or COM S 421 or COM S 428)
COM S 381/481 Introduction to Theory of Computing
COM S 414 Systems Programming and Operating Systems
COM S 482 Introduction to Analysis of Algorithms

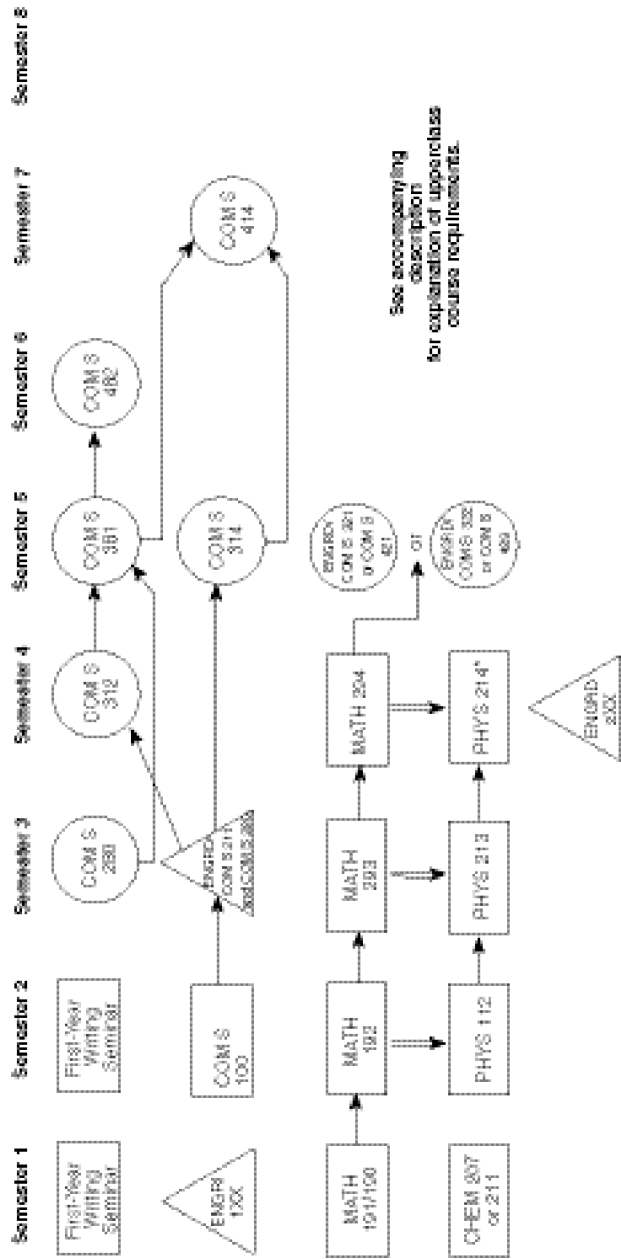
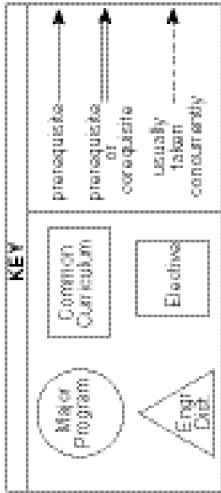
Electives

Two COM S electives numbered ≥ 400 ; 3-credit minimum per course
One COM S project course
One math-related elective course (≥ 300 level) or a mathematically oriented course from a related technical area (e.g., OR&IE, ECE, PHYS, T&AM); 3-credit minimum
Two Major-approved technical electives numbered ≥ 300 ; 3-credit minimum per course
Two advisor-approved, free electives
Three related, upper-level elective courses numbered ≥ 300 (specialization)

COMPUTER SCIENCE MAJOR (CS)

Note: This schedule represents the best possible entry into the Computer Science major. Typically, COM S 100, COM S 312, 381, 382 and 314 are completed by the end of the sophomore year.

* May substitute CHEM 200 for PHYS 214.



Computer Science Major Checklist

	<i>Min.</i> <i>Credit Hours</i>	<i>✓ When Done</i>
MATH 191 (or 190)	4	n
MATH 192	4	n
MATH 293	4	n
MATH 294	4	n
CHEM 211 (or 207 or 215)	4	n
PHYS 112 (or 116)	4	n
PHYS 213 (or 217)	4	n
PHYS 214 (or 218 or CHEM 208 or 216)	4	n
COM S 100	4	n
Intro. to Engr. (ENGR1 1XX)	3	n
Engr. Dist. 1: ENGRD 211	3	n
Engr. Dist. 2	3	n
First-Year Writing Seminar 1	3	n
First-Year Writing Seminar 2	3	n
Liberal Studies Distribution—6 courses (18-credit minimum)†		
Lib. Studies 1		n
Lib. Studies 2		n
Lib. Studies 3		n
Lib. Studies 4		n
Lib. Studies 5		n
Lib. Studies 6		n
Approved Elective (2 courses; 6-credit minimum)		n
Approved Elective		n
Physical Education (2 semesters) and swim test		
Required Major Courses (55-credit minimum)#		
COM S 212	1	n
COM S 280	3	n
COM S 312	4	n
COM S 314	4	n
ENGRD 322 or COM S 321 or COM S 421 or COM S 428	3	n
COM S 414	3	n
COM S 381 or 481	3/4	n
COM S 482	4	n
COM S Elective 400 or above	3	n
COM S Elective 400 or above	3	n
COM S Project Course	2	n
‡Specialization Elective 1	3	n
‡Specialization Elective 2	3	n
‡Specialization Elective 3	3	n
Math-Related Elective§	3	n
Major-Approved Technical Elective	3	n
Major-Approved Technical Elective	3	n
Total Required Credits	126 min.	_____
Additional Elective Courses (0 credits min., no max.)		n

†Approved courses must be chosen from at least three of the following six groups: (1) Cultural Analysis (CA), (2) Historical Analysis (HA), (3) Literature and the Arts (LA), (4) Knowledge, Cognition, and Moral Reasoning (KCM), (5) Social and Behavioral Analysis (SBA), (6) Foreign Languages (not literature courses). At least two courses must be from the first three groups (CA, HA, LA). At least two of the six courses must be at 200-level or higher.

‡The outside specialization consists of 9 or more credits at the 300+ level. Absolutely no COMS courses are allowed. The three courses must be related to each other (3-credit minimum per course).

§The math elective involves taking a 300+ course that has rigorous mathematical content. (ENGRD 270 is the only course below the 300 level that satisfies this requirement.)

Note: This engineering checklist is formatted to conform to the general specifications of the College of Engineering. We strongly recommend that you visit 303 Upson Hall for an official Computer Science major checklist. This information can also be obtained by visiting the Computer Science web site (www.cs.cornell.edu/ugrad).