



Suggested Course Plan for a UC Riverside Major in

# Computer Science

(Catalog Year 2010)

## *Fall Quarter*

CS 010 (4)  
*C++ Programming I*  
ENGL 001A (4)  
*English Composition*  
MATH 009A (4)  
*First Year Calculus*  
ENGR 001I (1)  
*Professional Dev & Mentoring*

## *Winter Quarter*

CS 012 (4)  
*C++ Programming II*  
ENGL 001B (4)  
*English Composition*  
MATH 009B (4)  
*First Year Calculus*  
BREADTH (4)  
*Humanities/Social Science*

## *Spring Quarter*

CS 014 (4)  
*Data Structures*  
MATH 009C (4)  
*First Year Calculus*  
MATH/CS 011 (4)  
*Intro to Discrete Structures*

### First Year

### Second Year

CS 061 (4)  
*Assembly Language Programming*  
CS 100 (4)  
*Software Construction*  
PHYS 040A (5)  
*Physics (Mechanics)*  
BREADTH (4)  
*Humanities/Social Sciences*

EE/CS 120A (5)  
*Logic Design*  
MATH/CS 111 (4)  
*Discrete Structures*  
PHYS 040B (5)  
*Physics (Heat/Waves/Sound)*  
BREADTH (4)  
*Humanities/Social Science*

CS/EE 120B (5)  
*Embedded Systems*  
PHYS 040C (5)  
*Physics (Electricity/Magnetism)*  
BREADTH (4)  
*Humanities/Social Science*

### Third Year

CS 141 (4)  
*Algorithms*  
CS 161/161L (6)  
*Computer Architecture w/Lab*  
MATH 010A (4)  
*Multivariable Calculus*  
ENGR 101I (1)  
*Professional Dev & Mentoring*

CS 150 (4)  
*Theory of Auto & Formal Language*  
CS 153 (4)  
*Operating Systems*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*  
MATH ELECTIVE (4)  
*\*\*See Catalog List*

ENGINEERING ELECTIVE (4)  
*\*Consult Academic Advisor*  
ENGR 180W (4)  
*Technical Communications*  
MATH 113 (5)  
*Linear Algebra*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*

### Fourth Year

STAT 155 (4)  
*Probability/Statistics for Engr*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*  
BREADTH (4)  
*BIOL 002 or 003 or 005A/LA*

CS 152 (4)  
*Compilers*  
MATH ELECTIVE (4)  
*\*\*See Catalog List*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*  
BREADTH (4)  
*Humanities/Social Science*

CS 179 (4)  
*Project in Computer Science*  
TECHNICAL ELECTIVE (4)  
*\*\*See List on Back*  
BREADTH (4)  
*Humanities/Social Science*

### Notes

Humanities/Social Sciences courses fulfill breadth requirements specific to the College of Engineering. A list of approved Breadth courses is available on the College of Engineering Student Academic Affairs website: <http://student.engr.ucr.edu/>.

\* Consult with your assigned Academic Advisor for course choices to fulfill the Engineering Elective.

\*\*Electives are courses in Computer Science which explore specific topics. A list of Technical Electives is available on the back of this Course Plan.

# Computer Science

## Technical Electives

You must complete 6 courses (at least 24 units) of Technical Electives chosen from:

- CS 100: Software Construction
- CS 122A: Intermediate Embedded & Real-Time Systems
- CS 122B: Advanced Embedded & Real-Time Systems
- CS 130: Computer Graphics
- CS 133: Computational Geometry
- CS 134: Video Game Creation & Design
- CS 145: Combinatorial Optimization Algorithms
- CS 151: Introduction to Theory of Computation
- CS 160: Concurrent Programming & Parallel Systems
- CS 162: Computer Architecture
- CS 164: Computer Networks
- CS 165: Computer Security
- CS 166: Database Management Systems
- CS 168: Introduction to Very Large Scale Integration VLSI Design
- CS 169: Mobile Wireless Networks
- CS 170: Introduction to Artificial Intelligence
- CS 177: Modeling & Simulation
- CS 179 E-Z: Project in Computer Science (4 units maximum)
- CS 180: Introduction to Software Engineering
- CS 181: Principles of Programming Languages
- CS 183: UNIX System Administration
- CS 193: Design Project (4 units maximum)
- EE 140: Computer Visualization
- MATH 120: Optimization
- MATH 135A: Numerical Analysis
- MATH 135B: Numerical Analysis