Suggested Course Plan for a UC Riverside Major in

COMPUTER ENGINEERING

Catalog Year: 2015

Fall Quarter	Units	Winter Quarter	Units	Spring Quarter	Units
FIRST YEAR					
CS 010[1]	4	CS 012[2] or CS 13	4	CS 061	4
C++ Programming I		*C++ Programming II*		*Machine Org. & Assembly Lang. Prog.*	
ENGL 001A	4	ENGL 001B	4	MATH 009C	4
Beginning Composition		*Intermediate Composition*		*First Year Calculus*	
ENGR 001G	1	MATH 009B	4	MATH/CS 011	4
Professional Dev. & Mentoring		*First Year Calculus*		*Intro to Discrete Structures*	
MATH 009A	4	PHYS 040A	5	PHYS 040B	5
First Year Calculus		*Physics (Mechanics)*		*Physics (Heat/Waves/Sound)*	
SECOND YEAR					
CS 014	4	EE 001B	4	CS 100	4
Intro to Data Structures & Algorithms		*Engineering Circuit Analysis II and Lab*		*Software Construction*	
EE 001A and EE 01LA	4	EE/CS 120A	5	CS/EE 120B	4
Engineering Circuit Analysis I and Lab		*Logic Design*		*Embedded Systems*	
MATH 046	4	MATH 010A	4	EE 020	4
Differential Equations		*Multivariable Calculus*		*Linear Methods for Engr. Analysis*	
PHYS 040C	5	CS 111	4	CHEM 001A or ME 010	4
Physics (Electricity/Magnetism)		*Discrete Structures*		*Gen. Chemistry or Statics*	
THIRD YEAR					
CS 141	4	CS 161 & CS 161L	6	CS 153	4
Interm. Data Structures & Algorithms		*Design & Arch. of Comp. Sys.and Lab*		*Design of Operating Systems*	
ENGR 180W*	4	EE/CS 168	4	Technical Elective**	4
Technical Communications		*VLSI Design*		_____	
ENGR 101G	1	Breadth _____	4	Breadth _____	4
Professional Dev. & Mentoring		*Biological Sciences*		*Humanities/Social Sciences*	
EE 100A	4			Breadth _____	4
Electronic Circuits				*Humanities/Social Sciences*	
FOURTH YEAR					
CS 122A or EE 128	5	Technical Elective**	4	Technical Elective**	4
Micro Design or Instrumentation		_____		_____	
Technical Elective**	4	Technical Elective**	4	Technical Elective**	4
_____		_____		_____	
STAT 155[3]	4	Breadth _____	4	Breadth _____	4
Prob., Random Variables & Processes		*Humanities/Social Sciences*		*Humanities/Social Sciences*	
Breadth _____	4	Breadth _____	4		
Humanities/Social Sciences		*Humanities/Social Sciences*			

[1] CS 010V may be used to satisfy this requirement

[2] CS 012V may be used to satisfy this requirement

[3] EE 114 may be used to satisfy this requirement

To earn a B.S., you must complete all College and University requirements. For a complete list: www.catalog.ucr.edu.

ENGLISH COMPOSITION*

A C or better is required in three quarters of English Composition courses to satisfy the graduation requirement. ENGR 180W fulfills the third quarter of English Composition.

BREADTH REQUIREMENTS

For an approved list of Breadth courses: http://student.engr.ucr.edu/policies/requirements/breadth.html.

Humanities: (3 courses)
  A. World History: _____
  B. Fine Arts, Lit., Phil. or Rlst: _____
  C. Human Persp. on Science: _____
Social Sciences: (3 courses)
  A. Econ. or Posc.: _____
  B. Anth., Psyc, or Soc.: _____
  C. General Social Science: _____
Biological Science _____
Ethnicity: (1 course)
  1. _____
  Upper Division: (2 courses)
  1. _____
  2. _____

TECHNICAL ELECTIVES *

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings.

Course Plan is subject to change.

Total Units: 185
Maximum Units: 222

Computer Engineering Technical Electives

You must complete six courses (at least 24 units) as technical electives from the following set of Computer Science and Engineering and Electrical Engineering upper-division courses. The technical electives selected must include either CS 179 (E-Z) or EE 175A, EE 175B and EE 175C. The remaining technical electives must include at least one coherent sequence of two classes from either Computer Science and Engineering or Electrical Engineering. The technical electives must be distinct from those used to satisfy major requirements. Units are listed in ().

ENGR 160   Intro to Engineering Optimization Techniques (4)

CS 122A	Intermediate Embedded & Real-Time Systems (5)	EE 100B	Electronic Circuits (4)
CS 122B	Advanced Embedded & Real-Time Systems (5)	EE 105	Modeling and Simulation of Dynamic Systems (4)
CS 130	Computer Graphics (4)	EE 110A	Signals and Systems (4)
CS 133	Computational Geometry (4)	EE 110B	Signals and Systems (4)
CS 150	Theory of Automata and Formal Languages (4)	EE 115	Introduction to Communication Systems (4)
CS 152	Compiler Design (4)	EE 123	Power Electronics (4)
CS 160	Concurrent Programming & Parallel Systems (4)	EE 128	Data Acquisition, Instrum., & Process Control (4)
CS 162	Computer Architecture (4)	EE 132	Automatic Control (4)
CS 164	Computer Networks (4)	EE 133	Solid-State Electronics (4)
CS 165	Computer Security (4)	EE 134	Digital Integrated Circuit Layout and Design (4)
CS 166	Database Management Systems (4)	EE 135	Analog integrated Circuit Layout and Design (4)
CS 169	Mobile Wireless Networks (4)	EE 140	Computer Visualization (4)
CS 170	Introduction to Artificial Intelligence (4)	EE 141	Digital Signal Processing (4)
CS 171	Intro to Machine Learning & Data Mining (4)	EE 144	Introduction to Robotics (4)
CS 172	Introduction to Information Retrieval (4)	EE 146	Computer Vision (4)
CS 177	Modeling & Simulation (4)	EE 150	Digital Communication (4)
CS 179 E-Z	Project in Computer Science (4 units maximum)	EE 151	Introduction to Digial Control (4)
CS 180	Introduction to Software Engineering (4)	EE 152	Image Processing (4)
CS 181	Principles of Programming Languages (4)	EE 175A	Senior Design Project (3)
CS 183	UNIX System Administration (4)	EE 175B	Senior Design Project (4)
CS 193	Design Project (4 units maximum)	EE 175C	Senior Design Project (1)