UCR | Bourns College of Engineering

Computer Science with Business Applications

Catalog Year: 2016

Fall Quarter	Units	Winter Quarter	Units	Spring Quarter	Units
FIRST YEAR					
CS 010	4	CS 012 or CS 013	4	CS 014	4
C++ Programming I		*C++ Programming II*		*Intro to Data Structures & Algorithms*	
ENGL 001A	4	ENGL 001B	4	MATH 009C	4
Beginning Composition		*Intermediate Composition*		*First Year Calculus*	
ENGR 001M	1	MATH 009B	4	Breadth _____	4
Professional Dev. & Mentoring		*First Year Calculus*		*Humanities/Natural Sciences*	
MATH 009A	4	MATH/CS 011	4		
First Year Calculus		*Intro to Discrete Structures*			
SECOND YEAR					
BUS 020	4	MATH 010A	4	ECON 003	5
Financial Accounting & Reporting		*Multivariable Calculus*		*Intro to Microeconomics*	
CS 061	4	CS 111	4	MATH 031	5
Machine Org. & Assembly Lang. Prog.		*Discrete Structures*		*Applied Linear Algebra*	
CS 100	4	STAT 155	4	Breadth _____	4
Software Construction		*Probability & Statiscis for Engr*		*Humanities/Natural Sciences*	
ECON 002	5	Breadth _____	4	Breadth _____	4
Intro to Macroeconomics		*Humanities/Natural Sciences*		*Humanities/Natural Sciences*	
THIRD YEAR					
BUS 103	4	BUS/STAT 104	4	CS 153	4
Marketing & Distribution Mgmt		*Decision Analysis & Mgmt Science*		*Design of Operating Systems*	
CS 141	4	BUS 106/ECON 134	4	ENGR 180W**	4
Interm. Data Structures & Algorithms		*Intro to Financial Mgmt*		*Technical Communications*	
SOC 150	4	CS Technical Elective***	4	CS Technical Elective***	4
Soc. of Economic Organizations		_____		_____	
ENGR 101M	1	Breadth _____	4	Breadth _____	4
Professional Dev. & Mentoring		*Humanities/Natural Sciences*		*Humanities/Natural Sciences*	
FOURTH YEAR					
CS 165	4	BUS Technical Elective***	4	CS Technical Elective***	4
Computer Security		_____		_____	
CS Elective	4	BUS Technical Elective***	4	BUS Technical Elective***	4
CS 164, CS 166, CS 172 or CS 180		_____		_____	
CS Elective	4	CS Technical Elective***	4	Breadth _____	4
CS 164, CS 166, CS 172 or CS 180		_____		*Humanities/Natural Sciences*	
BUS Technical Elective***	4				
_____					

Total Units: 177

Maximum Units: 222

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 third quarter 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: _____

Natural Sciences: (4 courses)

  A. Biological Science: _____

  B. Physical Science: _____

_____

_____

Ethnicity: (1 course)

  1. _____

Upper Division: (1 course)

  1. _____

TECHNICAL ELECTIVES ***

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

Computer Science Technical Electives:

  1. _____   3. _____

  2. _____   4. _____

Business Administration Technical Electives:

  1. _____ (IS)   4. _____

  2. _____ (IS)

  3. _____

Course Plan is subject to change.

Business Informatics Technical Electives

Computer Science Technical Electives:

You must complete at least 16 units of upper division Computer Science Technical Electives which must be distinct from major requirements. These 16 units may be chosen from upper division requirements or technical eletives for the Computer Science Major. At least three courses must be in the Department of Computer Science and Engineering.

CS 120A	Logic Design		CS 168	Introduction to VLSI Design (4)
CS 120B	Introduction to Embedded Systems (5)		CS 169	Mobile Wireless Networks (4)
CS 122A	Intermediate Embedded & Real-Time Systems (5)		CS 170	Introduction to Artificial Intelligence (4)
CS 122B	Advanced Embedded & Real-Time Systems (5)		CS 171	Intro to Machine Learning & Data Mining (4)
CS 130	Computer Graphics (4)		CS 172	Introduction to Information Retrieval (4)
CS 133	Computational Geometry (4)		CS 177	Modeling & Simulation (4)
CS 134	Video Game Creation & Design (4)		CS 179 E-Z	Project in Computer Science (4 units maximum)
CS 145	Combinatorial Optimization Algorithms (4)		CS 181	Principles of Programming Languages (4)
CS 150	Theory of Automata & Formal Language (4)		CS 182	Software Testing and Verification (4)
CS 151	Introduction to Theory of Computation (4)		CS 183	UNIX System Administration (4)
CS 152	Compiler Design (4)		CS 193	Design Project (4 units maximum)
CS 160	Concurrent Programming & Parallel Systems (4)		EE 140	Computer Visualization (4)
CS 161	Design & Architecture of Computer Systems (4)		MATH 120	Optimization (4)
CS 161L	Lab in Design & Architecture of Computer Sys. (2)		MATH 135A	Numerical Analysis (4)
CS 162	Computer Architecture (4)		MATH 135B	Numerical Analysis (4)

Business Administration Technical Electives:

You must complete at least 16 units of upper division Business Administration Technical Electives, including at least 8 units of courses listed in the Information Systems concentration within the Business Administration major. These units must be distinct from major requirements and may be chosen from any of the available Business Administration courses.

Choose at least TWO from Information Systems courses: * Choose remaining TWO from:

BUS 125	Simulation for Business (4)
BUS 128	Project Planning and Control (4)
BUS 171	System Analysis & Design (4)
BUS 172	Information Economics (4)
BUS 173	Introduction to Databases for Management (4)
BUS 174	Electronic Commerce (4)
BUS 175	Business Data Communications (4)
BUS 177	Strategies in Information Systems (4)

ANY AVAILABLE UPPER DIVISION BUISNESS ADMINISTRATION (BUS) COURSES, EXCEPT BUS 101

Please note the following credit exceptions:
  No credit is given for BUS 101
  Only one of BUS 171 or CS 180 can be taken for credit
  Only one of BUS 173 or CS 166 can be taken for credit
  Only one of BUS 175 or CS 164 can be taken for credit
  Only one of BUS 125 or CS 177 can be taken for credit

Technical Electives may require that you complete additional courses as prerequisites that are not accounted for in the undergraduate program. Please go to www.catalog.ucr.edu for course descriptions and prerequisite information.