UCSC Baskin School of Engineering

Computer Engineering BS Degree Curriculum Chart 2005-2006

Math

- MATH 19A Calculus
- MATH 19B Calculus
- MATH 23A Multivariable Calculus
- EE 103 Signals & Systems
- AMS 27/L Engineering Math **OR** MATH 21 Linear Algebra / MATH 24 Differential Equations
- CMPE 16 or 16H Discrete Math
- CMPE 107 Stochastic

Core Courses

- CMPE 1 (Optional) Hands on Computer Engineering
- CMPS 12A/L Intro to Programming
- CMPS 12B/M Data Structures
- CMPS 101 Abstract Data Types & Algorithms
- CMPE 12/L Computer Systems & Assembly Language
- CMPE 100/L Logic Design
- CMPE 110 Computer Architecture
- CMPE 121/L Micro Systems
- CMPE 185 Tech Writing
- EE 70/L Electronics
- CE 80E Engineering Ethics

Science

PHYS 5A/L or 6A/L Mechanics **and** PHYS 5C/N or 6C/N Electricity & Magnetism

Physics

- PHYS 5B/M or 6B/M Waves
- PHYS 5D Heat or PHYS 1xx Upper Division 5 Unit Course

or

Chemistry

- CHEM 1B/M or 4A/L General Chemistry
- CHEM 1C/N or 4B/M General Chemistry

or

Earth Science

- EART 10/L Geo Principles
- EART 1xx (NOT 111)

or

Biology

- CHEM 1B/M or 4A/L General Chemistry
- BIOL 20A OR BIOL 21A Cell & Molecular

Concentrations

(choose one)

System Programming

- CMPS 111 OS
- CMPS 115 Software Methodology
- Upper Division Elective from Approved List
- **Two of the following:** (one must be a CMPE course)
  - CMPS 104A Compilers I
  - CMPS 104B Compilers II
  - CMPE 113 Parallel Programming
  - CMPS 116 Software Design Project
  - CMPE 117/L Embedded Software
  - CMPE 118/L Intro. to Mechatronics
  - CMPE 156/L Network Programming

Multimedia

- CMPE 108 Data Compression
- CMPE 150 Networks
- CMPE 163/L Multimedia Proc. & Application
- Upper Division Elective from Approved List

Computer Systems

- CMPS 111 OS
- CMPE 118/L Intro to Mechatronics (Or other course from approved elective list)
- Upper Division Elective from Approved List
- CMPE 125/L Logic w/ Verilog **or** CMPE 126/L Advanced Logic

Networks

- CMPS 111 OS
- CMPE 150 Networks
- CMPE 156/L Network Programming
- Choose one: CMPE 108, CMPE 117/L, CMPE 118/L, CMPE 125/L, CMPE 151, CMPE 154 , CMPE 163/L , EE 151
- Upper Division Elective (Faculty Advisor Approved)

Digital Hardware

- EE 171/L Analog Electronics **or** CMPE 172/L Linear/Nonlinear Circuits
- CMPE 173/L High Speed
- Upper Division Elective from Approved List
- **One of the following:**
  - CMPE 125/L Logic w/ Verilog
  - CMPE 126/L Adv Logic

- Computer Engineering Design Project I: CMPE 123A
- Computer Engineering Design Project II: CMPE 123B or CMPE 195: Senior Thesis
- Project portfolio (3 projects and narrative statement), exit survey, and interview

† EE 103 required for Multimedia and Networks Concentrations

* Admission: Complete at least 5 courses required for major to apply

UCSC BASKIN SCHOOL OF ENGINEERING
COMPUTER ENGINEERING BS
DEGREE CURRICULUM
2005-2006

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Approved List of Upper Division Electives

AMS 147 Computational Methods and Applic.
AMS 162 Design and Anal of Comp Sim Expmts
CMPE 108 Data Compression
CMPE 113 Parallel Programming
CMPE 117/L Embedded Software
CMPE 118/L Introduction to Mechatronics
CMPE 125/L Logic Design with Verilog
CMPE 126/L Adv. Logic Design
CMPE 127 Comp.-Aided Synth. of VLSI
CMPE 150 Intro. to Computer Networks
CMPE 151 Network Administration
CMPE 152 Analysis & Design Comm. Protocols
CMPE 154 Data Communications
CMPE 156/L Network Programming
CMPE 163/L Multimedia Processing & Appl.
CMPE 172/L Linear/Nonlin. Circuits
CMPE 173/L High Speed Digital Design
CMPE 177 Applied graph Theory/Algor.
CMPS 102 Analysis of Algorithms
CMPS 104A Compiler Design I
CMPS 104B Compiler Design II
CMPS 109 Advanced Programming
CMPS 111 Operating Systems
CMPS 112 Comparative Prog. Langs.
CMPS 115 Software Methodology
CMPS 116 Software Design Project
CMPS 122 Computer Security
CMPS 128 Distributed Systems
CMPS 129 Data Storage Systems
CMPS 130 Computational Models
CMPS 132 Computability and Compl
CMPS 140 Artificial Intelligence
CMPS 160/L Computer Graphics
CMPS 161/L Visualization & Compt. Animation
CMPS 180 Database Systems
CMPS 181 Database Systems II
CMPS 183 Hypermedia and the Web
CMPS 190X Methods of Cryptography
EE 127 & 128 Interdis. System Design Project I/II
EE 130/L Optoelectronics & Photonics
EE 135/L Electro. Fields and Waves
EE 136 Engr. Electromagnetics
EE 145/L Properties of Materials
EE 151 Communications Systems
EE 153 Signal Processing
EE 154 Feedback Control Systems
EE 171/L Analog Electronics
EE 178 Device Electronics
ISM 206 Optimization Theory and Appl.

Any 5-Credit CS, CE, or EE Graduate Course: CMPE 265A & CMPE 265B Special Topics in Image Processing
At most, one elective may be substituted by an upper-division individual or field study (CMPE, CMPS, EE 193 or 198).
***Approved List of Ethics Courses:** CMPE 80E Engineering Ethics; PHIL 22 Intro to Ethical Theory: Contemporary Moral Issues; PHIL 24 Intro to Contemporary Ethics; PHIL 28 Environmental Ethics; BME 80G/PHIL80G/CHEM80G Bioethics in the 21st Century: Science, Business, and Society.

STUDENT'S NAME:
STAFF ADVISOR:

Watch for CEFULs: CE Faculty-Undergraduate Lunches, regularly scheduled throughout the year, CE's free lunch program.