**UCSC Baskin School of Engineering**  
**Computer Engineering BS Degree**  
**Curriculum Chart**  
**2005-2006**

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

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**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 121/L** Micro Systems
- **CMPE 185** Tech Writing
- **EE 70/L** Electronics
- **CE 80E** Engineering Ethics

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**Science and**

**Physics**
- **PHYS 5A/L or 6A/L** Mechanics
- **PHYS 5B/M or 6B/M** Waves
- **PHYS 5D or PHYS 1xx** Heat
- **PHYS 1xx** Upper Division 5 Unit Course

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

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

**Biology**
- **CHEM 1B/M or 4A/L** General Chemistry
- **PHYS 5A/L or 6A/L** Mechanics

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**Concentrations**  
(choose one)

**System Programming**
- **CMPS 111** OS
- **CMPS 115** Software Methodology
- **Upper Division Elective from Approved List**
  - **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
- **CMPE 123/L** Logic w/ Verilog or CMPE 126/L Advanced Logic
- **CMPE 125/L** Network Programming
- **CMPE 150 Networks**
- **CMPE 154, CMPE 151, CMPE 155, CMPE 163/L, EE 151**
- **Upper Division Elective (Faculty Advisor Approved)**

**Networks**
- **CMPS 111** OS
- **CMPE 150 Networks**
- **CMPE 154, CMPE 151, CMPE 155, 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**

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**Computer Engineering Design Project I:**  
**CMPE 123A**

**Computer Engineering Design Project II:**  
**CMPS 115** Software Methodology

**Project portfolio (3 projects and narrative statement), exit survey, and interview**

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1. EE 103 required for Multimedia and Networks Concentrations
2. Admission: Complete at least 5 courses required for major to apply
   www.soe.ucsc.edu/advising/undergraduate :: advising@soe.ucsc.edu :: (831) 459-5840 :: 1/6/2006
### 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. | CMPE 177 Applied graph Theory/Algor. | CMPS 180 Database Systems |
| AMS 162 Design and Anal of Comp Sim Expnmts | CMPS 102 Analysis of Algorithms | CMPS 181 Database Systems II |
| CMPE 108 Data Compression | CMPS 104A Compiler Design I | CMPS 183 Hypermmedia and the Web |
| CMPE 113 Parallel Programming | CMPS 104B Compiler Design II | CMPS 190X Methods of Cryptography |
| CMPE 117/L Embedded Software | CMPS 109 Advanced Programming | EE 127 & 128 Interdis. System Design Project I/II |
| CMPE 118/L Introduction to Mechatronics | CMPS 111 Operating Systems | EE 130/L Optoelectronics & Photonics |
| CMPE 125/L Logic Design with Verilog | CMPS 112 Comparative Prog. Langs. | EE 135/L Electro. Fields and Waves |
| CMPE 127 Comp.-Aided Synth. of VLSI | CMPS 116 Software Design Project | EE 145/L Properties of Materials |
| CMPE 150 Intro. to Computer Networks | CMPS 122 Computer Security | EE 151 Communications Systems |
| CMPE 151 Network Administration | CMPS 128 Distributed Systems | EE 153 Signal Processing |
| CMPE 152 Analysis & Design Comm. Protocols | CMPS 129 Data Storage Systems | EE 154 Feedback Control Systems |
| CMPE 154 Data Communications | CMPS 130 Compututional Models | EE 171/L Analog Electroncs |
| CMPE 156/L Network Programming | CMPS 132 Computability and Comp | EE 178 Device Electronics |
| CMPE 163/L Multimedia Processing & Appl. | CMPS 140 Artificial Intelligence | ISM 206 Optimization Theory and Appl. |
| CMPE 172/L Linear/Nonlin. Circuits | CMPS 160/L Computer Graphics | |
| CMPE 173/L High Speed Digital Design | CMPS 161/L Visualization & Compt. Animation | |

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).


STUDENT’S NAME:

STAFF ADVISOR:

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