# Computer Engineering

The following describes the quarter-by-quarter curriculum for students entering in the fall of 2006 or later. This template has been updated to reflect CE changes approved by Faculty Senate in Winter 2009.

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| **Fresh 1 Fall** | **Qtr 1** | **MATH 121** Calculus I 4 cr | | **CHEM 101** Chemistry I 3.5 cr | **ENGR 101** Freshman Design I 2 cr | **CS 121** Computation Lab I 1 cr | **ENGL 101, 102, 103; UNIV 101** Liberal Studies and Seminars 11 cr |
| **Fresh 2 Winter** | **Qtr 2** | **MATH 122** Calculus II 4 cr | **PHYS 101** Physics I 4 cr | **CHEM 102** Chemistry II 4.5 cr | **ENGR 102** Freshman Design II 2 cr | **CS 122** Computation Lab II 1 cr | |
| **Fresh 3 Spring** | **Qtr 3** | **MATH 200** Multivariable Calculus 4 cr | **PHYS 102** Physics II 4 cr | **BIO 141** Essential Biology 4.5 cr | **ENGR 103** Freshman Design III 2 cr | **CS 123** Computation Lab III 1 cr | |
| **Soph 1 Fall/Sp** | **Qtr 4** | **ENGR 231** Linear Eng Systems 3 cr | **PHYS 201** Physics III 4 cr | **ENGR 220** Materials 4 cr | **ECE 200** Logic 3 cr | **ENGR 201, 202** Evaluation & Presentation of Experimental Data 6 cr | |
| **Soph 2 W/Su** | **Qtr 5** | **ENGR 232** Dynamic Eng Systems 3 cr | **MATH 221** Discrete Math 3 cr | **ECE 203** Programming for Eng 3 cr | **ECE 201** Circuits 3 cr | | |
| **Pre-J 1 Fall/Sp** | **Qtr 6** | **ECEC 301** Adv Prog for Eng 3 cr | **ECES 302** Transform Methods 4 cr | **ECEC 302** Digital System Proj 4 cr | **ECEL 301** ECE Lab. I 2 cr | **HIST 285** Tech in Hist Perspective 3 cr | |
| **Pre-J 2 W/Su** | **Qtr 7** | **ECEC 304** Design with Microcontrollers 4 cr | **ECEC 355** Computer Architecture 4 cr | Free Elective 3 cr | **ECEL 302** ECE Lab. II 2 cr | **PHIL 315** Engineering Ethics 3 cr | |

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| **Junior 1 Fall/Sp** | **Qtr 8** | **ENGR 361** Stat of Engr Systems 3 cr | **ECEC 357** Intro Computer Networking 4 cr | **CS 265** Adv Programming Techniques 3 cr | **ECEL 303** ECE Lab. III 2 cr | Liberal Elective 3 cr | Free Elective 3 cr |
| **Junior 2 W/Su** | **Qtr 9** | **ECEC 356** Embedded Systems 4 cr | **ECEC 353** Intro Operating Systems 4 cr | **CS 260** Data Structures 3 cr | **ECEL 304** ECE Lab. IV 2 cr | Liberal Elective 3 cr | |
| **Senior 1 Fall** | **Qtr 10** | **ECE 491** Senior Design I 2 cr | CE Elective 3 cr | CE Elective 3 cr | Free Elective 3 cr | Liberal Elective 3 cr | |
| **Senior 2 Winter** | **Qtr 11** | **ECE 492** Senior Design II 2 cr. | CE Elective 3 cr | CE Elective 3 cr | Free Elective 3 cr | Liberal Elective 3 cr | |
| **Senior 3 Spring** | **Qtr 12** | **ECE 493** Senior Design III 4 cr. | CE Elective 3 cr | CE Elective 3 cr | Free Elective 3 cr** | Liberal Elective 3 cr | |

Notes:

- 192 Credits are needed for graduation. In addition, an ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE courses.
- One liberal elective must be ECON 201 4 cr. Two liberal studies courses must be in the same area (HIST, PSY, etc.). Economics courses cannot make a sequence.
- Computer Engineering Electives :
  - ECEC 412 Modern Processor Design 3 cr, ECEC 413 Intro to Parallel Computer Architecture 3 cr, ECEC 414 High Performance Computing 3 cr
  - ECEC 432 Internet Architectures 3 cr, ECEC 433 Network Programming 3 cr, ECEC 490 Network Security 3 cr
  - ECEC 451 Computer Arithmetic 3 cr, ECEC 457 Security in Computing 3 cr, ECEC 459 Testing of Hardware 3 cr
  - ECEC 490 Custom VLSI Design 3 cr, ECEC 490 ASIC Design I 3 cr, ECEC 490 ASIC Design II 3 cr

** The number of free elective credits will depend on the individual plan of study. Students who have taken 4 credit CE elective or technical elective courses will need fewer free elective credits. Those who took 3 credit courses will need more. The total of all credits taken must add to at least 192 credits.