## Suggested Course Plan for a UC Riverside Major in Chemical Engineering *(Bioengineering Option)* (Catalog Year 2010)

### Fall Quarter
- **CEE 011 (2)**: Intro to Engineering
- **CHEM 001A/01LA (5)**: General Chemistry
- **ENGL 001A (4)**: English Composition
- **MATH 009A (4)**: First Year Calculus

### Winter Quarter
- **CHEM 001B/01LB (5)**: General Chemistry
- **ENGL 001B (4)**: English Composition
- **MATH 009B (4)**: First Year Calculus
- **PHYS 040A (5)**: Physics (Mechanics)

### Spring Quarter
- **CHEM 001C/01LC (5)**: General Chemistry
- **ENGL 001C or Alternate* (4)**: English Composition
- **MATH 009C (4)**: First Year Calculus
- **PHYS 040B (5)**: Physics (Heat/Waves/Sound)

### Second Year
- **CHE 110A (3)**: Chemical Process Analysis
- **BCH 110A (4)**: General Biochemistry
- **CHEM 112A (4)**: Organic Chemistry
- **MATH 046 (4)**: Differential Equations
- **PHYS 040C (5)**: Physics (Electricity/Magnetism)

### Third Year
- **BCH 110B (4)**: General Biochemistry
- **BCH 110B (4)**: General Biochemistry
- **CHE 114 (4)**: Applied Fluid Mechanics
- **CHE 118 (4)**: Process Dynamics & Control
- **CHE 118 (4)**: Pressure Dynamics & Control

### Fourth Year
- **CHE 160B (3)**: Chemical Engineering Lab
- **CHE 160C (3)**: Chemical Engineering Lab
- **CHE 175A (4)**: Chemical Process Design I
- **CHE 175B (4)**: Chemical Process Design II

### Notes
- Humanities/Social Sciences courses fulfill breadth requirements specific to the College of Engineering. A list of approved Breadth courses is available on the College of Engineering Student Academic Affairs website: [http://student.engr.ucr.edu/](http://student.engr.ucr.edu/).
- * Consult with your assigned Academic Advisor for alternate course choices to fulfill the third quarter of English Composition.
- **Technical Electives are courses in Chemical Engineering which explore specific topics. A list of Technical Electives is available on the back of this Course Plan.**
Chemical Engineering – Bioengineering Option
Technical Electives

Six to eight (6-8) units of technical electives chosen from

BIEN/CEE 140A: Biomaterials
BIEN/CEE 140B: Biomaterials
BIEN/CEE 159: Dynamics of Biological Systems
BIOL 107A: Molecular Biology
BIOL 107B: Advanced Molecular Biology
BIOL 115: Human Genetics
BIOL/MCBL 121: Introductory Microbiology
BIOL/CBNS 128: Immunology
CEE 147: Bio-Microelectromechanical Systems
CHE 124: Biochemical Engineering Principles
CHE 140: Cell Engineering
CHE 150: Biosensors