



John G. Rangos, Sr.  
School of Health Sciences

## ENGINEERING

### Biomedical Engineering – Bachelor of Science - **Pre-Health Track** - 145 Credits

In most cases, courses listed in bold must be taken in the exact semester indicated; all other courses are interchangeable.

#### Fall of 1st Year – 17 Credits

**BMED-100** Intro to Biomed Engineering (3 cr.)  
**CHEM-121/L/R** Gen Chemistry I/Lab (4/1 cr.)  
**MATH-115** Calculus I (4 cr.)  
**PHYS-211/L/R** General Analytical Physics I  
/Lab/Recitation (3/1 cr.)  
**PMHP-101** Pre-Med and Hlth Prof I (0 cr.)  
**UCOR-103** IPE Health Research Skills (1 cr.)

#### Fall of 2nd Year – 18 Credits

**BIOL-111/L** Biology I/Lab (4/0 cr.)  
**BMED-210** Thermodynamics (3 cr.)  
**CHEM-211/L** Organic Chemistry I/Lab (3/1 cr.)  
**MATH-215** Calculus III (4 cr.)  
**PMHP-201** Pre-Med & Hlth Prof III (0 cr.)  
**UCOR-101** Thinking & Writing Across the Curric (3 cr.)

#### Fall of 3rd Year (19 Credits)

**BIOL-207** Anatomy and Physiology (3 cr.)  
**BIOL-212/R** Cell and Molecular Biology/Rec (4 cr.)  
**BMED-201** Biomed Electronics & Instr I (3 cr.)  
**CHEM-401** General Biochemistry I (3 cr.)  
**MATH-301** Intro Probability & Stat I (3 cr.)  
**PSYC-101** Introduction to Psychology (3 cr.)

#### Fall of 4th Year (18 Credits)

**BMED-310** Biomedical Signals and Systems (3 cr.)  
**BMED-430** Engineering Computation (3 cr.)  
**BMED-440W** Biomedical Eng Capstone I (5 cr.)  
**BMED-490** Research in Biomedical Engr (1 cr.)  
**BMED Elective** (3 cr.)  
Creative Arts Theme Area (3 cr.)

#### Spring of 1st Year – 19 Credits

**BMED-110** Intro to Programming for Engin (3 cr.)  
**CHEM-122/L/R** Gen Chemistry II/Lab (4/1 cr.)  
**MATH-116** Calculus II (4 cr.)  
**PHYS-212/L/R** General Analytical Physics II  
/Lab/Recitation (3/1 cr.)  
**PMHP-102** Pre-Med and Hlth Prof II (0 cr.)  
or **PMHP-103** Pre-Med & Hlth Prof Cmbnd Crse (0 cr.)  
Social Justice Theme Area (3 cr.)

#### Spring of 2nd Year – 18 Credits

**BIOL-112/L** Biology II/Lab (4/0 cr.)  
**BMED-220** Introduction to Biomaterials (3 cr.)  
**BMED-490** Research in Biomedical Engr (1 cr.)  
**CHEM-212/L** Organic Chemistry II/Lab (3/1 cr.)  
**MATH-314** Differential Equations (3 cr.)  
**PMHP-203** Pre-Med & Hlth Professions IV (0 cr.)  
**UCOR-102** Imaginative Literature & Critical Writing (3 cr.)

#### Spring of 3rd Year – 18 Credits

**BMED-202** Biomed Electronics & Instr II (3 cr.)  
**BMED Elective** (3 cr.)  
**CHEM-402** General Biochemistry II (3 cr.)  
**PMHP-301** Pre-Med & Hlth Prof Sem (0 cr.)  
**UCOR-132** Basic Philosophical Questions (3 cr.)  
Ethics Core (3 cr.)  
Global Diversity Theme Area (3 cr.)

#### Spring of 4th Year – 18 Credits

**BMED-320** Biofluid Mechanics (3 cr.)  
**BMED-441W** Biomed Engineering Capstone II (5 cr.)  
**BMED-490** Research in Biomedical Engr (1 cr.)  
**BMED Elective** (3 cr.)  
Faith and Reason Core (3 cr.)  
Theology Core (3 cr.)

IMPORTANT NOTE: The material contained herein is subject to change, and this publication cannot be considered an agreement or contract between individual students and the School. The Rangos School of Health Sciences reserves the right to alter or amend the terms, conditions, and requirements herein, and to eliminate programs or courses as necessary. Once enrolled, students should consult on a regular basis with their Faculty Mentor and/or Academic Advisor for specific information regarding academic policies pertaining to their respective program.