### Biomedical Sciences, B.S., (BMS) Catalog Years 2018 & Later

Please note that a grade of “C” or higher is required for all courses in the major.

#### Tier 1: Required Lower-Level Courses: 40-42 credits

**Chemistry Courses: 18 Credits Total**
- CHM 2045 General Chemistry I & Lab
- CHM 2046 General Chemistry II & Lab
- CHM 2210 Organic Chemistry I & Lab
- CHM 2211 Organic Chemistry II & Lab

**Biology Courses: 8 Credits Total**
- BSC 2010 Cellular Processes & Lab
- BSC 2011 BioDiversity & Lab

**Mathematics Courses: 6-8 Credits Total**
- MAC 2241 Life Sci. Calc. I
- MAC 2311 Calc. I
- MAC 2242 Life Sci. Calc. II

**Chemistry Residency Requirement:**
- CHM 2210L Organic Chem. I & Lab
- CHM 2046L General Chem. II & Lab
- CHM 2045L General Chem. I & Lab

**Biology Residency Requirement:**
- PCB 3023L or PCB 3023

**Anatomy & Physiology Courses: 8 Credits Total**
- PCB 3063L or PCB 2086 Lab
- PCB 3085 & Lab

**Tier 2: Required Upper-Level Biomedical Courses: 21 Credits**

**Total 7-8 Credits Required Courses:**
- BCH 3053 (3cr)
- MCB 3020 (3cr) & MCB 3020L (1cr) OR
  - Choose 1 Lecture: □ PCB 3063 or □ PCB 3023 AND Choose 1 Lab: □ PCB 3063L or □ PCB 3023L or □ BCH 3023L

**Total 14 Additional Biomedical Credits to include ONE Lab: *No duplicate credit allowed***
- □ Upper-Level BIOLOGY Course Choose ONE: 3 credit minimum lecture
- □ Upper-Level CHEMISTRY Course Choose ONE: 3 credit minimum lecture
- □ Upper-Level CHEMISTRY OR BIOLOGY Course Choose ONE: 3 credit minimum lecture
- □ Upper-Level CHEMISTRY OR BIOLOGY LAB: 1 credit minimum lab
- □ Additional Biomedical Electives: 4 credit minimum lecture and/or lab

**Upper-Division Residency Requirement:**
- 12 credits of major-applicable upper-level natural science courses must be completed at USF
- Chemistry Residency Requirement: 7 credits of Chemistry coursework applicable to the BMS major must be completed at USF.

**Upper-Level Biology Coursework Options**
- BOT 3850 Medical Botany (3cr)
- MCB 3410 Cellular Metabolism (3cr)
- MCB 4115 Determinative Bacteriology (3cr) - Fall
- MCB 4404 Microbial Phys. & Genetics (4cr)
- MCB 4503 Virology (3cr) - Fall
- PCB 3023 Cell Biology (3cr)
- PCB 3063 General Genetics (3cr)
- PCB 3712 General Physiology (3cr)
- PCB 4234 Principles of Immunology (3cr)
- PCB 4522C Experimental Genetics (3cr)
- PCB 4744 Biomedical Physiology (3cr)
- ZOO 3713C Comp. Vert. Anatomy (5cr) - Spring
- ZOO 4753 Human Histology & Mole Path Disease (3cr)

**Upper-Level Chemistry Coursework Options**
- BCH 4033* Advanced Biochemistry I (3cr) - Fall
- BCH 4034 Advanced Biochemistry II (3cr) - Spring
- CHM 3120C** Elem. Analytical Chemistry (4cr)
- CHM 3610 Intermediate Inorganic Chemistry (3cr)
- CHM 3941 Peer Leading in Chemistry (3cr)
- CHM 4300 Biomolecules (3cr) - Fall
- CHM 4230 Spectroscopic Analysis of Organic Compounds (3cr)
- CHM 4292 Introduction to Medicinal Chemistry (3cr)
- CHM 4274 Introduction to Drug Discovery (3cr)
- CHM 4307 BioOrganic Chemistry (3cr)
- CHM 4455 Chemistry of High Polymers (3cr)
- CHM 4932 Special Topics in Chemistry
- CHS 4300 Clinical Chemistry (3cr) - Fall

**Additional Biomedical Electives**
- CHM 4060 Use of Chemical Literature (1cr)
- HSC 4504 Public Health Immunology (3cr) - Cannot be combined with (or substituted for) PCB 4234

*The following 2 courses & Physics I & II complete a MINOR in Biomedical Physics:
- PHZ 4702 Apps. Of Physics to Bio & Med I (4cr)
- PHZ 4703 Apps. Of Physics to Bio & Med II (4cr)
See the USF catalog for a complete list of graduation requirements. The final responsibility for meeting all graduation requirements stated in the catalog rests with the student. This sheet is not meant to be a complete list of University Graduation requirements.