This major allows students to call two departments home—the Department of Biological Sciences and the Department of Chemistry. This partnership results in an interdisciplinary major meeting the needs of students with broad interests in the sciences or those preparing for a research career in a biomedical field or a clinical career in a health profession. It combines core foundational backgrounds from chemical, biological, and molecular sciences to offer an integrated program focusing on the chemistry and molecular mechanisms of biology, with rigorous coursework and hands-on laboratory experiences.

Opportunities for Students

- **Trojan Chemistry Club**: This student-run organization sponsors faculty luncheons, hosts receptions for new students, and participates in on-campus events for visiting local high school students.

- **Directed Research**: By enrolling in an upper-level directed research course, students can delve further into their major by working with a mentor faculty member.

- **Supplemental Instruction**: This academic support program provides regularly scheduled, peer-led study sessions for common Biology, Chemistry, Math, and Physics courses.

- **Study Abroad**: Learn about trends in research and discovery around the world by spending a semester or year in Europe, Africa, Australia, or South America.

Notable Courses

- **BISC 307: General Physiology** — Physiological functions of the circulatory, digestive, endocrine, integumentary, musculoskeletal, nervous, respiratory, and urogenital systems in animals.

- **BISC 320: Molecular Biology** — Structure and synthesis of nucleic acids and proteins; molecular biology of prokaryotes and eukaryotes; principles of genetics and cell biology.

- **BISC 330: Biochemistry** — Basic biochemical principles; classes of molecules — structure and function; cellular energetics.

- **CHEM 300: Analytical Chemistry** — Theory and practice in chemical analysis, emphasizing instrumental techniques; error analysis, fractional distillation, extraction; chromatography; visible, ultraviolet, and infrared spectroscopy; introductions to electrochemistry and nuclear magnetic resonance spectroscopy.
Bachelor of Science (BS) Requirements

Lower Division Requirements*
- BISC 120: General Biology — Organismal Biology and Evolution
- BISC 220: General Biology — Cell Biology and Physiology
- CHEM 105: General Chemistry A & B
- MATH 125: Calculus I
- MATH 126: Calculus II
- PHYS 135: Physics for the Life Sciences A & B
  or PHYS 151: Fundamentals of Physics I — Mechanics and Thermodynamics
  & PHYS 152: Fundamentals of Physics II — Electricity and Magnetism

Statistics/Math Requirement (select one)*
- BISC 305: Introduction to Statistics for Biologists
- MATH 208: Elementary Probability and Statistics
- MATH 226: Calculus III

Upper Division Requirements*
- BISC 320: Molecular Biology
- BISC 330: Biochemistry
- BISC 403: Advanced Molecular Biology
- BISC 435: Advanced Biochemistry
- CHEM 300: Analytical Chemistry
- CHEM 322: Organic Chemistry A & B
- CHEM 430: Physical Chemistry A
  or CHEM 432: Physical Chemistry for the Life Sciences
- Two (2) 300/400-level BISC or CHEM courses

*This information is offered as a partial overview only. For additional information, including all major requirements, please consult the USC Catalogue or http://catalogue.usc.edu/schools/college/bisc/undergraduate/#biochemistry. Updated as of August 2015.

**This does not represent all options in this category. For a complete list, please consult the USC Catalogue.