

B.S. – Biochemistry

This program is intended for students whose interests lie in one of the most exciting fields of modern science. Graduates can expect to be qualified to enter graduate programs in biochemistry, biology, chemistry, and molecular biology; professional schools in the health sciences; and positions in industrial and government research laboratories and in industrial production facilities. Graduates of the IUP Biochemistry program have gone on to industrial leadership positions, and some of the most prestigious graduate programs in the country.

Program-Level Student Learning Outcomes: B.S. – Biochemistry

- You will be prepared for employment in industrial and government laboratories, industrial production facilities and non-laboratory positions utilizing a background in biochemistry.
- You will be qualified for graduate programs in biochemistry, biology, or chemistry and for medical schools and other professional schools in the health sciences.
- You will be able to analyze data and make scientific arguments to apply, analyze and synthesize information from multiple sub-disciplines within chemistry.
- You will be able to solve complex, multi-step problems, using problem-solving strategies learned in the classroom and in the lab.
- You will have acquired effective and safe chemistry laboratory skills, and be able to use the methods and instrumentation of modern chemistry.
- By the time you graduate, you will be able to evaluate novel results, self-direct your activities and apply your knowledge and skills in or out of the laboratory.

The curriculum leading to a BS degree with a major in biochemistry begins with foundation courses in biology, chemistry, mathematics, and physics in the first two years. Specialization in biochemistry commences in the third year with courses in biochemistry, genetics, physical chemistry, special topics in biochemistry, and biochemistry seminar. Completion of one chemistry course as a controlled elective allows students the option to receive a biochemistry degree certified by the American Chemical Society. An important feature of this undergraduate program is that biochemistry research is a requirement. After consultation with faculty, the students will define a problem and devise an experimental plan through library research. Laboratory research will be done under the direct supervision of a faculty member. Finally, the student will report on the results of the research in both written and oral formats.