

PROPOSED PROGRAM SUMMARY

Institution: University of Louisville
Program Name: Biochemistry
Degree Destination: Bachelor of Science

CIP Code: 26.0202

Credit Hours: 120

Implementation Date: 8/1/2024

Program Description

The proposed Biochemistry program builds upon an existing Biochemistry track within the B.S. in Chemistry. The track is largely populated by students intending to continue in the health care field; those graduates enjoy a nearly 100% success rate in applications to medical, dental, and pharmacy schools. Some graduates pursue a graduate degree in biochemistry or an allied field, while still others become immediately employed upon graduation in a wide range of fields utilizing laboratory skills (quality control, pollution monitoring, formulation of pharmaceutical, dietary, and cosmetic supplements) and skills that are specific to biochemistry (PCR- and antigen-based testing for diseases, forensic analysis, DNA sequencing and synthesis, and characterization of protein-based pharmaceuticals and components of diagnostic tests).

During the statewide baseline program review conducted from 2019 to 2021, one of the recommendations was to place the B.S. in Chemistry program in the category of “fix to grow.” Specifically, it was suggested that the university consider elevating the biochemistry track to a stand-alone program.

As a result of this program, graduates will be able to:

- Make conceptual connections across divisions of chemistry (analytical, organic, physical, and biochemistry) and biology (genetics, cellular, and molecular).
- Apply biochemistry in new and emerging contexts.
- Communicate effectively within the field using precision terminology and appropriate referencing.

Connection to Other Programs

As previously mentioned, the proposed new program in Biochemistry stems from an existing track in the B.S. Chemistry; this new program will replace that track. Although a similar program exists at Western Kentucky University, there are differences within the curriculum that differentiate the two. The program at the University of Louisville requires coursework in scientific writing, experiential learning through research or an internship, biostatistics, scientific writing, and ethics. Western Kentucky University supports the proposed new program at the University of Louisville.

Student Demand

Initial estimates of enrollment are:

Year 1 – 72

Year 2 – 77

Year 3 – 85

Year 4 – 94

Year 5 – 103

Employment Demand

There is strong employer demand (70th percentile nationally and 81st percentile regionally). Data for Kentucky reveals a projected 10.61% increase in jobs and a median pay of \$31.13/hr. National data indicates 9.98% growth from 2020–2021 for biochemists and biophysicists, with median earnings of \$49.08/hr.

Many students will continue their education in graduate or professional school. However, these students will inevitably seek employment as scientists in the public sector, private sector, or in academia.

Budget

The new program requires a small investment cost but has potential for significant new revenue. Funding of the program will rely on resources already committed to the existing B.S. Chemistry program, including preexisting faculty lines, office and instructional staff, teaching and laboratory space and equipment, and funding for graduate teaching assistants. The program will require a part-time lecturer, but the new program is expected to increase tuition revenue through the addition of new students and increased retention.

Projected Revenue over Next Five Years (\$):	\$ 4,285,427
Projected Expenses over Next Five Years (\$):	\$ 460,000