# Common Career Technical CoreBiomedical Pathway

|  |  |  |  |
| --- | --- | --- | --- |
| **Student name:**  |  | **Graduation Date:** |  |

Course Description: To be taught in all courses in the approved pathway.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Career REady Standards

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Act as a responsible and contributing citizen and employee. |  |
| 1.2 | Apply appropriate academic and technical skills. |  |
| 1.3 | Attend to personal health and financial well-being. |  |
| 1.4 | Communicate clearly, effectively and with reason. |  |
| 1.5 | Consider the environmental,social and economic impacts of decisions. |  |
| 1.6 | Demonstrate creativity and innovation. |  |
| 1.7 | Employ valid and reliable research strategies. |  |
| 1.8 | Utilize critical thinking to make sense of problems and persevere in solving them. |  |
| 1.9 | Model integrity, ethical leadership and effective management. |  |
| 1.10 | Plan education and career path aligned to personal goals. |  |
| 1.11 | Use technology to enhance productivity. |  |
| 1.12 | Work productively in teams while using cultural/global competence. |  |

## Benchmark 2: Health Science Career Cluster

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Determine academic subject matter, in addition to high school graduation requirements, necessary for pursuing a health science career. |  |
| 2.2 | Explain the healthcare worker's role within their department, their organization and the overall healthcare system. |  |
| 2.3 | Identify existing and potential hazards to clients, co-workers, visitors and self in the healthcare workplace. |  |
| 2.4 | Evaluate the roles and responsibilities of individual members as part of the healthcare team and explain their role in promoting the delivery of quality health care. |  |
| 2.5 | Analyze the legal and ethical responsibilities, limitations and implications of actions within the healthcare workplace. |  |
| 2.6 | Evaluate accepted ethical practices with respect to cultural, social and ethnic differences within the healthcare workplace. |  |

## Benchmark 3: Biotechnology Research & Development Career Pathway

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Summarize the goals of biotechnology research and development within legal and ethical protocols. |  |
| 3.2 | Apply the fundamentals of biochemistry, cell biology, genetics, mathematical concepts, microbiology, molecular biology, organic chemistry and statistics to conduct effective biotechnology research and development of products. |  |
| 3.3 | Demonstrate basic knowledge of recombinant DNA, genetic engineering, bioprocessing, monoclonal antibody production, nanotechnology, bioinformatics, genomics, proteomics and transcriptomics to conduct biotechnology research and development. |  |
| 3.4 | Demonstrate the principles of solution preparation, sterile techniques, contamination control and measurement and calibration of instruments used in biotechnology research. |  |
| 3.5 | Determine processes for product design and production and how that work contributes to an understanding of the biotechnology product development process. |  |
| 3.6 | Summarize and explain the larger ethical, moral and legal issues related to biotechnology research, product development and use in society. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

(785) 296-4908

pathwayshelpdesk@ksde.org



900 S.W. Jackson Street, Suite 102

Topeka, Kansas 66612-1212

[https://www.ksde.org](https://www.ksde.org/)

The Kansas State Department of Education does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities and provides equal access to any group officially affiliated with the Boy Scouts of America and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Landon State Office Building, 900 S.W. Jackson, Suite 102, Topeka, KS 66612, (785) 296-3201.