## Course Outcomes Guide

**Directions: Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!**

**Course/Program Title:** BTC-201 Discovery Research/ Biotechnology Program

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**Expected Learning Outcomes**

1. Apply a basic core of scientific and quantitative knowledge to enhance understanding of DNA, RNA, protein and tissue culture related to advancement in biotechnology related to research.
2. Develop and maintain a notebook of laboratory records.
3. Analyze and evaluate the effect of variables on experimental results including enzymes, assay parameters and sample concentration while participating in a group environment.
4. Relate different biotechnology skills to various career paths.

**Assessment** (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)

- Apply a basic core of scientific and quantitative knowledge to enhance understanding of DNA, RNA, protein and tissue culture related to advancement in biotechnology related to research
    - Each week the students will learn a new laboratory skill designed to enhance their scientific and quantitative knowledge of the various topics of biotechnology
    - The students will be required to complete homework assignments pertaining to the information that will be learned during the laboratory component of the course. This will allow the instructor to determine if the students comprehend the material presented during the lecture component of the course.
- Develop and maintain a notebook of laboratory records
    - Laboratory notebooks will be kept by the student to document what skills they learn each week during the course of the semester.
- Analyze and evaluate the effect of variables on experimental results including enzymes, assay parameters and sample concentration while participating in a group environment.
    - The students will perform various laboratory exercises throughout the semester that will involve the analysis of variables on experimental results.
    - The students work in groups of three to four during the lab component of this course. They are graded each week on a scale of 1 to 5 (1 = lowest; 5 = highest) as to how they work in a group

- Relate different biotechnology skills to various career paths
    - The lab skills learned in this class will be discussed and related to various biotechnology career paths.

**Validation** (What methods have you used or will you use to validate your assessment?)

In Progress

**Results** (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

In Progress

**Follow-up** (How have you used or how will you use the data to improve student learning?)

No Data Yet

**Budget Justification** (What resources are necessary to improve student learning?)