STUDENT NAME: _____

BIOTECHNOLOGY
Performance Evaluation Checklist
2009

Performance rating scale:

4 = highly skilled Successfully demonstrated without supervision
3 = moderately skilled Successfully demonstrated with limited supervision
2 = limited skill Demonstrated with close supervision
1 = not skilled Demonstration requires direct instruction and supervision

A minimum score of 3 for each of the following performance skills must be achieved to meet State skill certification requirements. Transfer the average score for each of the following performance skills onto the Performance Evaluation Score Sheet.

1.2 Research and present biotechnology concepts using effective communication skills.

_____ **Average Score**

2.1 Demonstrate appropriate use of personal protective devices.

_____ Wearing and safe removal of gloves.

_____ Wearing goggles and lab coats when required.

_____ **Average Score**

2.2 Demonstrate proper aseptic/sterilizing procedures.

_____ Cleaning of work area.

_____ Flaming of inoculation devices.

_____ Hand washing.

_____ **Average Score**

2.4 Demonstrate proper use and handling of micropipettes.

_____ Use of micropipetting devices (adding/removing tips, changing volume settings).

_____ Drawing and expelling liquid correctly.

_____ **Average Score**

3.2 Maintain accurate records and documentation according to minimum good documentation practices (GDP).

_____ Maintain a designated lab notebook (to include table of contents, lab title, purpose, materials, protocol/procedure, observations/results, conclusion/discussion, signatures and dates).

_____ Documentation mistakes (single line through mistake, initial, date).

_____ Record procedural mistakes (document all that is done including mistakes).

_____ **Average Score**

4.2 Prepare solutions of defined concentrations and pH.

_____ Calculating correct concentrations and volumes of solutions.

_____ Demonstrate proper use of a balance (taring, use of weigh boats).

_____ Proper labeling of solution containers.

_____ Correctly adjust pH as needed.

_____ **Average Score**

6.1 Prepare bacterial growth media.

_____ Pour plates aseptically.

_____ Add screening reagents appropriately.

_____ Proper labeling of plates or tubes.

_____ **Average Score**

6.2 Demonstrate the ability to culture and maintain microorganisms.

_____ Isolating single bacterial colonies.

_____ Inoculating media.

_____ Identifying unknown microorganisms.

_____ Utilizing Gram stain technique.

_____ Balancing a centrifuge correctly when pelleting bacteria or DNA.

_____ Proper use of microscopes in viewing microorganisms.

_____ **Average Score**

7.1 Perform a restriction digest and analyze the results with gel electrophoresis.

_____ Make and pour agarose gel.

_____ Perform a restriction digest.

_____ Load gels with sample.

_____ Analyze stained gels.

_____ **Average Score**

7.2 Demonstrate the ability to use PCR technology.

_____ Prepare template DNA.

_____ Set up PCR mixture.

_____Analyze results.

_____ **Average Score**

7.3 Demonstrate the ability to use proper separation techniques to differentiate between proteins based on size and structure (chromatography and SDS-PAGE).

_____ Perform chromatography or polyacrylamide gel electrophoresis.

_____ Analyze results.

_____ **Average Score**

8.1 Perform a bacterial transformation and analyze results.

_____ Transform bacteria with plasmid DNA.

_____ Identify transformed bacteria through use of selective media.

_____ **Average Score**