

**Hagerstown Community College**  
**OFFICIAL COURSE SYLLABUS DOCUMENT**

**COURSE:** BTC 102, Introduction to Applied Biotechnology Research, 1-3 Credits

**INSTRUCTOR:** Dr. Alicia J. Manfre

**SEMESTER/YEAR:** Fall/Spring/Summer

**COURSE DESCRIPTION:** This is an entry level applied laboratory course for students enrolled in the biotechnology program. Basic laboratory applications in biotechnology such as DNA purification, gel electrophoresis, restriction enzyme digestion, bacterial cloning and therapeutic compound screening, as well as other topics, will be explored. The student will perform laboratory research to explore the requirements necessary for a career in laboratory science. Students may earn a maximum of 3 credits during the completion of 90 hours during the semester. Prerequisites: College level Mathematics and English, BTC101. Semesters offered: Fall, Spring, Summer.

**TEXTBOOK:** Basic laboratory notebook.

**STUDENT LEARNING OUTCOMES:**

1. Explore laboratory science skills required in the research field by participating in introductory research techniques and skills guided by the Lab Technician and Faculty Supervisor that utilizes sound scientific research procedures.
2. Explore career opportunities in Biotechnology and develop an understanding of the skills required to achieve a career in the area of their choice.
3. Maintain a working record of new skills and tasks learned while working at the InnovaBio-MD site.

**COURSE CONTENT OBJECTIVES:**

1. Exhibit mastery of basic skills required for employment in biotechnology including: mathematical problem solving, pipetting, and solution preparation.
2. Demonstrate appropriate applications of research methods to generate scientific data related to an overall scientific project.
3. Describe the skills necessary to achieve proficiency for a career in the Biotechnology field.

**Total Hours of Coursework to Earn Academic Credit:** To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit. For most classes, students should expect to do at least two hours of coursework outside of the class for each hour of in-class coursework.

BTC102 requires students to work 90 hours in the InnovaBIO-MD lab. There is little work to be done outside of the work-time. However students should be advised that they will have to keep up with several assignments throughout the semester.

Writing Journal	Variable time, 20 hours
Lab Skills Paper	3 hours
Reflection Page	1 hour
Lab Notebook	10 hours
<b>Total out of class time</b>	<b>34 hours</b>