

# CERTIFICATE IN ENVIRONMENTAL MONITORING IN BIOMANUFACTURING

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Biomanufacturing is a diverse industry merging large-scale manufacturing practices with biotechnology applications. Companies in this growing sector manufacture a variety of products, such as therapeutics, clinical diagnostic tests, food and beverages, dietary supplements, and biofuels. The Environmental Monitoring Certificate of Achievement at Citrus College prepares students for in-demand entry-level positions within the environmental control division of the local biomanufacturing firms. Upon completion of the program, students will be prepared to seek employment as environmental monitoring technicians, quality control samplers, and quality control microbiology technicians. Students gain conceptual knowledge of environmental monitoring and cleanroom operations in the context of the biomanufacturing industry, as well as extensive hands-on laboratory experience with industry-standard tools and equipment.

## Learning Outcomes

### Certificate of Achievement Level Student Learning Outcomes

Students completing the Environmental Monitoring in Biomanufacturing Certificate of Achievement will:

1. Use laboratory and/or monitoring results to identify, characterize, quantify, summarize, and/or evaluate microbial and environmental contaminants from diverse samples as part of an environmental monitoring plan.
2. Describe the components of an effective environmental monitoring program along with specific environmental monitoring testing methods.
3. Independently perform aseptic gowning procedures and demonstrate behaviors appropriate for work in various levels of cleanroom environments.

## Requirements

Code	Title	Units
<b>Required courses:</b>		
	Biomanufacturing Certificate of Achievement	19-21
BIOT 160	Environmental Monitoring and Quality Operations in Biomanufacturing	2
<b>Total Units</b>		<b>21-23</b>