



Biotechnology Lab Specialist

Certificate of Completion (CC)

Planning Guide 2017-2018

EPC 6784

Program Information:

Length of Program: 37-38 Credits
Completion Award: Certificate of Completion
Enrollment: Fall
Approximate Quarterly Costs: \$660/yr for lab fees
(in addition to tuition, books and parking)

Website: www.shoreline.edu/biotechnology

Program Advisor:

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Program Description:

Shoreline Community College offers a short-term Biotechnology Lab Specialist Certificate of Completion (CC) to prepare students for an entry-level position in laboratories involved in the production of genetically engineered drugs, gene therapy, microbiology, virology, forensic science, agriculture and environmental science. This program is designed for post-baccalaureate students. Students pursuing a four-year baccalaureate degree should follow the Biology Associate in Science (AS-DTA) planning guide.

Biotechnology Lab Specialist —What is it?

The Biotechnology Laboratory Specialist Program prepares students for work in laboratories involved in any aspect of biotechnical processes. The curriculum provides a foundation in a variety of math and science disciplines including algebra, statistics, chemistry, biology, microbiology and computer science. Students gain a working knowledge of molecular biology, recombinant DNA, immunology, protein purification, bioinformatics and tissue culture, both through classroom lectures and extensive “hands-on” laboratory learning experiences.

Program Outcomes:

Students who successfully complete this program **-by achieving a GPA of 2.0 or better for the entire program-** should be able to:

1. Assist research scientists in the laboratory;
2. Perform technical procedures such as cell counting, solution and media preparation, DNA extraction and characterization, electrophoresis, cloning, polymerase chain reaction, DNA sequence analysis, ELISA and other immunology techniques, maintenance of cell lines transfection, protein isolation and purification using various chromatographic techniques;
3. Conduct research experiments following operating and safety protocols and apply knowledge of theory and techniques to troubleshoot appropriately;
4. Analyze and display data using computer technology including the Internet and software designed for maintaining a database, preparing spreadsheets, conducting statistical analysis, bioinformatics, and graphical display; and
5. Manage laboratory activities including record keeping, ordering supplies, and preparing reports.

Career Opportunities—What can I do with a Biotechnology Lab Specialist Certificate of Completion?

The career outlook in the field of biotechnology is very promising with over 100 biotechnology related facilities in the Seattle metropolitan area. The proliferation of new technologies is expanding employment opportunities in research, production, development and manufacturing; examples include work as a Laboratory Assistant, Lab Specialist or Research Assistant.

Potential employers include: University or privately owned biotechnology research and production labs; pharmaceutical or criminal labs; and fisheries, oceanographic and other nature resource management organizations. For more, please visit career information and resources at <http://www.shoreline.edu/counseling-center/career-counseling.aspx>.

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Program Prerequisites: Meet with an advisor to identify courses from the Program Prerequisite list below that must be taken before starting the Core Biotech Sequence of classes. Students entering the program must have received at least a 2.0 in each of these classes (or an equivalent course) within the last 5 years. Professional experience will also be considered.

Application Required: An application is required to enter the four-quarter Core Biotech Sequence of classes BIOL 265/266, 270/274, 275, 277, 279, 249, 280 and 290. Please see an advisor for an application form or visit: <http://www.shoreline.edu/biotechnology/application.aspx>.

CERTIFICATE OF COMPLETION – 37-38 Credits

PROGRAM PREREQUISITES				
Course	QTR	GR	CR	
ENGL& 101 English Composition I <i>or</i> BTWRT 215 Business Communications			5	
CHEM& 121 Intro to Chemistry			5	
BIOL& 211 Majors Cellular Biology			5	
BUSTC 105 Computer Applications			5	
CHEM& 131 Intro to Organic/Biochem			5	
MATH& 146 Intro to Stats			5	
BIOL& 260 Microbiology			5	

RECOMMENDATIONS:

Note: Every effort has been made to ensure the accuracy of the information in this publication. However, the information is subject to change without notice and final career decisions are the responsibility of the student.

CORE BIOTECH SEQUENCE		
	GR	CR
Fall Quarter BIOL 270 Molecular Biology BIOL 274 Molecular Biology Lab BIOL 265 Media & Solution Prep I BIOL 285 Bioinformatics		3 3 2 2
Winter Quarter BIOL 275 Recombinant DNA Tech BIOL 280 Seminar in Biotechnology BIOL 266 Media & Solution Prep II BIOL 286 Molecular Diagnostics		6 1 2 2
Spring Quarter BIOL 249 Tissue Culture/Staining BIOL 277 Immunology		4 6
Summer Quarter BIOL 279 Biotechnology Techniques BIOL 288 Flow Cytometry BIOL 290 Internship		3 2 1-2

TOTAL CREDITS REQUIRED

37-38

CERTIFICATE COMPLETION

Students should automatically receive their Certificate after successful completion of all required courses. If you have not received your Certificate, please contact the Workforce Education Programs in FOSS 5100 or call 206-546-5876.