

BIOTECHNOLOGY

Associate in Applied Science Degree • Certificate of Specialization



Combine the Best of Biology with the Science of Technology

In the simplest terms, biotechnology is biology based on technology. Biotechnology harnesses cellular and biomolecular processes to develop technologies and products that help improve our lives and the health of our planet. Biotechnology is the science of using molecules such as proteins and DNA to make products for the benefit of humankind.

Biotechnologists participate in healing the world, fueling the world and feeding the world in a responsible manner. In St. Louis, technicians in biotechnology companies are assisting in the development of new medicines, creating vaccines, exploring ways to grow healthier foods and reduce pollution, developing crops that resist pests and diseases, and searching for cures for disease.

If you enjoy biology, but crave a technology aspect to your studies, then this is the perfect program to pursue.

ABOUT THE PROGRAM

The Associate in Applied Science degree in Biotechnology is a 71-credit-hour program for students wanting to enter into a career in biomedical, forensic, pharmaceutical, bioengineering, microbiology, environmental or academic laboratory science. Students in the biotechnology program will learn about DNA sequencing, mammalian and plant cell culture, recombinant DNA technology, plant transformation, forensics, ELISA, and much more. Students will learn laboratory skills and develop the experience required to work as a biotechnology research technician. Fundamentals of Chemistry or high school chemistry with a grade of A or B within the past three years is required. The certificate of specialization program prepares those currently in the laboratory technician workforce for biotechnology specialization. Students learn current methods and techniques used in biotechnology laboratories. Workforce laboratory experience and Principles of Biology I or Microbiology or an AAS (or Certificate of Proficiency) in Chemical Technology with the Microbiology elective completed, or consent of the program coordinator, is required.

OPPORTUNITIES IN THIS FIELD

Since the program's inception in 1999, more than 90% of STLCC biotech core course students have been hired by local biotechnology companies such as Millipore The Donald Danforth Plant Science Center; Microbe Inotech Labs, Monsanto, Pfizer, Sigma-Aldrich, Covidian, Divergence, Gallus BioPharmaceuticals, and research labs at Washington University School of Medicine.

Some specific opportunities in this field include microbiologists, food and agricultural technicians, chemical technologists, biological technicians and more.

SALARY INFORMATION

Individual salaries vary by geographic location, the technician's education, experience and the type and size of the employer. Generally, technicians with an AAS degree in biotechnology can earn salaries ranging from \$28,000 to \$45,000 annually. According to the Bureau of Labor Statistics, agricultural and food science technicians with an associate's degree can earn almost \$33,000 per year, while

chemical technicians with an associate's degree can earn over \$42,000 per year. You can earn more if you go on to complete your bachelor's degree at any of the following universities where STLCC has articulation agreements including: University of Missouri St. Louis, Missouri University of Science and Technology-Rolla, University of Missouri-Columbia, Southeast Missouri State University and Lindenwood University.

FEES

Please visit www.stlcc.edu/fees for the most current information. Additional fees apply to some courses. Fees are subject to change.

CONTACT INFORMATION

Jennifer Hill
program coordinator
314-513-4953
jhill330@stlcc.edu

YOU CAN EARN THIS DEGREE AT: **Florissant Valley**

You may take general education classes toward this degree at any of our campuses or education centers.

Associate in Applied Science Degree Certificate of Specialization

CURRICULUM Suggested Sequence		AAS	CS
Course Number	Course Description	Credit Hours	
First Semester (Fall)			
___ ENG:101	College Composition I	3	
___ MTH:160	College Algebra	4	
___ CHM:105	General Chemistry I	5	
___ BIO:104	Basic Laboratory Methods for Biotechnology	3	3
	Total Fall Semester Credit Hours	15	3
Second Semester (Spring)			
___ GE:101	Technical Computer Applications	3	
___ CHM:106	General Chemistry II	5	
___ BIO:140	Principles of Biology I	4	
___ BIO:152	Quantitative Methods in Biotechnology (spring semester only)	2	
___ XXX:xxx	Physical Education Activity	1	
	Total Spring Semester Credit Hours	15	
Summer Semester			
___ XXX:xxx	Social Science Elective	3	
___ XXX:xxx	Missouri History Requirement	3	
	Total Summer Semester Credit Hours	6	
Third Semester (Fall)			
___ BIO:219	Biotechnology I	5	5
___ BIO:218	Microbiology for Biotechnology (fall semester only)	4	
___ PHL:109	Bio-Medical Ethics	3	
___ XXX:xxx	Physical Education Activity	1	
	Total Fall Semester Credit Hours	13	5
Fourth Semester (Spring)			
___ BIO:220	Biotechnology II	5	5
___ BIO:226	Advanced Topics in Biotechnology*	6	6
___ BIO:225	Genetics	5	
	Total Spring Semester Credit Hours	16	11
Summer Semester			
___ COM:101	Oral Communications	3	
___ BIO:221	Workplace Learning: Biotechnology	3	
	Total Summer Semester Credit Hours	19	
	Total Credit Hours for Program:	71	19

*BIO:226 Advanced Topics in Biotechnology, choose two 3-hour classes: Plant Transformation, Bio Processing, Forensics, QPCR Techniques, Proteomics, RNA Interference

www.stlcc.edu/programs/biotechnology