

# BIOTECHNOLOGY, ASSOCIATE IN APPLIED SCIENCE



College(s): TR\*

Program Code: 0215

*Effective Fall 2022, this program is no longer accepting new students at Truman College.*

The Associate in Applied Science degree program for Biotechnology utilizes cellular components and microorganisms for the production of products used in medicine, pharmacology, agriculture, food processing, and environmental cleanup. Employment opportunities are available in laboratories, hospitals, and research and development companies.

*This selective admissions program requires students to submit a separate application or to take additional action before enrolling.*

## Program Requirements

Code	Title	Hours
<b>General Education Coursework</b>		
BIOLOGY 121	Biology I	5
ENGLISH 101	Composition	3
MATH 125	Introductory Statistics	4
Additional General Education course		3
General Education Human Diversity course		3
<b>Required Program Core</b>		
BIOLOGY 122	Biology II	5
BIOLOGY 209	Biochemistry	4
BIOLOGY 250	Intro To Molecular Biology	3
BIOLOGY 251	Molecular Biology I	4
BIOLOGY 252	Molecular Biology II	4
CHEM 201	General Chemistry I	5
CHEM 205	Organic Chemistry I	6
MATH 140	College Algebra	4
MCROBIO 233	General Microbiology	4

MCROBIO 234	Applied Microbiology	4
<b>Program Electives</b>		
Select a minimum of 6 credit hours of the following:		6
BIOLOGY 107	Nutrition-Consumer Education	
BIOLOGY 210	Survey Of Biotechnology	
CHEM 204	Quantitative Analysis	
CHEM 207	Organic Chemistry II	
CHEM 217	Intro Instrumental Analysis	
CIS 116	Operating System I	
Total Hours		67

## Requirements for Admission##

- Completion of the Biotechnology program application.
- Graduation from an accredited high school or acceptable scores on the General Education Development (GED) test. #Foreign and domestic high school education or domestic GED must be validated by official transcripts.
- Validation of previous college or biotechnology education by official transcripts.
- Average or above-average high school standing with one year of biology.
- Algebra, chemistry and biology courses taken in another country must be repeated in this country.
- Acceptable scores on the American College Test (ACT).
- Acceptable scores on the standardized reading test administered by Truman College.
- Demonstrated proficiency in speaking and reading English.

## Careers

This program can prepare students for the jobs listed below. Click on each one to learn more, including average earnings, annual job openings, and how much education people in that field have. For additional guidance and resources on career options, current City Colleges students and alumni can contact the Career Services Office (<https://www.ccc.edu/departments/Pages/Career-Services.aspx>).

## Environmental Science and Protection Technicians, Including Health

### Job Description

Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

#### Annual Wages

Entry-Level 10 <sup>th</sup> Percentile	\$34,804
Median 50 <sup>th</sup> Percentile	\$51,595
Senior-Level 90 <sup>th</sup> Percentile	\$99,324

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$17
Median 50 <sup>th</sup> Percentile	\$25
Senior-Level 90 <sup>th</sup> Percentile	\$48

### Annual Job Openings

55 annual openings in Cook County

### National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	4.55%
A certificate	0.00%
Some college	0.00%
An Associate degree	13.64%
A Bachelor's degree	63.64%
A Master's or Professional degree	13.64%
A Doctoral degree or more	4.55%

81.83% continue their education beyond an associate degree

## Agricultural Technicians

### Job Description

Work with agricultural scientists in plant, fiber, and animal research, or assist with animal breeding and nutrition. Set up or maintain laboratory equipment and collect samples from crops or animals. Prepare specimens or record data to assist scientists in biology or related life science experiments. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

#### Annual Wages

Entry-Level 10 <sup>th</sup> Percentile	\$32,530
Median 50 <sup>th</sup> Percentile	\$43,398
Senior-Level 90 <sup>th</sup> Percentile	\$75,804

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$16
Median 50 <sup>th</sup> Percentile	\$21
Senior-Level 90 <sup>th</sup> Percentile	\$36

### Annual Job Openings

29 annual openings in Cook County

### National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	2.18%
A certificate	0.00%
Some college	0.00%
An Associate degree	18.32%
A Bachelor's degree	30.45%
A Master's or Professional degree	49.05%
A Doctoral degree or more	0.00%

79.50% continue their education beyond an associate degree

## Food Science Technicians

### Job Description

Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

<b>Annual Wages</b>	
Entry-Level 10 <sup>th</sup> Percentile	\$47,157
Median 50 <sup>th</sup> Percentile	\$62,488
Senior-Level 90 <sup>th</sup> Percentile	\$88,913

<b>Hourly Wages</b>	
Entry-Level 10 <sup>th</sup> Percentile	\$23
Median 50 <sup>th</sup> Percentile	\$30
Senior-Level 90 <sup>th</sup> Percentile	\$43

Annual Job Openings

14 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	34.93%
A certificate	13.42%
Some college	7.15%
An Associate degree	13.28%
A Bachelor's degree	17.31%
A Master's or Professional degree	13.91%
A Doctoral degree or more	0.00%

31.22% continue their education beyond an associate degree

Environmental Scientists and Specialists, Including Health  
Job Description

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or public health. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-

duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

<b>Annual Wages</b>	
Entry-Level 10 <sup>th</sup> Percentile	\$53,454
Median 50 <sup>th</sup> Percentile	\$79,248
Senior-Level 90 <sup>th</sup> Percentile	\$147,286

<b>Hourly Wages</b>	
Entry-Level 10 <sup>th</sup> Percentile	\$26
Median 50 <sup>th</sup> Percentile	\$38
Senior-Level 90 <sup>th</sup> Percentile	\$71

Annual Job Openings

65 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	0.64%
A certificate	0.00%
Some college	0.73%
An Associate degree	0.00%
A Bachelor's degree	69.92%
A Master's or Professional degree	28.28%
A Doctoral degree or more	0.43%

98.63% continue their education beyond an associate degree