



San Francisco  
Bay Biotech  
Job Guide Series

**JOB GUIDE TO**

**BIOTECHNOLOGY  
CERTIFICATE  
PROGRAMS**

The Guide features Community and four-year public colleges and universities that offer short-term certificate programs that provide students the flexibility and job-readiness skill sets they need to reach their job and career goals.

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## INTRODUCTION

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The biotechnology industry is experiencing rapid growth and employers have an ever growing need for trained, job-ready candidates, from entry-level to the most advanced, to fill positions. However, companies are finding that there are not enough skilled workers to fill current and projected future job openings.

Companies are starting to require more technological skills from even their entry-level employees. And, increasingly students who are not planning on getting four-year degrees are looking for certificate programs that will enable them to acquire skills to become job-ready in a short amount of time. And, students who are working and have other responsibilities can benefit from schedules that feature evening, weekend and online classes. Certificate programs often offer the flexibility and job-readiness skill sets that enable students to meet their goals. Many programs require one academic year of study or less, while degree programs can require two years or more of full-time schooling.

Since the duration is typically shorter for acquiring a certificate than for a bachelor's degree, the programs are great for job seekers who want to get into the workforce quickly and begin earning an income. Students who complete certificate programs also have a great foundation for future academic pursuits. The programs also allow individuals to keep costs low by focusing only on those classes needed for their chosen career. Additionally, related instruction is often articulated with many two- and four-year colleges, allowing students to work toward a degree.

Certificate programs are also important educational opportunities for individuals who want to make career changes. As market forces cause people to move between professions, certificate programs can provide short-term, specialized training that allows individuals to thrive in new roles.

Community Colleges are major players in offering certificate programs designed to help students obtain the skills needed to fill workforce needs. The Community College Review reports that Community Colleges are educating 40% of all undergraduates. And, according to the Report, the average Community College tuition for 2016-2017 is approximately \$4,692 per year for in-state students and \$8,220 for out-of-state students.

Community Colleges also participate in special programs, including Career Technical Education, workforce, Online and Distance Education, as well as college, university, government and industry partnerships. These programs are also expanding the pipeline of youth by creating awareness of biotechnology and biotechnology careers at the elementary and high school levels with such offerings as high school to college Bridge Programs.

Although Community Colleges are not for everyone, for those wanting the flexibility to acquire job-ready skills that prepare them to enter the jobs market quicker, or to prepare for transfer to four-year colleges, they can be excellent vehicles. Community Colleges are also working with two- and four-year colleges to provide courses in certificate programs that meet transfer requirements.

Public two- and four-year colleges and universities, although to a lesser degree, also offer undergraduate, graduate and professional certificate programs. And, they are participating in programs designed to make the Community College transferral process as seamless as possible.

State college and university requirements differ from those of Community Colleges. Whereas Community Colleges often only require a high school diploma or GED (General Equivalency Diploma), two- and four-year institutions more often require an AA, AS, or Bachelors Degree and prerequisite courses.

Four-year college programs often offer Online and "hybrid" certificates -- a combination of online, off-campus and on-campus classroom instruction. Online certificates are often designed for graduate-level students and working professionals.

The innovative approaches utilized in the certificate programs address the workforce needs of business while also effectively helping students find good jobs with good wages and promising career pathways in the biotechnology industry.

***Job Guide to Biotechnology Certificates Programs*** is a comprehensive compilation of Certificate Programs offered by institutions throughout the country -- Alaska, most of the lower 48 states, Guam and Hawaii -- in biotechnology and related fields for students who, depending on their career goals, would benefit from the opportunities these programs offer.

Specific application information in the Job Guide of Biotechnology of Certificate Programs includes:

**Application Process.** Online Application is the preferred method for completing and submitting applications. In some cases, online application is the only accepted method.

**Tuition and Fees.** Websites links that list tuition and all other required fees are provided.

**Calculating College Costs.** The college websites provide information and resources, such as college cost calculators, for students to calculate how much they will need to pay for the programs of study. Other ways of saving on costs include reduced out-of-state tuition, employer reimbursement, veterans benefits, and tax credits.

**Paying for College.** Web addresses are provided for colleges scholarships and financial aid pages. The institutions listed also provide extensive information on these and links to other pages about grants, work study, FAFSA (Free Application for Federal Student Aid), fee waivers, reduced tuition, Dreamers' Reduction, and other federal government programs such as Gainful Employment programs.

**Gainful Employment Programs.** The Department of Education's gainful employment regulations stipulate the criteria institutions must meet to qualify to receive federal financial aid in post-secondary vocational education. These are programs that prepare students for gainful

employment in a recognized occupation. Websites of Gainful Employment eligible programs are listed in the “Program Description” section.

**FAFSA.** Free Application for Federal Student Aid Application that must be completed for federal and state financial aid. Some schools also require submission of the FAFSA with scholarship applications.

**Programs Offered.** The Guide lists specific Certificate Programs (e.g., biotechnology, bioinformatics, stem cell, medical device) that are offered by colleges. Many colleges offer Multiple programs. Direct links are also listed to Program websites.

**Certificates Offered.** The majority of the certificates listed in the Job Guide to Certificates are Certificates of Achievement which are credit certificates that are listed on students' transcripts and many are transferable to 4-year colleges. Certificates of Proficiency and Certificates of Completion are among others that are offered. Graduate Certificates that are offered also enable working professionals to upgrade skills and gain expertise about the latest developments in their field. Undergraduates are also able to enroll in some graduate certificate programs.

**Program Requirements.** The GED (General Equivalency Diploma) or an equivalent diploma is required for most Community College Certificate Programs. Some Community Colleges do require specified high schools courses.

**Academic Contacts.** General college contact information is listed and whenever possible academic, school or department contact information is also provided.

**Online and Distance Education.** The majority of the colleges and universities offer online and distance education. Some colleges are offering college credit certificate programs, often at the Graduate level through Extension College programs.

**Special Programs.** These programs include: Community Colleges, four-year colleges and industry partnership programs; workforce Programs; Career and Technology Education; and high school to college Bridge Programs. California and several other states offer Community College preparation and admission programs for foster youth.

**Diversity Programs.** Diversity programs are offered by many institutions. Colleges, universities, government, and businesses often partner with and offer programs for Historically Black Colleges (HBCUs) and Hispanic Serving Institutions (HSIs) or Hispanic Serving Universities (HSUs), Native and Tribal colleges, Pacific Island colleges, and programs for women and underserved communities.

**Note: Long Website Addresses.** The short form of the website address is written in the Address and Contact section (e.g., [www.college.edu](http://www.college.edu)), and the complete long form of the website address (e.g., [www.college.edu/biotechnology-dept./certificate-program-catalogue](http://www.college.edu/biotechnology-dept./certificate-program-catalogue)) is listed as the last item in the Left Side Bar under the “Academic Contact(s)” listing.

Website and email addresses should be checked to make sure they are spaced correctly when entered in browser windows and are added to email messages.

**JOB GUIDE TO BIOTECHNOLOGY  
CERTIFICATE PROGRAMS**

**SAMPLE CERTIFICATE PROGRAM**

## COMMUNITY COLLEGE OF ALLEGHENY COUNTY

Street 808 Ridge Avenue  
City Pittsburgh  
State PA  
Zip Code 15212-6097  
Country USA  
Telephone (412) 237-2525  
Email Admissions@ccac.edu  
URL [https://www.ccac.edu/Biotechnology\\_Cert.aspx](https://www.ccac.edu/Biotechnology_Cert.aspx)  
Program(s): Biotechnology Certificate, Medical Laboratory Assistant  
Requirements: A baccalaureate degree in the sciences.  
Location: Allegheny, Boyce, South Campus (Science, Technology, Engineering and Mathematics-STEM)

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### Tuition and Fees

[https://www.ccac.edu/uploadedFiles/Pages/Admissions\\_and\\_Enrollment/Payment/Tuition%20and%20Fees.pdf](https://www.ccac.edu/uploadedFiles/Pages/Admissions_and_Enrollment/Payment/Tuition%20and%20Fees.pdf)

### Scholarships

[https://www.ccac.edu/Foundation\\_Scholarships.aspx](https://www.ccac.edu/Foundation_Scholarships.aspx)

### Financial Aid

<https://www.ccac.edu/financial-aid/>

### Academic Contact(s)

Email: [admissions@ccac.edu](mailto:admissions@ccac.edu)  
Allegheny Campus:  
Phone: (412) 237-2525  
South Campus:  
Phone: (412) 469-1100  
Boyce Campus:  
Phone: (724) 327-1327 or  
(412) 371-8651

### Program Descriptions

#### Biotechnology Certificate (Allegheny and Boyce)

This program is designed for students who already have a baccalaureate degree in the sciences and want to expand their background in biotechnology. The curriculum is designed to include background courses in biology and chemistry, with special emphasis on molecular biology and the specific techniques for the biotechnology industry. Career paths include lab technician or a research technician.

#### Medical Laboratory Assistant Certificate (South Campus)

This program prepares students to function as a medical laboratory assistant (or MLA) in a clinical laboratory setting. (In some settings the MLA is also known as clinical assistant, clinical laboratory assistant or specimen processor.) This program also provides opportunities for graduates to climb the career ladder to a medical laboratory technician associate's degree program and/or a medical technologist four-year degree program.

Website: [https://www.ccac.edu/Medical\\_Laboratory.aspx](https://www.ccac.edu/Medical_Laboratory.aspx)