# BioBuilder High School Apprenticeship Challenge Spring 2025

We accept applications on a rolling basis from January 6th through February 21st, 2025. To be eligible for our program, you must be:

* at least 16 years old by June 1st, 2025
* a Massachusetts public high school student
* from historically underrepresented groups or economically disadvantaged
* committed to pursuing a summer internship in the life sciences

If you are selected for our program, we will be in touch to request additional registration information no later than March 1st, 2025. Program will run from March 15th, 2025 - May 10th, 2025.

We regret that we cannot respond to all student inquiries. Applications expire after 6 months.

# Tell us about you

Please enter your personal email address Personal email address \*

Please enter your school email address. Example: johnsmith@school.edu. If you do not have a school email, please leave blank.

Are you applying for the Boston or Worcester High School Apprenticeship Challenge?

Parent or Guardian first and last name

Parent or Guardian email address

Parent or Guardian phone number

# Disclaimer

Specific Prohibited Uses

School Email Address

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This online application for BioBuilder's High School Apprenticeship Challenge may be used only for lawful purposes by individuals seeking training opportunities. BioBuilder specifically prohibits any other use of our High School Apprenticeship Challenge website, and all users agree not to do any of the following: (a) post content that contains hyperlinks, “hidden” keywords or keywords that are irrelevant to the internship or are otherwise misleading; (b) use BioBuilder's High School Apprenticeship Challenge online application for any purpose other than as an individual seeking a training opportunity, including but not limited to posting information to sell or promote any products or services; (c) submit any incomplete, false or inaccurate biographical information or information which is not your own; or (d) post any materials that are implicitly or explicitly offensive, such as content that engages in, endorses or promotes racism, bigotry, discrimination, hatred or physical harm of any kind against any group or individual.

Application

You are solely responsible for the information contained in your online application.

BioBuilder may review and remove any application, or part thereof, that, in its sole judgment, does not meet stated eligibility requirements, violates applicable laws, rules or regulations, is abusive, disruptive, offensive, or illegal, or violates the rights of, or harms or threatens the safety of, users of this BioBuilder site. BioBuilder may take any action with respect to an application that it deems necessary or appropriate in its sole discretion if it believes that such content could create liability for BioBuilder, damage BioBuilder’s brand or public image, or cause BioBuilder to lose (in whole or in part) the services of its ISPs or other suppliers.

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None of the application shall be subject to any obligation of confidentiality on the part of BioBuilder and BioBuilder shall not be liable for any use or disclosure of any application.

Release

1. In exchange for good and valuable consideration, the sufficiency of which is hereby acknowledged, the applicant and his or her representatives, agents, estate, heirs, successors and assigns, absolutely and unconditionally hereby release, remise, discharge, and hold harmless the Releasees (defined to include BioBuilder, and/or any of its parents, subsidiaries or affiliates, predecessors, successors or assigns, and its respective current and/or former partners, directors, shareholders/stockholders, officers, employees, attorneys and/or agents, all both individually and in their official capacities), from any and all Claims (as defined below) This release is intended and acknowledged by the applicant to be all encompassing and to act as a full and total release of any such claims demands and damages (actual and consequential and direct and indirect) of every kind and nature, known and unknown, suspected and unsuspected, disclosed and undisclosed, whether specifically enumerated herein or not.

For purposes of this Agreement, “Claims” shall mean and refer to actions or causes of action, suits, claims, complaints, contracts, liabilities, agreements, promises, contracts, torts, debts, damages, controversies, judgments, rights and demands, whether existing or contingent, known or unknown, suspected or unsuspected, that Intern may have or have had against the Releasees arising from conduct occurring up to and through the expiration or termination of this Agreement, including, but not limited to, (i) any claims arising from any federal, state or local law, regulation, public policy or constitution dealing with either employment, employment benefits or employment discrimination including but not limited to those laws or regulations concerning discrimination on the basis of race, color, creed, religion, age, sex, sex harassment, sexual orientation, national origin, ancestry, genetic carrier status, handicap or disability, veteran status, any military service or application for military service, or any other category protected under federal or state law; (ii) any contract, whether oral or written, express or implied; any tort; (iii) any claim arising from or relating to the lab training, including, without limitation, use of BioBuilder’s resources such as the High School Apprenticeship Challenge website or the posting of a resume or other personal information of the applicant on such website in connection with the High School Apprenticeship Challenge or Internship; or (iv) any claim for equity or other benefits; or any other statutory and/or common law claim.

1. Applicant authorizes BioBuilder to photograph and publish his/her photo in any BioBuilder-related publication or website and waives any right to inspect or approve the finished product or printed matter that may be used in connection with the photograph.

BioBuilder Liability

BioBuilder does not guarantee and does not promise any specific results from use of the High School Apprenticeship Challenge website. No advice or information, whether oral or written, obtained by an Applicant from BioBuilder shall create any implied or expressed warranty. In no event shall BioBuilder be liable for any damages posting information on the site or from participating in the High School Apprenticeship Program.

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General

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Jurisdiction for any claims arising under this agreement shall lie exclusively with the state or federal courts within Boston, Massachusetts. If any provision of these terms are found to be invalid by any court having competent jurisdiction, the invalidity of such provision shall not affect the validity of the remaining provisions, which shall remain in full force and effect.

I have read the preceding disclaimer and agree to its terms \* Yes

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# Basic Information

Your First Name \* Your Last Name \*

Name of your high school \*

Your current grade? \*

Your age on June 1st, 2025? \*

Birth Date \* // (mm/dd/yyyy)

Your phone # to receive text messages\*

Your email address that you check \* Your mailing address

Address 1 \*

Address 2 City \*

State/Province \* Zip \*

How did you hear about BioBuilder's High School Apprenticeship Challenge? (check all that apply) \*

from a teacher

from a career counselor from another student

from a web search from a company

from an academic lab Other

If you selected “Other,” please enter how you heard about the program here

If you are participating in our lab training, it will be held on Saturdays in our Learning Lab @ Ginkgo Bioworks in Boston's Seaport (27 Drydock Ave, Boston, MA 02210) OR at Clark University in Worcester (950 Main Street, Worcester, MA 01610).

**Would you be relying on public transportation to commute to the Saturday sessions for the Apprenticeship Challenge?\***

Yes

No

We plan to carry out the Thursday Apprenticeship training online. **Please tell us what time your school day ends on Thursdays. \***

# Demographic Information

Gender you identify with

\*

Female Male

Not listed here Prefer not to say

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Race/Ethnicity (check all that apply) \*

American Indian or Alaska Native

Asian (origins in the Far East, Southeast Asia, or Indian subcontinent) Asian (South Asian, Asian American, Pacific Islander)

Black or African American Hispanic or Latino

Native Hawaiian or Other Pacific Islander (origins in Hawaii, Guam, Samoa, or other Pacific Islands)

White (origins in Europe, the Middle East, or North Africa) Two or more races

Other

Prefer not to say

Have any of your parents/legal guardian(s) received a bachelor's degree from a US college? \* Yes

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No

Prefer not to say

Do you consider yourself economically disadvantaged, e.g. meet federal guidelines for low income, poverty and/or free and reduced cost lunch? \*

Yes No

Prefer not to say

# Tell Us More About You!

## This information will give us a better idea about who you are and what you are interested in. There is no right or wrong answer. Please just help us get to know you.

In high school I have taken the following classes (check all that apply) \* Biology

Chemistry Physics

Computer Science Environmental Science Marine Ecology Biotechnology Robotics

Engineering

Other science elective

The highest level of math I have taken (or am currently taking) is \*

I have worked or volunteered in a research lab before \* Yes

No

After high school, I am interested in going directly to college \* Yes

No

I'm not sure what I want to do after high school

 After high school, I am interested in working for a year or more before I go to college \*

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 Yes

No

I'm not sure what I want to do after high school

I am committed to finding a summer internship in a life sciences laboratory\*

Yes

No

A summer internship would be my first paying job (other thank occasional jobs like raking leaves or babysitting)\*

Yes

No

# Teacher Recommendation

## If you are eligible to participate in our Apprenticeship Challenge, the next step will be to contact a teacher who knows you well to discuss your qualifications and commitment. We will not reach out to the teacher unless you meet the other eligibility requirements.

Teacher's name \* Teacher's email address \* Teaching at what school \*

This teacher was your teacher for what class(es) \*

How long has this teacher known you \* One year or less

Two years or less Three years or less More than three years

Have you told this teacher you are applying for our Apprenticeship Challenge? \* Yes

No

If we contact this teacher, we may discuss your qualifications by phone or ask for a written recommendation. We will not share this information without your permission. \*

I understand and agree that this teacher may serve as a phone reference or be asked for a recommendation letter

This teacher may be contacted by phone for a reference but not for a written letter

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# In Your Own Words...

## We would like to know a little bit about you and your ambitions. Please don't overthink the answers here. A few sentences is all we'd like to read!

What do you see as the main difference between science and engineering? (150 words or less) \*

If you had a magic wand and unlimited amounts of $, what would be the first few things you'd want to use them for? (150 words or less) \*

What is something that you are really bad at but you still do it and why? \*

Tell us about something you're proud of. (150 words or less) \*

# A Few Questions to Evaluate Your Math Skills

## These next few questions will help us understand the level of math you would come into the program able to do. PLEASE ANSWER THESE QUESTIONS ON YOUR OWN. A similar assessment will be given on the first day of class to confirm that results are reasonably matched. You do not need to score 100% on these questions to be admitted to the Apprenticeship and some of these questions are harder than others. Feel free to use a calculator if you think it will help.

Which of the following numbers is greatest? \* 1/40

1/4

0.35

0.099

3/9

Which number is 300% of the difference between 23 and 27? \*

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5

12

25

175

300

**Set up for the next three questions**

On the first day of your new job, a Monday, you are told to make exactly 500 milliliters (ml) of a buffered solution. After making the solution, you start your experiment that very day, and it requires that you use 75 ml of the solution. Then you repeat the experiment, using 75 ml of the solution every day, Monday through Friday.

On what day will you start work with 0.2 liters remaining? \* Monday

Tuesday Wednesday Thursday Friday

Which of the following can be used to determine the number of days (D) required to deplete your solution so only 200 ml remains? \*

500 - D = 0.2

500 - 75D = 0.2

500 - D = 200

500 - 75D = 200

none of the above

On what day of the week should you plan to re-make the solution because you will have less than 75 ml of solution remaining? \*

Monday Tuesday Wednesday Thursday Friday

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# A Few Questions to Evaluate Your Language Skills

## These next few questions will help us understand the written language skills you would enter our program with. PLEASE ANSWER THESE QUESTIONS ON YOUR OWN. A similar assessment will be given on the first day of class to confirm that results are reasonably matched. You do not need to score 100% on these questions to be admitted to the Apprenticeship and some of these questions are harder than others.

Improve this sentence: The average of six tests are shown in Table 1. \*

Select the answer that best combines these two sentences: The technician performed a number of diagnostic tests on the cells. The technician used a computer to perform the diagnostic tests. \*

While performing a number of diagnostic tests on the cells, the technician used a computer to perform the tests.

Although the technician used a computer, she performed a number of diagnostic tests on the cells.

Because she used a computer, the technician performed a number of diagnostic tests on the cells.

The technician used a computer to perform a number of diagnostic tests on the cells. The cells needed a computer to perform the diagnostic tests.

Please read the following and then answer the question below:

Marie Curie was born in 1867 in Warsaw, Poland, where her father was a professor of physics. At an early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became disgruntled, however, when she learned that the university in Warsaw was closed to women.

Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French university, where she earned her master's degree and doctorate in physics.

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Marie Curie had to leave Poland in order to \* pursue her education

show her flexibility

behave as other women did keep her family together study Chemistry

## Please read the following and answer the question below

Synthetic biology relies on all the facts from those thick biology textbooks and some of the tried and true principles of engineering. It puts them together to make and model useful living systems. Best case scenario for synthetic biology: we make novel systems that work reliably and address important world problems. Worst case scenario: the systems we build fail the first time, and the second and third, possibly failing in surprising or dangerous ways. So at this early stage in synthetic biology both the successes and the failures have a lot to teach us. And though we still have a long way to go before it’s easy to genetically program cells to perform particular tasks such as making a vitamin enriched food or a renewable fuel, you’ll learn a lot by trying. And if you share your successes and failures, you’ll advance everyone’s understanding—and in this way advance this new field.

Which of the following best summarizes the above \* Synthetic Biology is a dangerous new field

Synthetic Biology is being used to make foods and fuels There is a lot we can learn by trying to build living systems Engineering is different from science

Companies will be using synthetic biology in the future

Thank you for completing this application. We're looking forward to learning more about you and hopefully working together this year.