

Apply to BioBuilder's 2020 Apprenticeship Challenge

The following form can be used to start your application. We accept applications on a rolling basis from January 1st through the end of February.

To be eligible for our program, you must be

- * at least 16 years old by June 1st, 2020
- * a Massachusetts public high school student
- * from an underrepresented minority 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, 2020.

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

* Required

1. Email address *

Disclaimer

Specific Prohibited Uses

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.

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

a) 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.

b) 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.

c) 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

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General

BioBuilder does not make any claims that the content of this website may be lawfully viewed or accessed outside of the United States. Access to the content of the the High School Apprenticeship Challenge website may not be legal by certain persons or in certain countries. If you access the High School Apprenticeship Challenge site from outside of the United States, you do so at your own risk and are responsible for compliance with the laws of your jurisdiction. The terms of use for this website are governed by the internal substantive laws of the Commonwealth of Massachusetts, without respect to its conflict of laws principles. 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.

2. I have read the preceding disclaimer and agree to its terms *

Mark only one oval.

yes

Basic information

3. Your first name *

4. Your last name *

5. Your high school *

6. Your current grade *

Mark only one oval.

10th

11th

12th

7. Your age on June 1st, 2020 *

Mark only one oval.

16 years old

17 years old

18 years old or older

8. Your date of birth *

9. Your phone # to receive text messages *

10. Your email address that you check *

11. Your mailing address (# street, city, state, zip code) *

12. How did you hear about BioBuilder's High School Apprenticeship Challenge *

Check all that apply.

- from a teacher
- from another student
- from a company
- from an academic lab
- Other: _____

13. Would you be relying on public transportation to commute to the Apprenticeship Challenge this spring or to work this summer? *

Mark only one oval.

- yes
- no

Demographic information

14. Gender you identify with *

Mark only one oval.

- male
- female
- not listed

15. Race/Ethnicity (check all that apply) *

Check all that apply.

- Asian/South Asian/Asian-American
- Black (African, African-American, Caribbean)
- Caucasian
- Hispanic/Latino
- Native American or American Indian
- Prefer not to say
- Other: _____

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

Mark only one oval.

- yes
 no

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

Mark only one oval.

- 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.

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

Check all that apply.

- Biology
 Chemistry
 Physics
 Computer Science
 Environmental Science
 Marine Ecology
 Biotechnology
 Robotics
 Engineering
 Other science elective
 Other: _____

19. **I have worked or volunteered in a research lab before ***

Mark only one oval.

- yes
 no

20. **After high school, I am interested in going directly to college ***

Mark only one oval.

yes

no

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

Mark only one oval.

yes

no

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

Mark only one oval.

yes

no

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

Mark only one oval.

yes

no

Apprenticeship Schedule

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.

Please review the dates and times for this program and confirm that you can commit to participation

Monday, Thursday 4:00-5:30
Saturday 9-noon

High School Apprenticeship Challenge 2020



Lab | Central



Week#	Monday, 4:00-5:30 @LabCentral	Thursday, 4:00-5:30 @LabCentral	Saturday, 9A-noon @LabCentral
1			3/21 Lab Orientation MANDATORY ATTENDANCE
2	3/23 Science/Engineering: abstraction	3/26 Biodesign + Lab Math	3/28 Solution Prep/Microbiology
3	3/30 Biodesign + Lab Math	4/2 Project groups + Lab notebook keeping	4/4 Viable Cell Counts
4	4/6 Science/Engineering: reading abstracts	4/9 Project groups + Lab protocol writing	4/11 DNA minipreps + project idea "pitch"
5	4/13 Math, Skills and Content Review	4/16 Project groups: Presentations of ideas	4/18 DNA digests and gel
Spring Break 4/20-4/24			
6	4/27 Professional Skills: Resume writing lesson	4/30 Final Posters and Abstracts due	5/2 PCR/ Sequencing
7	5/4 Poster Session in LabCentral Lobby	5/7 Professional Skills: Email etiquette	5/9 Enzyme Assay + Data Analysis
8	5/11 Professional Skills: Asking for letters of rec.	5/14 Closing Ceremony @Pfizer	

Apprenticeship Challenge 2020

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24. I have reviewed the Apprenticeship program's schedule and can commit to full participation (no more than one excused absence) *

Mark only one oval.

yes

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.

25. **Teacher's name ***

26. **Teacher's email ***

27. **Teaching at what school ***

28. **This teacher was your teacher for what class(es) ***

29. **How long has this teacher known you ***

Mark only one oval.

- one year or less
- two years or less
- three years or less
- more than three years

30. **Have you told this teacher you are applying for our Apprenticeship Challenge? ***

Mark only one oval.

- yes
- no

31. **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. ***

Mark only one oval.

- 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.

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!

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

33. **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) ***

34. **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.

35. **Which of the following numbers is greatest? ***

Mark only one oval.

1/40

1/4

0.35

0.099

3/9

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

Mark only one oval.

- 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.

37. On what day will you start work with 0.2 liters remaining? *

Mark only one oval.

- Monday
 Tuesday
 Wednesday
 Thursday
 Friday

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

Mark only one oval.

- $500 - D = 0.2$
 $500 - 75D = 0.2$
 $500 - D = 200$
 $500 - 75D = 200$
 none of the above

39. **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? ***

Mark only one oval.

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday

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.

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

41. **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. ***

Mark only one oval.

- 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 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.

42. Marie Curie had to leave Poland in order to *

Mark only one oval.

- 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.

43. Which of the following best summarizes the above *

Mark only one oval.

- 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 spring and summer.