



## *Course Logistics and FAQs for Teachers*

### **Course Logistics**

For three weeks, BioBuilder will lead high school students through a framework for project development, providing five hours of online seminars, feedback on project ideas, and assistance in the design process. The Idea Accelerator will culminate in a virtual Project Showcase where teams can present their work and an opportunity for students to document their work in BioBuilder's Project Library.

The class will be coordinated through:

An online Learning Platform, where

- 1-hour seminar recordings will be posted (2x/week);
- Pre- and post- lecture readings and assignments will be linked;
- Student homework responses will be posted;
- A discussion board will be available for general questions and feedback;
- An announcement board and email will provide periodic updates.

ZOOM Meeting Rooms, where

- Office hours will be open for synchronous discussion of course content and career insights;
- By request: team meetings can be scheduled and run in breakout rooms.

GOOGLE DOCS, where

- Project teams will carry out their idea development, analysis and presentation.

Additionally, student teams will need to record a short video describing their final project idea, which can be recorded with any video recording platform.

TEACHERS WILL BE ENROLLED INTO THE CLASS AS OBSERVERS, giving them access to all course materials, all synchronous meetings, and all collaboration documents for their students.



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### **General Course Syllabus**

<u>SESSION</u>	<u>Details</u>
Week 1 - Monday	Seminar: What is SynBio
Week 1 - Thursday	Seminar: Eau That Smell
Week 1 - Friday	Office Hours - 11AM EST
Week 2 - Monday	Seminar: Abstraction
Week 2 - Wednesday	Office Hours - 2PM EST
Week 2 - Thursday	Seminar: Standard Biological Parts
Week 3 - Monday	Seminar: Building a Living Biosensor
Week 3 - Tuesday	Office Hours - 10AM EST
Week 3 - Thursday	Showcase Event - 3PM EST

Upon registering for the course, teachers will receive an event registration link to share with their students. Two weeks before the start of the cohort, teachers will receive an invitation to join the Idea Accelerator cohort. Students who have completed the event registration will also receive a special link to the online platform. All participants will need to join the online platform to access materials.

On Friday of Week 1, students will be randomly assigned into teams of **5-7 classmates** unless the teacher leading this session would prefer to group students. Students will collaborate on a shared Google Document (shared by BioBuilder once the teams are formed), as they work on their biodesign idea, with progress to be presented at the Project Showcase event.

Students may post questions on an ongoing basis to the general discussion board, with those questions to be addressed during Office Hours. The Office Hours will be held live, with the recording made available to all through Canvas after the session.

The last day of the Idea Accelerator will be a Project Showcase in which student teams deliver pre-recorded video or audio presentations of their project idea and their ideation and research process.



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### **Frequently Asked Questions**

#### **General**

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**1. Who is teaching the Idea Accelerator?**

BioBuilder's Founder and Executive Director, Dr. Natalie Kuldell, has designed the program based on her freshman, project-based class for MIT freshmen. She has adapted the material for high school students and provides the pre-recorded lectures.

Student feedback and Office Hours are spearheaded by practicing bioengineers, either professionals who are working in the field or PhD students from universities with bioengineering degree programs.

**2. Is this suitable for a general biology class?**

Yes! The Idea Accelerator is a great introduction to biodesign, appropriate for all high school students. This program is also suitable for advanced/honors biology classes.

It is helpful for students to have a basic understanding that DNA is the coding language for a cell. We take an engineering lens to look at life science, and so students learn about the cells and systems that they need to learn about as they try to design a biotechnology to solve a real world challenge.

**3. What are the dates for the 3-week program?**

Starting with the 2023-2024 school year, the Idea Accelerator can be scheduled on demand. Please email to request a session.

**4. How much does the Idea Accelerator cost?**

For a Small Group of 3 - 10 students: \$250

For a Classroom of 11 - 25 students: \$500

Educator Observer: \$50

**5. Are there any discounted rates?**

BioBuilder is committed to making our life-changing curriculum accessible for all students. We are offering the Idea Accelerator at NO COST to Title 1 schools and those schools where 40% or more of the student population is eligible for free lunch (as reported on <https://www.publicschoolreview.com/find-schools>).



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### Registration

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**6. Can a student enroll in this class on their own?**

The program is not designed for individuals. However, if there are 3 or more individual students that would like to register as a Small Group, and there is an adult supervising their progress, they are welcome to register.

**7. Can a teacher enroll in this class on their own?**

YES! We think there is a lot that teachers could learn as observers, even if they don't have a class of their own enrolled. There is a \$50 fee for teachers who enroll for professional development.

### Expectations

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**8. Are there expectations for online behavior?**

For sure! We require that all participants -- teachers, students and BioBuilder staff -- agree to our community Code of Conduct. Review the Online Code of Conduct here: <https://bit.ly/BB-Code-of-Conduct>.

**9. How much time would students be expected to spend per week?**

Recorded lectures, live Office Hours, interactive discussion boards, and a variety of resources will be made available each week. We anticipate that students will spend at least 3 hours/week working directly with us and at least as much time working outside of class.

In other words, students are likely to spend approximately 6 hours per week on the Idea Accelerator viewing the seminars, completing the assignments and readings, attending the live Zoom Office Hours, contributing to the discussion boards, and collaborating with their project team.

**10. When will students have access to the asynchronous lectures, assignments and readings?**

Materials will be posted weekly, with the content for Week 1 available in Canvas one week prior to the start date. Each Friday, the materials for the following week will be made available online.



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### **11. What time will the seminars likely be?**

Seminars are pre-recorded. Two hours of pre-recorded seminars are made available each week. The final week of the class will include a one hour pre-recorded seminar and a one hour live showcase event that will be posted before the start of the program.

### **12. Is it expected or is it suggested that the students enrolled in the Idea Accelerator course do the Eau that Smell lab in conjunction with the seminar?**

While it is not expected that the students do the Eau that Smell lab along with the Idea Accelerator, if teachers have the opportunity to do so, we would definitely suggest doing that (our kits are available through [Carolina](#)). The Idea Accelerator was created so that students may participate fully remotely, with the appreciation that teachers can supplement it with our labs and other activities.

### **13. What happens during the project showcase event?**

You can see examples of previous presentations and projects here: [bit.ly/IA-April\\_Clip](http://bit.ly/IA-April_Clip)

## **Office Hours**

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### **14. What time will the Office Hours be?**

Office Hours will rotate days of the week and times; these will be posted on the Idea Accelerator calendar before the start of the program. Our aim is to provide different times to allow as many students as possible to join one or more of the Office Hours. Even if you cannot attend that week's live Office Hour, each session will be recorded and posted to the Canvas site.

### **15. What happens during Office Hours?**

Each Office Hour will start with a guest scientist/engineer presenting 10-15 minutes of background on their education and career. The rest of the hour is a time for students to pose technical questions in real time. For students who cannot attend Office Hours synchronously, questions can be sent to the discussion board and addressed during office hours.



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What else can I do with BioBuilder?

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- **BioBuilderClub**  
[BioBuilderClub](#) is a great option for teams of students who want to further develop their project idea with a bioengineer mentor.
- **BioBuilder Essentials Training for Teachers**  
[Our professional development course](#) is a great option for teachers who are curious and eager to take a deeper dive into BioBuilder's engineering approach to biology.

**My question isn't here! What should I do?**

Please email your question to [info@biobuilder.org](mailto:info@biobuilder.org). We'll get back to you ASAP.