

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

High School

Apprenticeship Challenge 2022



Week#	Monday, 4:00-5:30 Learning Lab @ Ginkgo	Thursday, 4:00-5:30 Learning Lab @ Ginkgo	Saturday, 9A-noon Learning Lab @ Ginkgo
1			3/19 Lab Orientation MANDATORY ATTENDANCE
2	3/21 Science/Engineering: abstraction	3/24 Biodesign + Lab Math	3/26 Solution Prep/Microbiology
3	3/28 Biodesign + Lab Math	3/31 Project groups + Lab notebook keeping	4/2 Viable Cell Counts
4	4/4 Science/Engineering: reading abstracts	4/7 Project groups + Lab protocol writing	4/09 DNA minipreps + project idea "pitch"
5	4/11 Math, Skills and Content Review	4/14 Project groups: Presentations of ideas	4/16 DNA digests and gel
Spring Break 4/18-4/22			
6	4/25 Professional Skills: Resume writing lesson	4/28 Final Posters and Abstracts due	4/30 PCR/ Sequencing
7	5/2 TO BE CONFIRMED Poster Session in LabCentral Lobby	5/5 Professional Skills: Email etiquette	5/7 Enzyme Assay + Data Analysis
8	5/09 Professional Skills: Asking for letters of rec.	5/12 Closing Ceremony	

Overview

This 8-week program is designed to close any skills gap students may have so they can progress into a successful summer internship in a life science company or academic lab. No student is guaranteed a summer internship but everyone is promised our best efforts to place all students who complete the apprenticeship training.

Goals

We will focus on three aspects that lead to successful life science careers

- **Content knowledge:** we will spend several hours each week working with synthetic living systems to gain familiarity with terms and details of science and bioengineering.
- **Laboratory techniques:** we will spend several hours each week in a research lab carrying out experiments to train hands and minds for benchwork.
- **Professional skills:** we will work in small teams to imagine, research and design a biotechnology. Teams will document then present their ideas – leading to important gains in motivation, initiative, listening skills and experiences interacting with others.

Requirements

Students are expected to bring their best selves to our program. You must

- Come with an open mind
- Come with energy to engage with the challenges
- Work collegially and constructively
- Tell people who need to know if there is a problem

Students who fail to attend regularly, who fail to notify instructors of absences or tardiness, who are not paying attention during class or lab, or who are distracted during work times will be asked to leave the program and may not receive the stipend associated with our 8-week onboarding program.

Evaluation

Students will be offered constructive criticism throughout our program. Comfort with scientific content is important but equally important is the motivation and enthusiasm students show for working together, and their ability to listen, to discuss and to accept direction or criticism.

Materials

Students will receive four books that must be brought to class every time

- [Lab Math](#)
- [At the Bench](#)
- [BioBuilder: Synthetic Biology in the lab](#)
- a blank lab notebook

Milestones

March 19th 2020

Orientation meeting:
Sign commitments
Laboratory orientation

April 14th, 2020

Midway project presentations

May 2nd, 2020

Poster session event

May 12th, 2020

Final project presentations and graduation events