

Bit Project Presents:

# INTRO TO SERVERLESS

[bitproject.org](http://bitproject.org)



# WHY SERVERLESS?

**Mastering Serverless Functions** allows students to get skills of **processing bulk data, integrating systems, and building simple APIs and micro-services**. These concepts can be applied everywhere in computing and application development.

## Structure:

**Week 0 : Fundamentals Of JavaScript**

**Week 1 : Setting Up Coding Environments**

**Week 2 : HTTP Request And APIs**

**Week 3 : HTML, CSS, And Post Requests**

**Weeks 4-8 : Build Individual Final Projects**

Throughout this **8-week course**, students will learn about serverless functions using Azure, basic web development for frontend and backend, and basic **skills required to build a software project from scratch**.

The first 3 weeks will be dedicated to learning all the concepts and applying them to build a small guided project. This will be a complete web app with a frontend (HTML, CSS, JS) and backend (Azure Functions, NodeJS). The web app's input is a picture, and it analyzes the image to display emotion data.

The remaining weeks will be for students to brainstorm, design, build, and test their own final projects using the skills learned in the first 3 weeks.

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# MENTORS

Students accepted into the mentorship program will be **paired with an engineer who will serve as a mentor** throughout the course. This mentorship is meant to provide students with more **expert guidance in their projects**, as well as an **opportunity to learn about the industry** from the perspective of a professional.

## **Pairing:**

Students are paired with mentors based on their technical skills and professional interests, and how they interact with the interests and expertise of the mentors.

## **Meetings:**

Mentors and students will meet regularly every week through the course of the Camp. For some Camps, these meetings start when the students begin developing their own project.

The logistics of the meetings are determined by the mentors and students directly, but mentors can reach out to us for help facilitating the meetings at any point.

## **Feedback:**

After every meeting, students are asked to report their experience and feedback. Mentors are asked to provide feedback twice: once halfway through the mentorship and once at the end of the Camp. Mentors are encouraged to provide feedback at any point during the program.

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# STRUCTURE

## **Weeks 1-3:**

- Average time: 15 to 30minutes
- Discuss experiences in tech industry, journey into tech, advice for students to succeed
- Discuss the technology they are learning about in the program

## **Weeks 4-5:**

- Average time: 30 to 45 minutes
- Discuss ideas, scope, and plan for final project

## **Weeks 6-8:**

- Average time: 12 hours
- Discuss progress, debug issues, pair program, etc. (you are encouraged to tailor this to your own mentoring style)

[GITHUB](#)

# DATES

**June 14-Aug 2nd 2021**

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# COURSE COMPONENTS

As part of the program, students will be learning through: livestreams, homework, and office hours. These experiences are organized, hosted, and moderated by the Camp instructors. **Mentors are not required to participate in these**, but have full access to them and are encouraged to discuss them in the mentorship sessions.

## Livestreams:

Weekly livestreams for Weeks 1-3 will encompass teaching the basic skills students will need to develop their own projects later. Bit Project Instructors will teach concepts by coding live during the stream and students will be able to follow along as they watch. All livestreams will be recorded and uploaded to the Bit Project YouTube for students who are not able to watch them live.

*Mentors are welcome, but not required to attend livestreams. The syllabus contains what students will learn each week, and weekly email updates will also reiterate these topics.*

## Homework:

Weekly homeworks will contain step by step instructions on our GitHub repository. For the first 3 weeks, these homeworks will revolve around basic concepts and build off of the content students learn during livestreams. For the remaining weeks, homeworks will serve as checkpoints for the students' final projects.

*Mentors are more than welcome to assist students with homework, but livestream instructors will be the main ones responsible for homework help as they conduct live office hours and will be available for asynchronous help through messaging.*

## Office Hours:

Course instructors will hold office hours once a week for students to come ask questions about livestream content and homeworks. Students in the mentorship program are required to attend for 1 hour per week.

*Mentors are not expected to join office hours, but are welcome to do so.*

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# EXPECTATIONS

## Students:

Students accepted into the mentorship program have the following expectations/requirements:

- Attending or watching weekly livestreams and submitting weekly homeworks by each deadline
  - Roughly 3 - 6 hours per week
- Completing the course and final project within the 8 week period
- Attending weekly mentoring sessions
  - Roughly 30 min - 1 hour per week; the first few weeks tend to be shorter as students are learning the basics and the last few weeks tend to be longer as students work on their final projects
  - Attending weekly office hours held by livestream instructors
    - Roughly 1 hour per week
- Filling out short survey forms at the end of each week

## Mentors:

*Note: As our curriculum is geared towards beginners and appropriate for students with zero to intermediate programming experience, you do not need to be an expert in the below topics or be using them in your daily job responsibilities to have enough experience to serve as a mentor. Please take a look at [the curriculum on our GitHub](#) if you are unsure whether you have the right skillset/knowledge to mentor students in this course.*

Mentors have the following expectations/requirements:

- Knowledge of the tech industry and familiarity with the curriculum topics/concepts (which are all available in the syllabus and on our GitHub repo). This includes:
  - Experience working with APIs and how to read documentation
  - Experience with the Azure Portal, Visual Code Azure extension, and how to work with both
  - Knowledge of different Azure use cases and what is best for each (Ex: Function Apps, Logic Apps, etc.)
    - Grasp of Web Dev concepts and how to implement them (frontend, backend)
    - Experience with NodeJS, HTML/CSS
- Setting up weekly mentoring sessions (expect to spend 30 min - 1 hour per student) with the purpose of:
  - Developing relationships with your mentees
  - Assisting them in understanding the concepts taught in the program
  - Guiding them in building their final projects
- Checking communication channel (email + messaging platform TBD) daily to ensure you don't miss important messages from your students
- Filling out short survey forms after each week's mentoring sessions
- Providing the Bit Project team with feedback on your experience