

Andela Women Technical Leadership Program Curriculum Outline for Cycle-5 Kampala

The program runs for six weeks and it is challenge based. The curriculum will specify concepts to be covered and the kind of challenges(projects) and resources that will be used for the duration of the program.

Week One:

Concepts: Frontend development, UI/UX, version control, project management.

Technologies/stacks/tools: HTML, CSS, Git, VsCode(any text editor), Trello

Challenges: There is a single challenge for the entire week. The challenge focuses on the fundamental aspects of HTML and CSS. Learners are expected to have submitted the challenge by the end of the week.

Learning outcomes: Learners should be able to create and link HTML pages, use CSS to style the pages. Learners should be able to use Git and GitHub for version control and collaboration. Learners should be able to comfortably use a code editor.

Skill sessions: Skill sessions this week will introduce version control with Git, Project management with trello. General introduction to Html, CSS and how the two are used alongside each other for the frontend.

Week Two and Three:

Concepts: Principles of programming, introduction to JavaScript, OOP, TDD, Writing professionally.

Technologies/stacks/tools: JavaScript, Git, VsCode(any text editors), [Medium](#).

Challenges: Short challenges will be sent out covering a number of concepts and the learners are expected to complete the challenges and share a link to the challenge repository with their Learning Facilitators by the end of each week.

Some challenges include writing a blog post about the concepts or the experience the learners have encountered. Most of the challenges will have minimal tests written for the learners, some of the challenges will require learners to write more tests or correct already written tests.

Learning outcomes: Learners should have a good understanding of JavaScript basics, Test Driven Development(TDD) and Object Oriented Programming(OOP).

Learners should be able to comfortably use Git and GitHub for version control and collaboration.

Skill sessions: More on version control and project management, how to setup a JavaScript development environment, data types, variables, Strings, Arrays, objects, conditionals and loops, functions, introduction to OOP(classes, methods, objects), TDD

Week Four:

During this week Learners will work on a command line application, the application will consume an existing public API.

This is meant to help them appreciate how concepts learnt in week two can be utilised on a project.

Learners may be required to write utmost two blog posts to demonstrate their understanding of APIs and Web services.

Expectations: Learners are expected to creatively apply appropriate concepts learnt previously. Learners are expected to take a Test Driven approach while completing the challenge. Learners are also expected to use the pivotal tracker for project management. Learners will be expected to follow best practices. Learners are expected to use proper git workflows. Learners have a good understanding of APIs and web services.

Skill session: More on TDD and JS fundamentals, introduction to web services and REST

Week Five and Six:

By week five the learners are already exposed to the JS basics and best practices. They have already been exposed to the recommended tools and workflows. They have been exposed to APIs and web services. So they are in a position to attempt and meet expectations for the Bootcamp challenge 2.

Concepts: REST APIs and Web services, TDD, Project management, version control

Technologies/stacks/tools: Node/Express, Postman

Challenges: Learners build a REST API according to the project specifications provided.

Expectations: Learners are expected to collaborate with peers and leverage their Learning facilitators to accomplish the challenge. Learners

are expected to carry forward knowledge and skills acquired in the earlier weeks and employ them in the challenge.

Skill session: More on TDD, web services and REST