AltSchool Africa – Semester 1 Report

Course: Backend Engineering
Track: School of Engineering
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Sponsor Report – Semester 1 Overview

Semester Overview

This semester focused on building a strong foundation in web technologies, specifically HTML, CSS, and JavaScript. The goal was to equip students with the core skills needed to develop responsive, interactive, and modern web applications.

The curriculum included theoretical concepts, practical assignments, and live coding exercises, all aligned with real-world use cases.

Month 1 – Foundations and Onboarding

Week 1: AltSchool Orientation

- Learned to navigate the Learning Management System (LMS).
- Joined learning circles and peer support communities.
- Understood payment structures, policies, and career tracks (Frontend, Backend, Cybersecurity, Cloud).

Week 2: Introduction to Programming

- Gained exposure to compilers vs. interpreters.
- Learned about variables, data types, bits, bytes, and type checking.
- Practiced writing simple programs using JavaScript syntax.

Week 3–4: Web Fundamentals & HTML

- Studied client-server architecture, HTTP status codes, and semantic HTML5.
- Built static web pages using proper HTML syntax.
- Completed an assignment on creating a personal profile webpage.

Month 2 – Styling with CSS

Week 1: CSS Basics

- Covered CSS syntax, selectors, and inclusion methods (inline, internal, external).
- Applied best practices like separating content and presentation.
- Introduced CSS variables and a glossary of common properties.

Week 2: Flexbox and Grid Layouts

- Mastered Flexbox for 1D layouts (navigation bars, cards).
- Used CSS Grid for complex, 2D layouts (dashboards, galleries).
- Compared Flexbox vs Grid for efficiency in different contexts.

Week 3–4: Responsive Design and Animation

- Utilized media queries for responsive breakpoints.
- Designed interactive elements using CSS transitions and keyframe animations.
- Combined responsiveness and animation to build professional-grade interfaces.

Month 3 – JavaScript and Logic

Week 1: JavaScript Fundamentals

- Covered primitive and non-primitive data types.
- Practiced operators, loops, functions, and scope.
- Implemented closures, default parameters, and arrow functions.

Week 2: DOM, BOM & Data Structures

- Manipulated webpage elements using the Document Object Model (DOM).
- Worked with Arrays, Sets, and Objects.
- Used event listeners, event delegation, and Browser Object Model (BOM) methods.

Week 3: Asynchronous JavaScript

- Learned Callbacks, Promises, and async/await.
- Refactored a GitHub API integration from callback hell to clean async/await syntax.
- Developed a clear understanding of asynchronous flow and error handling.

Week 4: Object-Oriented Programming (OOP)

- Mastered OOP concepts: Classes, Inheritance, Encapsulation, Polymorphism, Abstraction.
- Implemented private fields using #, and practiced using constructor() and super().
- Compared different programming paradigms and introduced Big O notation.

Achievements

- Built and deployed responsive web pages, you can view my **AltSchool website [here](#)**.
- Gained hands-on experience in version control using Git and GitHub.
- Demonstrated problem-solving through assignments, quizzes, and group discussions.
- Developed a strong portfolio foundation for future projects.

Here is an improved and professional version of the sections you requested, now including a Course Load section and adapted to reflect your Backend Engineering track and sponsor-focused tone:

Course Load Overview

During Semester 1 at AltSchool Africa, I completed an intensive and well-structured curriculum that laid the foundation for my Backend Engineering journey. Although focused on backend technologies, the semester began with frontend basics to build full-stack awareness.

You can also see detailed notes taken during the learning here as **[md file](#)** or **[pdf here](#)**

Key Modules Covered:

Course Code	Title	Focus Area
SWE 501	Introduction to Programming	Data types, variables, control flow
SWE 502	Web Fundamentals	HTML, CSS, Responsive Design
SWE 503	JavaScript for Web Development	Functions, DOM, Events, OOP

These courses provided practical skills in both frontend development and programming logic, paving the way for more advanced backend-focused modules in the next semester.

Assessment Performance

Throughout the semester, I completed multiple assessments designed to test both conceptual understanding and hands-on coding ability:

- Month 1: 2 assignments (including a [personal webpage](#) and HTML/CSS project)
- Month 2: 6 practice exercises based on css and html.
- Month 3: A complete shopping cart project, and a calculator implementation
- Final Exams in month 4:
    - SWE 501: 95%
    - SWE 502: 95%
    - SWE 503: 95%

Overall Semester Average: 95%

These results reflect both the rigor of the curriculum and my personal commitment to excellence.

Future Goals

As I progress further into the Backend Engineering track, my objectives include:

- Deepening my knowledge of **backend development tools** and **patterns**
- Designing and building **RESTful** and **GraphQL APIs**
- Creating **custom algorithms**
- Learning **web-sockets for real-time communication**
- Working with **relational** and **NoSQL databases** such as MySQL and MongoDB
- Applying for **internship opportunities** facilitated by AltSchool and tech communities
- Gaining fluency in **production-ready backend stacks** including Node.js, Express, and Docker

Challenges Faced & Solutions

While I am grateful for the 100% scholarship opportunity which has made this journey possible, I encountered a few challenges that I've worked proactively to overcome:

1. Learning Circle Collaboration

- Challenge: Initial difficulty getting all members to participate actively
- Solution: I initiated communication via email and scheduling tools, which led to successful peer discussions and collaborative learning sessions.

2. Missed Live Classes

- Challenge: I occasionally missed scheduled classes due to network issues or overlapping responsibilities.
- Solution: I reviewed recorded sessions on the LMS and optimized my study environment with a stable internet connection to ensure better attendance and comprehension.

3. Adapting to the Nigerian Accent

- Challenge: Adjusting to the instructor's accent was difficult at first.
- Solution: I began using Zoom's live captions and playback features to follow along effectively and reinforce understanding via transcripts.

Final Remarks

Thank you for your generous support in making this journey possible. The progress made so far has empowered me with tangible skills and confidence in web development. I am excited to continue this path and deliver even greater results in upcoming semesters.