

Module : Dev Starter

Objective: Equip students with front-end and basic back-end development skills to create complete functional web applications.

1. Advanced Python

- File handling (read/write operations)
- Error handling (try/except)
- Modules & packages
- Working with APIs (requests module)
- Introduction to databases with Python (SQLite/MySQL basics)

2. Advanced JavaScript

- ES6+ features (let/const, arrow functions, template literals, destructuring)
- Arrays & Objects deep dive
- Asynchronous JavaScript (Promises, async/await)
- Fetch API & working with JSON
- Event handling and DOM events

3. HTML & CSS Training

- HTML5 semantic elements
- CSS3 advanced selectors & pseudo-classes
- Flexbox & CSS Grid layout systems
- Responsive design (media queries)
- Animations & transitions

4. Advanced Frameworks

React.js

- Component-based architecture
- Props & State
- Hooks (useState, useEffect, useRef)
- Conditional rendering & lists
- Forms & controlled components

Next.js

- Pages & routing
- Static vs. server-side rendering
- API routes in Next.js
- Image optimization
- Deployment basics

5. Basic Backend Training

- Understanding server-side development
- Introduction to Node.js & Express.js
- Creating REST APIs
- Connecting to databases
- Handling requests and responses