Full-Stack WEB Development syllabus

Subject	Description
Introduction to Computers **And Web World**	Computer, input, output, hardware, software, operating system, CPU, memory, bit, byte, binary base, flow diagrams , Web Protocols like HTTP,TCP/IP,DNS and How all tools connects, 7 layers module
HTML	IDE, Tags, HTML elements,HTML5 elements ,URL, Elements properties, forms
CSS	Syntax, Selectors, Inline\Internal\External, Box mode, Width\Height, Layout, Pseudo class, Responsive Web Site, Frameworks: Bootstrap, Advanced: Flexbox, Grid
JavaScript	● <u>Basic Programming:</u> Variables, Operators, Conditions, Loops, Functions, Scope, Array, Event ● <u>Object Oriented Programming</u> : Object, Function constructor , Prototype , Object inheritance , Primitive vs, Objects, This, bind \ call \ apply ● Web Programming: DOM, AJAX, JSON ● Next Generation JavaScript: let\const, arrow function, filter, map, modules, class, rest operator, restructuring, promise, a sync & await ● Algorithms in JS
TypeScript	Syntax , Events, Html, Effects, Callback
React	Components, Props, State, Styling, Advanced Rendering, Component life cycle, Single Page Application, Routing, publish–subscribe, forms, Validations, Redux
Node.js	Events loop, Modules: core, custom, third party, Files
Express.js/Nest	Web server, Middleware, Rest API, Authentication / Authorization, Postman
Databases	Relational and non-relational DB, SQL, NoSQL, CRUD operations, ObjectID, Models, Heroku Paas

MongoDB	
Working environment	Visual Studio Code
Software Design	Engineering understanding, design pattern, Block and sequence diagram, state management, SDD
Testing	Test type, test level, automation best practices, code review Unit Test, Jest, linter, TDD - Test-driven development
Version control	Git, Github, maven, Jenkins, npm
Debugging Advanced	Chrome Dev Tools, React Dev Tools, Data structures (array ,list ,queue ,stack ,dictionary), Algorithms
concepts	(sorting, search), Complexity, Events, Threads
engineering practices	clean code, test first, pair programming, continuous integration, simplicity etc. scrum teams, agile
Linux Operating system and cloud	Introduction to LINUX virtual machine, infrastructure, command line, Dockers, containers, Deployment and AWS cloud process