

BPI2241 Web Application development

Course information

Requirement: practical grade

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Topic

- Overview of web applications
- Frontend fundamentals, HTML Basics
- Practical CSS
- Frontend development with Javascript, ES6+, DOM manipulation, event handling
- Introduction to a frontend framework (React or Angular)
- State management libraries (Redux)
- UI component libraries, responsivity (Bootstrap, Tailwind CSS)
- Server-side technologies overview (Node.JS)
- Database design questions (SQL vs. NoSQL). CRUD operations, RLS policies (Supabase)
- Standards for authorization and authentication (OAuth vs JWT)
- Handling authentication
- End-to-end testing frameworks (Cypress, Jest, Mocha)
- Cloud deployment (Netlify)

Requirements

Students work in pairs and are tasked with creating a real-life, working web project by the end of the semester. The web project must implement the technologies learned during the semester. The practical grade is determined by the percentage of implementation of the learned functions. The minimum requirement is 40% implementation.

Bibliography

- W3Schools CSS Tutorial, <http://www.w3schools.com/css/>
- Eloquent JavaScript (4th Edition) – Marijn Haverbeke, 2024., <https://eloquentjavascript.net/>
- Learning React, 2nd Edition by Alex Banks, Eve Porcello, O’Reilly, 2020.
- Node.js Design Patterns" (3rd Edition) by Mario Casciaro, Luciano Mammino, 2020.
- Online resources & documentation:
 - MDN Web Docs (HTML, CSS, JavaScript) – <https://developer.mozilla.org/>
 - React.js Docs – <https://react.dev/>
 - PostgreSQL Documentation – <https://www.postgresql.org/docs/>
 - Supabase Official Docs: <https://supabase.com/docs>