

# SUPPLEMENT

Crash Course "JS Fundamental". Team Project Stage

**Number of Hours** 150

**Number of ECTS Credits** 5

## LEARNING CONTENT:

### GENERAL TOPICS:

- Development of the project in accordance with the SDLC.
- Features of SCRUM as the main framework for project development.
- Basics of teamwork and distribution of roles.
- Business communication and its role in performance. Effective interaction with key stakeholders.
- GitHub Projects / Jira as tools for organizing project activity.
- Key rules for successful presentation of work results.

### SPECIFIC TOPICS:

- Node.js basic, npm, npx, nvm.
- Babel and Webpack
- React introduction
- React elements
- JSX
- Class components
- State and props
- Component lifecycle
- Conditional rendering
- Functional components
- React hooks
- AJAX and REST API integration
- Handling events
- Unit testing with Jest and React Testing Library
- React routing
- Composition and Context API
- Redux state management
- Higher-order components (HOCs) and custom hooks

- Memoization

## **LEARNING OUTCOMES:**

### **GENERAL:**

- Understand the processes of teamwork and have a responsible attitude to joint activities
- Be able to use the provisions of SCRUM for project development
- Be able to use GitHub Projects / Jira tools
- Be able to communicate effectively with different stakeholders
- Be able to be part of a cross-functional project team
- Be able to present the results of work.

### **SPECIFIC:**

- Understand of core concepts and principles of React: components, props, state, and the Virtual DOM.
- Be able to build and manage React components effectively.
- Know how to use React's state and lifecycle methods to update and manage the state of components.
- Be able to comfortable writing JSX code and understand how it combines HTML-like syntax with JavaScript functionality.
- Know how to create Single-Page Applications using React, manage routing, and handle user interactions effectively.
- Be able to make API calls from React components, handle responses, and update the UI based on the data retrieved from the server.
- Know different techniques and tools for creating unit tests for React applications: able to use frameworks like Jest and React Testing Library

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Mar 17, 2023 – May 26, 2023