Web App Development with the Power of Node.js

Course Description

JavaScript is the most trending programming language on the web today! Facebook, Google, Uber and countless so-called Unicorn startups have now made JavaScript a cornerstone of their technology stack.

This course aims to introduce learners to the basic principles of the JavaScript programming language and to the frameworks that allow building an end-to-end web, mobile and desktop applications in JavaScript.

No prior knowledge is required to attend the course. We will walk you through all the basic aspects of coding in JavaScript. We will then introduce the concepts, approaches and frameworks required to build a complete application in JavaScript. By watching the lectures, completing the hands-on examples, and the assignments, learners will discover how quick, easy and fun it is to create visually appealing, data-driven applications in JavaScript.

Meet the Instructors

Prof. Burkhard Rost - Professor for Computational Biology and Bioinformatics Technische Universität München

Dr. Guy Yachdav - Lead Lecturer on Computer Science
Technische Universität München

Dr. Tatyana Goldberg - Lecturer on Computer Science
Technische Universität München

Christian Dallago, M.Sc. - Lecturer on Computer Science
Technische Universität München

[Dmitrii Nechaev, B.Sc.](#) - Lecturer on Computer Science
Technische Universität München

[Dennis Schwartz, M.Sc.](#) - Lecturer on Computer Science
Technische Universität München

[Sebastian Wilzbach, B.Sc.](#) - Lecturer on Computer Science
Technische Universität München

Learning Outcomes

- Learn to program in JavaScript
- Understand the basic principles of Object-Oriented JavaScript
- Get practical knowledge of the Node.js platform
- Learn how to visualize your data using the popular D3.js library

Weekly Time Commitments

2 to 3 hours per week

Prerequisites

- Familiarity with web browsers and the command line interface would be of advantage
- Basic college level computer science course is encouraged but not required

Course Schedule

Week 1: Language basics

Introduction to first steps of writing proper JavaScript code and the foundations of the language.

Week 2: Functions and Objects

The principles of working with functions and the basics of Object Oriented paradigms are explained.

Week 3: Server-side JavaScript

Introduction to working with Node.js and to writing your first JavaScript-based web application.

Week 4: Data Visualization

Introduction to the beautiful world of data visualization and to how simply and easily give useful insights from data to the world.

Discussion Forums

Each week, we encourage you to engage with others in the class on the discussion forums about issues, themes and arguments presented. Some ground rules for the forums: 1. be respectful of others' views, help each other, keep the conversation on point and subject matter related.

Course Videos

Each week will contain a number of short video lectures. These videos can be watched at slow or fast speed, in full screen or high definition, and with or without closed captioning.

If you'd like to download videos to watch later on your mobile device, share with your friends, or present to your class, go right ahead! All of our content is available for use under a Creative Commons Attribution - ShareAlike License.

Grading

Grading is based on a set of quiz questions that will be assigned at the end of each session.

A note about Upgrades

In case you decide to upgrade during the course, note that previous work will not be saved and you may lose the answer to the quizzes. We recommend that you upgrade before filling out the quizzes to make sure that you do not lost any work.