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| Study Program: INFORMATION TECHNOLOGY |
| Level of Study: Undergraduate Vocational Studies |
| Course Title: CLIENT WEB PROGRAMMING |
| Name of Lecturer: Mladen Janjić |
| Course Language: English |
| Semester: Winter |
| ECTS: 6 |
| Prerequisites: None |
| <p>Course Objectives</p> <p>Familiarity with client (frontend) programming, methods and tools for the development of dynamic web pages and applications based on components, through the application of software frameworks and contemporary technologies. Understanding of JavaScript language, EcmaScript standard, interacting with the client, dynamic rendering and exchange of data with the server without reloading the page.</p> |
| <p>Learning Outcomes</p> <p>Students develop knowledge to create dynamic web applications, exchange data in JSON format between client and server using REST architecture, as well as develop web applications that use Web API services. Through teamwork and application of code version management tools, students acquire the knowledge necessary for effective work on projects in IT companies.</p> |
| <p>Topics Summary</p> <p><i>Lectures</i></p> <p>Client-side programming and the JavaScript programming language. EcmaScript standard and its versions, EcmaScript 6 (2015) and later. Advantages and disadvantages of the JavaScript language and its alternatives (TypeScript), alternatives to client script languages (Web Assembly). Trends in dynamic web application development, REST architecture and RESTful application development.</p> <p><i>Practical Classes</i></p> <p>Showcase of examples with dynamic web pages and applications using the JavaScript language. Using JSON format to exchange data with Web API services. Development of dynamic web applications using Angular software framework. Mini-project – developing web application in teams using the Github Classroom service and the Git tool for managing versions of program code.</p> |
| <p>Readings</p> <ol style="list-style-type: none"> 1. Laurence Lars Svekis, Maaïke Van Putten, Rob Percival, <i>JavaScript from Beginner to Professional: Learn JavaScript quickly by building fun, interactive, and dynamic web apps, games, and pages</i>, Packt Publishing Ltd., Birmingham, UK, 2021. (ISBN: 978-1800562523) 2. Robin Nixon, <i>Learning PHP, MySQL & JavaScript: A Step-by-Step Guide to Creating Dynamic Websites</i>, 7th edition, O'Reilly Media, Sebastopol, CA, USA, 2025. (ISBN: 978-1098152352) 3. Nicolás Bevacqua, <i>Practical Modern JavaScript: Dive into ES6 and the Future of JavaScript</i>, O'Reilly Media, 2017. (ISBN: 978-1491943533, free online edition: https://ponyfoo.com/books/practical-modern-javascript) 4. Marijn Haverbeke, <i>Eloquent JavaScript</i>, No Starch Press, 4th ed., 2024. (ISBN: 978-1718504103, free online edition: https://eloquentjavascript.net). 5. Douglas Crockford, <i>JavaScript: The Good Parts</i>, O'Reilly, 2008. (ISBN: 978-0596517748, free online edition from 2023: https://github.com/dwyl/JavaScript-the-Good-Parts-notes) 6. Axel Rauschmayer, <i>Exploring ES6 – Upgrade to the next version of JavaScript</i>, Leanpub, 2018. (free online edition: https://exploringjs.com/es6/index.html) 7. Mozilla Developer Network (MDN) JavaScript Resources: https://developer.mozilla.org/en-US/docs/Web/JavaScript 8. Microsoft, The TypeScript Handbook: https://www.typescriptlang.org/docs/handbook/intro.html 9. Official documentation and resources for Angular framework: https://angular.io |

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| Active teaching hours: 4 | Lectures: 2 | Practical classes: 2 | |
| Methods of instruction | | | |
| <i>Lectures:</i> Classical methods of teaching in combination with presentations and active interaction with students. | | | |
| <i>Practical classes:</i> Examples that show step-by-step development of a web application with knowledge presented in lectures. | | | |
| Examination methods (maximum 100 points) | | | |
| Exam prerequisites | 40 | Final exam | 60 |
| Activity during lectures | 10 | Paper test | 30 |
| Test | 20 | Project presentation | 30 |
| Project plan | 10 | | |

| ECTS Grading system | | | |
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| Local Grade | Description | Points | ECTS grade |
| 10 | Excellent | 91 – 100 | A |
| 9 | Exceptionally good | 81 – 90 | B |
| 8 | Very good | 71 – 80 | C |
| 7 | Good | 61 – 70 | D |
| 6 | Passing | 51 – 60 | E |
| 5 | Failing | 0 – 50 | F |