Course title: Web Technologies

Course code: 63727

ECTS: 6 ECTS

Professor: Aleš Smrdel

Undergraduate program

Prerequisite knowledge:

- Familiarity with markup languages is recommended for seamless web page creation.
- Programming skills - Prior knowledge of programming is essential, but no specific language is required. Students will gain proficiency in languages (in brackets) during the semester:
    o Creating dynamic client-side Web pages (JavaScript).
    o Simple server development (Python).
    o Server-side Web application development (PHP, SQL).
- Basic Database Management:
    o Understanding database operations: A basic grasp of working with databases is recommended.

Short course description:

- Architecture and Functioning of the Internet and the Web:
    o Gain insights into the structure and operations of the Internet and the Web.
- Understanding the Dynamics of Web Page Creation:
    o Delve into the principles governing the dynamic creation of web pages.
- HTML and CSS:
    o Explore the fundamentals of HTML and CSS for effective web design.
- Dynamically Generating Client-Side Web Pages:
    o Learn JavaScript, essential APIs, event handling, and important libraries for dynamic client-side web page generation.
- Single-Page Applications and Progressive Applications:
    o Understand the concepts behind single-page and progressive web apps.
- Dynamically Generating Server-Side Web Pages:
    o Develop proficiency in PHP for dynamic server-side web page generation.
- Managing Data on the Server – SQL, ORM:
    o Learn about server-side data management using SQL and Object-Relational Mapping (ORM) techniques.
- Master the Art of Data Transfer on the Web:
    o Explore XML, Ajax, Server-Sent Events, Long Polling, and WebSocket technologies.
- Uncover the Concept of the Semantic Web:
    o Explore meta-data, ontologies, and intelligent agents contributing to the concept of the semantic web.
- Web Services:
    o Gain insights into SOAP and RESTful web services.

- Data Security:
  - Understand encryption algorithms such as DES, AES, and RSA, along with certificates and public keys.
- Privacy Protection:
  - Explore privacy protection measures in web applications.
- GDPR and Other Legislation Connected to Cookies