COURSE DESCRIPTION – ACADEMIC YEAR 2023/2024

<table>
<thead>
<tr>
<th>Course title</th>
<th>Web and Internet Engineering</th>
<th>Course code</th>
<th>76442</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific sector</td>
<td>INF/01</td>
<td>Degree</td>
<td>Bachelor in Informatics and Management of Digital Business (L-31)</td>
</tr>
<tr>
<td>Semester</td>
<td>2</td>
<td>Credits</td>
<td>5</td>
</tr>
<tr>
<td>Year</td>
<td>1</td>
<td>Modular</td>
<td>No</td>
</tr>
<tr>
<td>Total lecturing hours</td>
<td>30</td>
<td>Total lab hours</td>
<td>20</td>
</tr>
<tr>
<td>Attendance</td>
<td>Not compulsory, but recommended</td>
<td>Prerequisites</td>
<td>Knowledge of at least one programming language</td>
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<tr>
<td>Course page</td>
<td><a href="https://ole.unibz.it/">https://ole.unibz.it/</a></td>
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Specific educational objectives

The course belongs to the type "attività formative caratterizzanti – discipline informatiche". It deals with the design and development of web-based applications providing practical knowledge and skills required for designing and building them. The principles for the design and development of the client-side and server-side parts of an application will be illustrated.

Lecturer

Markus Zanker

Contact

Piazza Domenicani 3, Office POS 2.20, markus.zanker@unibz.it, +39 0471 016977

Scientific sector of lecturer

INF/01

Teaching language

German

Office hours

To be announced in OLE, prior appointment by email, office POS 2.20, Faculty of Computer Science.

Lecturing Assistant (if any)

TBD

Contact LA

TBD

Office hours LA

TBD

List of topics

- Development of web applications: basics of usability, accessibility and responsive design
- Web protocols and markup languages
- Client-side dynamicity and web scripting languages
- Client-side GUI frameworks
- Basics of web application design and server-side web development

Teaching format

- Lectures
- Small exercises and regular assignments
- Work in teams

Learning outcomes

Knowledge and understanding:
- D1.3 - Know the basic principles of programming.
D1.8 - Know the basics of designing and building web applications.

Applying knowledge and understanding:
- D2.2 - Ability to solve algorithmic problems using programming methods.
- D2.8 - Ability to develop applications in the web area.
- D2.17 - Know how to manage small projects for the development of information systems and how coordinate small working groups.

Communication skills
- D4.4 - Ability to structure and prepare technical documentation
- D4.5 - Ability to collaborate in interdisciplinary teams to achieve IT objectives.

Learning skills
- D5.3 - Ability to follow rapid technological developments and to learn about innovative aspects of the latest generation of information technology and systems.

Assessment
The assignments aim at ensuring a continuous interaction with the course content and will be assessed according to correctness and completeness.
The project activity aims at assessing how students approach the development of a web-based application and how they interact with each other in order to achieve a common goal. The written exam assesses the acquisition and the understanding of the theoretical knowledge presented during lectures.

Assessment language
German

Assessment Typology
Monocratic

Evaluation criteria and criteria for awarding marks
Written exam [50%], assignments [20%] and a project [30%]. The project and the assignments are valid for the 3 regular exam sessions within the same academic year. Assignments need to be submitted during the course of the semester, the project can be presented before the written exam of the first exam session or during one of the following 2 regular exam sessions. More details will be given during the lectures and in the OLE / TEAMS course.

Required readings
Lecture materials at the course page in OLE / TEAMS.

Supplementary readings
Links to mainly online resources will be provided in the OLE / TEAMS course.

Software used
- HTML5 and CSS
- JavaScript, node.js and React
- NGINX and MongoDB