

<b>Module description: Web Development</b>	
<b>Module Code</b>	t.BA.IT.WBE.10HS
<b>ECTS Credits</b>	4
<b>Language of Instruction/Examination</b>	German
<b>Organizational Unit</b>	InIT
<b>Module Coordinator</b>	Gerrit Burkert
<b>Legal Framework</b>	The module description is part of the legal basis in addition to the general academic regulations. It is binding. During the first week of the semester a written and communicated supplement can specify the module description in more detail.
<b>Module Characteristic</b>	Type 3a  2 lecture lessons per semester week and class+ 2 lab bi-weekly lessons per semester and half-class
<b>Module Description</b>	Introduction to current web technologies
<b>Module Content</b>	<p><b>Web technologies play a central role in IT today.</b></p> <p><b>Introduction to JavaScript and Node.js (12 Lessons)</b></p> <ul style="list-style-type: none"> <li>- JS Engines, ECMAScript- and JavaScript versions and alternatives, transpiler</li> <li>- Basics: variables, data types, arrays, functions</li> <li>- Object Model: objects, constructors, prototypes, classes</li> <li>- Asynchronous function execution, callbacks, event queue, promises</li> <li>- Webserver with Node.js: module system, JSON, RESTful APIs</li> </ul> <p><b>JavaScript in the browser (8 Lessons)</b></p> <ul style="list-style-type: none"> <li>- Document Object Model</li> <li>- Event handling in the browser</li> <li>- Asynchronous client server communication (Ajax, Fetch API)</li> <li>- State (Cookies, Sessions) and Authentication</li> </ul> <p><b>Web framework (8 Lessons)</b></p> <ul style="list-style-type: none"> <li>- Developing a framework for single page applications</li> <li>- Component architecture and render method</li> <li>- State of components, properties, component types</li> <li>- Life cycle of components</li> <li>- Event handling and routing</li> <li>- State container</li> </ul>

## Module description: Web Development

<b>Prerequisite Knowledge</b>	HTML and CSS Basics <ul style="list-style-type: none"> <li>• Elements, tags, attributes</li> <li>• Structure of an HTML document</li> <li>• Hyperlinks, images, lists</li> <li>• CSS rules, selectors</li> <li>• Text formatting with CSSBox model and positioning elements</li> </ul> Recommended tutorial: Learn to Code HTML & CSS From Lesson 1 „Building Your First Web Page” to Lesson 9 „Adding Media” <a href="https://learn.shayhowe.com/html-css/">https://learn.shayhowe.com/html-css/</a>																								
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