

# Web Engineering Fundamentals – Developing Dynamic Web Sites and Applications

in co-operation with  
**Intel Corporation, Microsoft and University Côte d’Azur**

The course "Web Engineering Fundamentals" introduces HTML5, CSS, JavaScript, jQuery, PHP and MySQL as programming and markup languages that are used to develop dynamic web sites and applications. The learner will gain experience with each language individually and then combine them together to create compelling web application solutions.

This course teaches basic tasks that are necessary to create web sites and applications with a strong semantic structure, re-usable style components and custom interactive features. This course includes hands-on labs that enable the learner to build basic web application used to solve real world problems.

The course is based on Massive Open Online Courses (MOOCs) from the Intel Corporation, Microsoft and University Côte d’Azur and is supervised by Prof. Dr. rer. nat. Dipl. Ing. Partsch. After a block event it’s possible to join the course environmentally friendly, time-saving and comfortable from home.

<b>Course Title</b>	<b>Web Engineering Fundamentals</b>
<b>Person in Charge</b>	Prof. Dr. Gerhard Partsch
<b>Type of Course</b>	Combined lecture, seminar and colloquium with the use of supervised Massive Open Online Courses. Environmentally friendly participation via web conferencing from home.
<b>Course Level</b>	Level 1 – introduction course
<b>Prerequisites</b>	No prerequisites required
<b>SWS / Lessons per week</b>	4
<b>Total Semester Hours</b>	60 hrs lecture / 90 hrs independent / 150 hrs total
<b>ECTS (Credits)</b>	5
<b>Course Assessment</b>	E-portfolio and final programming project
<b>Course Language</b>	English
<b>Name of Instructor</b>	Prof. Dr. Gerhard Partsch
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>• Basic and advanced HTML markup and structure</li> <li>• Basic and advanced CSS Style Definitions</li> <li>• Designing page layout through relative positioning with CSS</li> </ul>

	<ul style="list-style-type: none"> <li>• How to add JavaScript code in a Web site/Web app and how to debug it</li> <li>• How to change the CSS styles of HTML5 elements from JavaScript</li> <li>• How to integrate jQuery in a Web site/Web app and how to debug it</li> <li>• How to make server-side calls using JavaScript</li> <li>• How to enhance the user interface of a websites by using jQuery</li> <li>• Server-Side Programming with PHP and MySQL</li> </ul>
<b>Course Content</b>	<ul style="list-style-type: none"> <li>• Internet and Web Fundamentals</li> <li>• Client Side Programming <ul style="list-style-type: none"> <li>• HTML5</li> <li>• CSS</li> <li>• JavaScript</li> <li>• jQuery</li> </ul> </li> <li>• Server Side Programming <ul style="list-style-type: none"> <li>• PHP</li> <li>• MySQL</li> </ul> </li> </ul>
<b>Teaching Methods</b>	<p>Combined lecture, seminar and colloquium with the use of Massive Open Online Courses (MOOCs).</p> <p>Student-centered approach: Inquiry-based and cooperative Learning</p>
<b>Textbook / Online Course</b>	<p>Massive Open Online Courses (MOOC) from</p> <ul style="list-style-type: none"> <li>• Intel Corporation: <a href="#">HTML5 and CSS Fundamentals</a></li> <li>• University Côte d'Azur: <a href="#">JavaScript Introduction</a></li> <li>• Microsoft: <a href="#">Introduction to jQuery</a></li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>• The lecture starts with a block event</li> <li>• After the block event at the beginning of the course it's possible to join the lectures environmentally friendly, time-saving and comfortable from everywhere (e.g. from home) via web conferencing offered for free by Deggendorf Institute of Technology</li> </ul>