

Web Engineering Fundamentals – Developing Dynamic Web Sites and Applications

in co-operation with
Intel Corporation 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.

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

	<ul style="list-style-type: none"> • How to add JavaScript code in a Web site/Web app and how to debug it • How to change the CSS styles of HTML5 elements from JavaScript • How to integrate jQuery in a Web site/Web app and how to debug it • How to make server-side calls using JavaScript • How to enhance the user interface of a websites by using jQuery • Server-Side Programming with PHP and MySQL
Course Content	<ul style="list-style-type: none"> • Internet and Web Fundamentals • Client Side Programming <ul style="list-style-type: none"> • HTML5 • CSS • JavaScript • jQuery • Server Side Programming <ul style="list-style-type: none"> • PHP • MySQL
Teaching Methods	<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>
Textbook / Online Course	<p>Massive Open Online Courses (MOOC) from</p> <ul style="list-style-type: none"> • Intel Corporation: HTML5 and CSS Fundamentals • University Côte d'Azur: JavaScript Introduction
Miscellaneous	<ul style="list-style-type: none"> • The lecture starts with a block event • 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