Basic data of the subject	
University:	**University of Applied Sciences in Ferizaj**
Academic unit:	**Faculty of Engineering and Informatics**
Program:	**Applied Informatics**
Title of the subject:	**Web Programming**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of studies:	**II, Semester III**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	
Contact details:	
Course Description:	*This course provides an introduction to the world of the World Wide Web including getting started tasks like setting up a web server and writing your first web pages. The course considers the Document Object Model to create the structure of web pages as a tree diagram. Students learn how to make pages more interactive using JavaScript and the jQuery library, as well as client and server data transfer using JSON and AJAX. The rest of the course focuses on various RESTful web concepts using a Java Server programming language such as Faces or node.js. Lenda also controls the context of the version with git and github, the deployment of the server on a cloud platform, based on data records for data records, as well as an analysis of technology based on NoSQL and SQL of websites.*
Objectives of the course:	*This is a module for students with some prior experience of programming. The primary objective of the course is for the students to gain practical experience with "full-stack" web development. Students will explore the architecture of web applications and the technologies that are used in the three main components: client, server and data store.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Understand the architecture of web applications and the internet technologies that underpin clicking on a link and fetching a web page.* • *Use appropriate programming languages for the application logic in the browser and on the server.* • *Use database technologies to store persistent data for a web application.* • *Use tools for version control and deployment.*
Prerequisites:	*Basic knowledge of programming and website development.*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**
Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			
Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
Total			**125**

Teaching methodology:	*The course takes 15 weeks with 1.5 hours of lectures and 1.5 hours weekly individual and group exercises.* *Exercises will be held in the form of individual and group work in which concrete examples will be discussed.* *Active participation is extremely important so students are encouraged to attend lectures and exercises regularly and contribute to the discussions that take place in lectures. Lectures, exercise, individual work, discussions and group work.*
Assessment methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Evaluation with colloquiums and project* *2. Form 2: Evaluation with the final exam.* ***Form 1:*** *In the first form of assessment "Assessment with colloquiums and project" the student is assessed in four activities that are carried out during the lectures:* *1. Colloquium 1 (35%), individual assessment* *2. Colloquium 2 (35%), individual assessment* *3. Class activity (10%), individual assessment* *4. Project (20%), group assessment.* *If the student is not satisfied with the assessment achieved according to form 1, then he can undergo the assessment according to form 2 to obtain a higher assessment.* ***Form 2:*** *Through the final exam, the student can achieve a maximum of 70% of the points from the total of 100 points.*

	The rest of the 20% points must be completed by group work in the Project, an activity carried out during the lectures. *In Colloquium 1, Colloquium 2 and the final exam, the evaluation of the students will be done through an evaluation form, which must be completed individually by the student. The evaluation form will contain 5 tasks through which the student's learning outcomes will be evaluated.* *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures.* *Project (20%), group assessment: it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out in groups of 3 or 4 students who are obliged to carry out the activity, document and present it to the subject professor.* ***Rating:*** *91-100 points – graded 10 (ten)* *81-90 points – graded 9 (nine)* *71-80 points – grade 8 (eight)* *61-70 points – grade 7 (seven)* *51-60 points – grade 6 (six)* *0-50 points – The student repeats the exam*
The ratio of theory and practice:	*70% theory with numerical and 30% laboratory work.*
Literature	
Basic Literature:	1. *"Internet and World Wide Web How To Program", (5th Edition) by Harvey & Paul) Deitel & Associates (Author), Harvey Deitel (Author), Abbey Deitel (Author), (2012)*
Additional Literature:	2. *Hogan, B.P., Warren, G, Weber, M., Johnson, C. and Godin, A., 2012. Web Development Recipes.*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introduction to the World Wide Web, First tasks including setting up a web server and writing first web page.*
Week two:	*The Document Object Model and how web pages are represented as tree diagrams.*
Week three:	*Making web pages more interactive with JavaScript and the jQuery library.*
Week four:	*Transferring data between client and server with JSON and AJAX.*
Week five:	*Software as a Service: writing RESTful web services.*

Week six:	*The concepts will be illustrated with an appropriate server-side programming language for example: Java Server Faces or node.js.*
Week seven:	*Test 1*
Week eight:	*Version control with git and github.*
Week nine:	*Deploying a web server on a cloud platform.*
Week ten:	*Deploying a web server on a cloud platform (continued)*
Week eleven:	*The data store: using a database to store persistent data.*
Week twelve:	*The data store: NoSQL vs SQL comparison.*
Week thirteen:	*An appropriate database technology will be chosen for practical examples.*
Week fourteen:	*Web analytics.*
Week fifteen:	*Test 2*
Academic policies and rules of conduct	
Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.	