Course Name : .NET Technology

Course Code	Course Type	Regular Semester	Lecture (hours/week)	Seminar (hours/week)	Lab. (hours/week)	Credits	ECTS
CMP 313	B	Fall	2.00	0.00	2.00	3.00	6.00

Lecturer	Sajdi Pashollari, Msc
Assistant	Elsid Miraka, Msc
Course language	Albanian
Course level	Bachelor
Description	The course provides basic knowledge for building web applications based on .Net technologies. At the end of this course, students will be familiar with ASP.NET (C #), SQL Server platforms and will be able to create interactive web applications. Throughout this course, students will build complete working software, which will be enough for students to acquire skills of group development work and to apply the knowledge gained during this course to build their personal or professional applications.
Objectives	The course provides basic knowledge for building web applications based on .Net technologies. At the end of this course, students will be familiar with ASP.NET (C #), SQL Server platforms and will be able to create interactive web applications. Throughout this course, students will build complete working software, which will be enough for students to acquire skills of group development work and to apply the knowledge gained during this course to build their personal or professional applications.
Core Concepts	HTML CSS JAVASCRIPT C# MODELS WEB API ENTITY FRAMEWORK SQL HTTP REQUESTS & RESPONSES

Course Outline

Week	Topic
1	WEB applications, architecture of Web applications Revision of HTML & CSS
2	Javascript
3	Continue on Javascript, Object document model-DOM, Ajax
4	Introduction to C# It is created by Microsoft and throughout the course will be used to build all the main components of the application.
5	Continue on C#, Object oriented programming in C#, Inheritance, Polymorphism
6	Exercises with C # (practice)
7	Introduction to ASP, architecture ASP.NET is the framework that we will use to build the back-end part. The programming language used will be C # and the framework will be .NET Core 5.0 Page lifecycle, controllers C #
8	Middterm
9	Controllers in .NET To control the flow of an application in .NET applications and beyond we use controllers. In this course, students will learn how to build controllers in C #. State management Situation management For a better experience in applications, it is very important to understand the concept of state management.
10	Navigation/Page navigation Once an application is built to navigate from one page to another we use a concept called navigation. Navigation helps us to easily switch from one page to another for the display of new data.

11	Input validation checks When we provide new data in a form it is very important that the data we provide is controlled so that the user provides only the necessary data. Input validation is done both at the front-end and at the back-end.
12	ASP connection to SQL An application makes sense when front-end manipulated data is stored somewhere in a database. Throughout this course, we will use a SQL database.
13	Entity Framework To communicate a Web API with the SQL Database in our case we will use a framework called Entity Framework which serves as an intermediary between the models of an API and the tables of a database.
14	Form authentication Authentication is the first step commonly used to secure applications. Through authentication you allow your application to be used only by authorized persons
15	AJAX controls in ASP.NET, JQuery The controllers in AJAX are used to send an HttpRequest in the back-end and to receive a response in the front-end.
16	Final Exam

Prerequisites	The student must attend the course at a minimum rate of 75%.
Literature	• .Web Applications Development with Microsoft® .NET Framework 4 Tony Northrup Mike Snell
References	• Beginning ASP.NET 4.5.1 in C# and VB, Imar Spaanjaars

Course Outcome

1	By the end of the course, students will have a foundational knowledge for building web applications based on .NET technology.
2	Students will become familiar with ASP.NET (C#), SQL Server, and will be able to create interactive web applications.

Course Evaluation

In-term Studies	Quantity	Percentage
Midterms	1	25
Quizzes	0	0
Projects	1	30
Term Projects	0	0
Laboratory	1	5
Class Participation	0	0
Total in-term evaluation percent		**60**
Final exam percent		**40**
Total		**100**

ECTS Workload (Based on Student Workload)

Activities	Quantity	Duration (hours)	Total (hours)
Course duration (Including the exam week: 16x Total hours of the course)	16	4	64
Study hours outside the classroom (Preparation, Practice, etc.)	14	4	56
Duties	1	4	4
Midterms	1	6	6
Final Exam	1	10	10
Other	0	0	0
Total Work Load			**140**
Total Work Load / 25 (hours)			**5.60**
ECTS			**6.00**