

<b>Study Programme: MA, MB, M5</b>			
<b>Course Unit Title:</b> Programming 3			
<b>Course Unit Code:</b> MB34			
<b>Name of Lecturer(s):</b> Đorđe Herceg			
<b>Type and Level of Studies:</b> Master Academic Degree			
<b>Course Status (compulsory/elective):</b> Elective			
<b>Semester (winter/summer):</b> Winter			
<b>Language of instruction:</b> Serbian			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face-to-face / distance learning optional			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites:</b> Programming 2			
<b>Course Aims:</b> Acquisition of knowledge and skills in advanced object-oriented programming, using the C# programming language. Modeling and solving of real-life mathematical and programming problems. Algorithmic thinking and precise formulation of notions pertinent to object-oriented programming. Practical use of integrated development environment and debugger.			
<b>Learning Outcomes:</b> The students are taught the principles of object-oriented programming paradigm, particularly how to put classes, inheritance and data structures to good use while solving real-life problems and tasks. They will learn to development GUI applications, trace the program flow and debug them. The course also covers development of software components and libraries, as well as software interoperability. The exercises are based on real-life problem modeling and solving.			
<b>Syllabus:</b>			
<i>Theory</i>			
Data types and structures. Generic data types. Classes and inheritance. GUI development. File operations. State persistence. Computer graphics. Software libraries. Design patterns. Examples of real-life problem modeling and solving.			
<i>Practice</i>			
Practical exercises closely follow the lectures. Examples from lectures are practically implemented.			
<b>Required Reading:</b>			
1. J. Sharp, C# Step by Step, Microsoft Press, 2009.			
2. W. Dos Passos, Numerical Methods, Algorithms and Tools in C#, CRC Press, 2009.			
<b>Weekly Contact Hours:</b>	<b>Lectures: 2</b>	<b>Practical work: 3</b>	
<b>Teaching Methods:</b>			
Theoretical lectures. Hands-on lab exercises and quizzes.			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	Points	<b>Final exam</b>	Points
Practical work	20	practical exam	40
Preliminary exam(s)	40	oral exam	
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			