



Country BULGARIA	Institution Vasil Levski National Military University	Course <b>PYTHON Programming Fundamentals</b>	ECTS <b>5.0</b>
Service <b>All</b> Languages <b>English, Bulgarian</b>	Minimum Qualification for Lecturers <ul style="list-style-type: none"> <li>English: Common European Framework of Reference for Languages (CEFR) Level B1 or NATO STANAG 6001 Level 2.</li> <li>Adequate pedagogical and psychological competences.</li> <li>Teaching is committed to creating a basis for designing and programming Python modules that can be integrated with other programs</li> <li>Thorough knowledge of the topic taught.</li> </ul>		
Prerequisites for international participants: <ul style="list-style-type: none"> <li>English: Common European Framework of Reference for Languages (CEFR) Level B1 or NATO STANAG Level 2.</li> <li>Introduction to Programming (Python) or an equivalent knowledge</li> </ul>		Goal of the Course: <ul style="list-style-type: none"> <li>Learn the Python Programming languages.</li> <li>Knowledge of the main programming concepts and all Python basics needed.</li> <li>To become a junior Python programmer by self-programming.</li> </ul>	

<b>Learning outcomes</b>	Knowledge	<ul style="list-style-type: none"> <li>Main programming concepts (loops, variables, control structures, etc.).</li> <li>Using professional development environments to work on your code.</li> <li>Basic Python syntax.</li> <li>Breaking a problem into small parts and building an algorithm for a program.</li> <li>Writing well readable code.</li> <li>Applying ready-made solutions in your code: modules and functions.</li> </ul>
	Skills	<ul style="list-style-type: none"> <li>Apply the gained knowledge at university or at work to automate routine tasks.</li> <li>Set up working project environments.</li> <li>Write command-line programs with documentation.</li> <li>Make portable Python modules that can be integrated with other programs.</li> </ul>
	Competences	<ul style="list-style-type: none"> <li>Describe the principles of programming.</li> <li>Capability to integrate Python modules with other programs.</li> <li>Capability of maintaining and modifying Python modules.</li> <li>Export/import data from/into other projects.</li> </ul>

<b>Verification of learning outcomes</b> <ul style="list-style-type: none"> <li><b>Tests:</b> At the end of each topic of the course students must complete specific practice quiz.</li> </ul>
--



Erasmus Course  
**PYTHON Programming Fundamentals**  
Description

Vasil Levski National Military University  
Doc.: ES/2018/08  
Date: 12-08-2018  
Origin: BG VELIKO02

- **Project:** Self design of database project.

Course Details		
Main Topic	Recommended WH	Details
Programming basics	14	<ul style="list-style-type: none"><li>• Introduction to programming</li><li>• Main programming concepts</li><li>• Variables</li><li>• Conditions, complex conditions</li><li>• Loops, nested loops</li><li>• Structures</li><li>• Functions</li><li>• Exercises</li></ul>
Basics of the Python language	22	<ul style="list-style-type: none"><li>• Introduction to Python</li><li>• Naming a Variable</li><li>• Basic Operators</li><li>• Data Types in Python</li><li>• Making Your Program Interactive</li><li>• Condition Statements</li><li>• Loops</li><li>• Functions and Modules</li><li>• Working with Files</li><li>• Libraries</li><li>• Exercises</li></ul>
Make apps with Python	16	<ul style="list-style-type: none"><li>• PyCharm</li><li>• How to make web apps</li><li>• How to build an app for Android</li><li>• Using Python on Arduino/Pi</li><li>• Exercises</li></ul>
Course project - create a Python application	8	<ul style="list-style-type: none"><li>• Small Python project</li><li>• Project presentation.</li></ul>
Total	60	