

Course Title: MATLAB Programming	
Institute/Division:	Department of Automation and Computer Engineering Faculty of Electrical and Computer Engineering
Course code:	E-MP
Erasmus subject code:	0610 Information and Communication Technologies (ICTs)
Number of contact hours:	45
Course duration:	1 semester (Fall/Winter)
ECTS credits:	6
Course description:	<p>Introduction to MATLAB development environment, developing scripts and functions. Matrix, table and other data types.</p> <p>Solving algebraic and differential equations, using Symbolic Math Toolbox. Object oriented programming, handle graphics and graphics processing. Parallel computing and other programming tips. Modeling, simulation and control with MATLAB, Simulink, Stateflow and Control System Toolbox. Embedded MATLAB.</p> <p>Laboratory concerns on practical approach to the topics covered during the lectures. During the course scripts and functions solving problems of varying complexity are created. Such functions solve simple math problems using matrices, tables and other data types. The issues of computer graphics and image processing are also discussed.</p>
Course type:	Lectures (20h), Computer laboratory (20h), Project (5h)
Literature:	<p>Tobin A. Driscoll, <i>Learning MATLAB</i>, SIAM 2009</p> <p>MATLAB homepage resources: www.mathworks.com</p> <p>B. Mrozek, Z. Mrozek, <i>MATLAB i Simulink, Poradnik użytkownika</i> (MATLAB and Simulink, 3e: User's Guide – in Polish, for reference only)</p>
Assessment method:	Assessment of the development of the issue in the computer laboratory
Prerequisites:	Any programming language
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