

DOBRA Mirela

Nr.crt.	Titlu lucrare	Scurta descriere	Cerinte	Nivel (licenta/master)
1	Monotorizarea, achizitia si controlul turatiei / pozitiei unui motor BLDC	Utilizarea kitului dsPICDEM™ MCLV-2 Development Board (Low Voltage)	Python, Matlab; Functionarea motorului BLDC PM	licenta
2	Evaluation and trends of power quality indices in distribution system	responsive and resilient systems, essential for accommodating future energy demands	Total Harmonic Distortion (THD) with Windowing and Averaging. Matlab implementation and testing. Evaluate different scenarios.	licenta
3	Testarea performanțelor kitului de gestionare a panourilor solare	Utilizare Solar Micro Inverter Development Kit (http://www.ti.com/tool/TMDSS_OLARUINVKIT)	Cunostinte de Python, Matlab; Testare functionare inverter disponibil pe kittul de dezvoltare	licenta
4	Root Locus method – a comparison to modern control approaches	LTI system control techniques	Advanced theoretical knowledge in the control algorithms for LTI systems	licenta
5	Frequency response (Nichols diagrams) - a comparison to modern control approaches	LTI system control techniques	Advanced theoretical knowledge in the control algorithms for LTI systems	licenta
6	Canonic Goertzel algorithm and drawbacks of various Goertzel algorithm formulations	Mathematical background for Discrete Fourier transform (DFT)	Mathematical formulation for practical, clear, and intuitive implementation on STM32 family microcontrollers; audio spectral analysis; designing / testing the algorithm in Matlab	master

7	Design and implementation of perturbation observerbased sliding-mode control for second order systems	Discrete time implementation	Advanced theoretical knowledge in the analysis of LTI systems	master
8	Modelling and simulation of essential oil extractors	Use of mathematical models for LTI systems	Utilizarea algoritmilor din Matlab dedicați modelării și simulării sistemelor LTI	master
9	MPPT solar charge controller	Solar Micro Inverter Development Kit (http://www.ti.com/tool/TMDSS_OLARUINVKIT)	Medium knowledge of C/ C++ Advanced theoretical knowledge in the control algorithms for LTI systems	master
10	Reduced code generation for data acquisition	Simulink Coder™ (formerly Real-Time Workshop®) generates and executes C and C++ code from Simulink® diagrams, code outside MATLAB and Simulink	Medium knowledge of C/ C++	master
11	Reduced code generation for data processing	Simulink Coder™ (formerly Real-Time Workshop®) generates and executes C and C++ code from Simulink® diagrams, code outside MATLAB and Simulink.	Advanced Matlab user	master