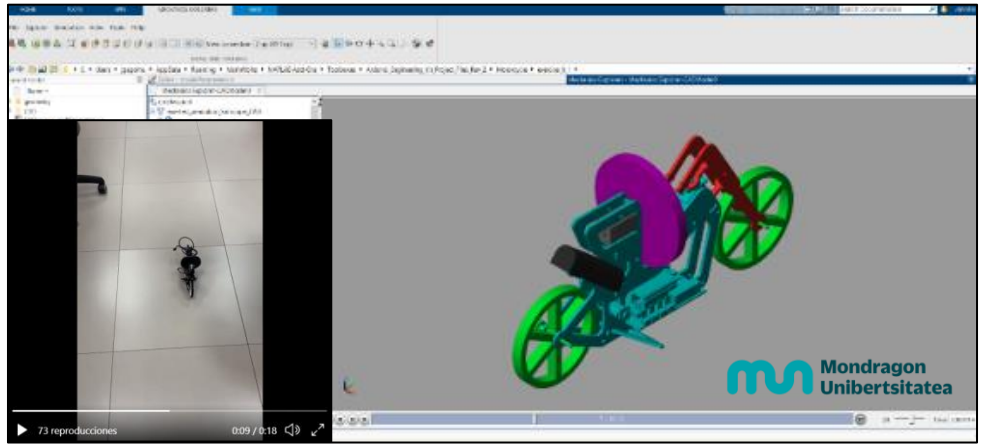
Mondragon University implements Project-Based Learning with the Arduino® Engineering Kit

Dr. Aitor Arrieta, Mondragon University

Academic satisfaction surveys revealed that the study of cyber-physical systems within the framework of Computer Sciences was not particularly appealing to university students. Prof. Aitor Arrieta, from Mondragon University, opted for overcoming this situation and improving student motivation by applying Project-Based-Learning with MATLAB®, Simulink®, and the Arduino Engineering Kit.

This teaching project makes it possible to learn about controls, system modeling, image processing, robotics, and other important engineering concepts while enhancing students programming skills. Such multidisciplinarity allows Mondragon University to apply the generated modular teaching contents to 12 different laboratory courses from 6 different undergraduate and postgraduate degrees.

> “Complementing appealing **simulation tools** with modular mockups allows students to experience the physical part, which results in a more **complete and attractive learning experience**.”



Advantages of using MATLAB and Simulink:

- Hands-on experience in system modeling, embedded algorithm development, etc.
- Rapid creation of physical systems models with Simscape™.
- Embedded Coder automatically generates equivalent C code for Arduino.
- With Simulink’s External mode, students can debug and adjust the code live.

Bring MATLAB, Simulink, and Arduino to the engineering classroom
https://www.mathworks.com/campaigns/products/arduino-kit.html

GitHub repository: https://github.com/MU-MATHWORKS

Watch video here