Automation and Control Systems Laboratory

Room Number: H 117/ I 112

Faculty In Charge: Dr. Jong Woon

Teaching Assistant In Charge: Eng. Samer Abdel Azim

dSPACE DAQ System

The system is equipped with DS1005 processor board that has ample power for most cases. DS2004 high speed A/D data acquisition board and CP2004 connector panel are also included.

Category: Measuring Equipment

Courses: NA

Arduino Due Board

The Arduino Due is a microcontroller board based on the Atmel SAM3X8E ARM Cortex-M3 CPU. It has 54 digital input/output pins (of which 12 can be used as PWM outputs), 12 analog inputs, 4 UARTs (hardware serial ports), a 84 MHz clock, an USB OTG capable connection, 2 DAC (digital to analog), 2 TWI, a power jack, an SPI header, a JTAG header, a reset button and an erase button.

Category: Auxilliary

Courses: NA

Modular Servo System

Modular Servo Workshop is based on the Modular Servo System MS150. In addition to the standard MS150 analogue control & design system, the present format

Category: Teaching Equipment

Courses: Control Systems

Twin Rotor MMO System

The Twin Rotor MIMO (multiple input, multiple output) system provides a high-order, non-linear system with significant cross-coupling. Both PID and State Feedback controllers are installed as embedded controllers in the real-time kernel software

Category: Teaching Equipment

Courses: Control Systems

Digital Pendulum Control System

The Digital Pendulum Control System provides experiments on an inverted balanced pendulum using digital control techniques. It is a single input, single output, non-linear system. The pendulum is self-erecting and can also operate in crane mode.

Category: Teaching Equipment

Courses: Control Systems

Digital Servo Workshop

This System comprises, Mechanical Unit 33-100 with input and output potentiometers, motor, tacho-generator, absolute and incremental encoder, and on-board waveform generators. Both position and speed controls can be done through a digital control system linked to the equipment.

Category: Teaching Equipment

Courses: Control Systems

Magnetic Levitation System

The Magnetic Levitation system presents this classic control problem of sustaining a metalic ball in an electromagnetic field with both analogue and digital solutions. The suspended body is a 25mm hollow steel ball. In the analogue mode the system is fully self-contained. In the digital mode it operates with MATLAB/Simulink software.

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Courses: Control Systems

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Allen Bradley Industrial PLC

The Allen-Bradley SLC 500 system is the center of many industrial PLC applications. Hundreds of I/O and processor options make this one of the most versatile PLC platforms in the industry

Category: Teaching Equipment

Courses: Production Automation, Manufacturing Systems Design

PIC Microcontroller Kit

This kit includes C for PICmicro, actuator training panel, PICmicro development board, and flowcode for MCUs V2

Category: Teaching Equipment

Courses: Production Automation, Manufacturing Systems Design

PLC Tutor Kit

The PLC kit includes Allen Bradley micro PLC, pneumatic cylinders, and pneumatic DCV Valves. It is designed to give practical and in-depth knowledge of Programmable Logic Controllers.

Category: Teaching Equipment

Courses: Production Automation, Manufacturing Systems Design

NI Data Acquisition Cards

SCXI and USB DAQ cards and signal conditioners

Category: Teaching Equipment

Courses: Control Systems, Senior Project I, Senior Project II, Manufacturing Systems Design