

## HW components at SC 6.61 lab you can use for the project

### Boards:

Arduino Uno + breadboard  
Arduino Nano + breadboard

### Shields and tools:

Multi-function shield  
LCD keypad shield  
24MHz 8-channel logic analyzer

### Displays and opto:

HD44780-based LCD  
Nokia 5110 LCD display  
TM1637 4-digit 7-segment display (several colours)  
LED (several colours)  
RGB LED  
IR LED 940nm  
IR receiver  
GL5539 photoresistor

You can use the laboratory at a time when you have registered the DE2 course.

Laboratoř můžete využívat v době vaší registrované výuky.

### Input devices:

push button  
analog joystick PS2  
rotary encoder  
4x4 matrix keypad

It is not allowed to take anything out of the laboratory.

Není dovoleno nic z laboratoře odnášet.

After your work, always clean your workplace and shut down the computer.

Po skončení práce uveďte pracoviště do původního stavu a vypněte počítač.

### Wireless:

ESP8266 Wi-Fi module  
HM-10 Bluetooth  
GPS NEO-6M GYNEO6MV2

**Sensors and modules:**

HC-SR04 ultrasonic sensor  
HW201 infrared obstacle avoidance sensor module  
I2C EEPROM 24C32 and RTC DS1307 module  
I2C BME280 humidity, temperature, and barometric sensor  
I2C DHT12 humidity and temperature sensor  
1-wire DHT12 humidity and temperature sensor  
I2C gyroscope and 3-axis accelerometer  
ACS712 current sensor 5A  
ACS712 current sensor 20A  
I2C logic converter bi-directional modul 5V <--> 3.3 V  
capacitive soil moisture sensor v1.2  
relay modules (1, 2, or 4 relays)

**Other:**

resistors (several values)  
SG-90 micro servo

**Special:**

Slotcar for autonomous driving (including sensors, ATmega328, LEDs, speed control, ...)  
4-wheel chassis with 4 DC motors, 2 optical barriers, and 2 H-bridge drivers L298N

<https://github.com/tomas-fryza/arduino-slotcar>