

List of possible subjects for a homework (approximately 3 pages, with figures)

Computer science

Projects		Applications	Student	Coworker(s)
1.	Arduino + temperature sensor	Principles		
		Specific application 1		
2.	Arduino + remote temperature sensor	Principles		
		Specific application 1		
3.	Arduino + temperature and humidity sensor	Principles	Sandu Ioana	
		Specific application 1		
4.	Arduino + humidity sensor			
5.	Arduino + accelerometer sensor	Principles		
		Specific application 1		
6.	Arduino + smoke sensor	Principles		
		Specific application 1		
7.	Arduino + flammable gas sensor	Principles		
		Specific application 1		
8.	Arduino + alcohol sensor	Principles		
		Specific application 1		
9.	Arduino + carbon dioxide sensor	Principles		
		Specific application 1		
10.	Arduino + muscular activity sensors	Principles		
		Specific application 1		
11.	Arduino + hydrogen sensor	Principles		
		Specific application 1		
12.	Arduino + methane sensor	Principles		
		Specific application 1		
13.	Arduino + dust sensor	Principles		
		Specific application 1		
14.	Arduino + electric current intensity sensor	Principles		
		Specific application 1		
15.	Arduino + pressure sensor	Principles		
		Specific application 1		
16.	Arduino + bending sensor	Principles		
		Specific application 1		
17.	Arduino + infrared sensors	Principles		
		Specific application 1		
18.	Arduino + proximity sensor	Principles	Andrada Petcu	
		Specific application 1		
19.	Arduino + light sensor	Principles		
		Specific application 1		
20.	Arduino + piezo element	Principles		
		Specific application 1		
21.	Arduino + light sensor (professional)	Principles		
		Specific application 1		
22.	Arduino + UV sensor	Principles		

		Specific application 1		
23.	Arduino + magnetic field sensor	Principles		
		Specific application 1		
24.	Arduino + Hall probe	Principles		
		Specific application 1		
25.	Arduino + Geiger counter	Principles		
		Specific application 1		
26.	Arduino + sound sensor (advanced microphone)	Principles		
		Specific application 1		
27.	Arduino + thermocouple	Principles		
		Specific application 1		
28.	Arduino + 3D printer			
29.	Arduino + voltage measurement			
30.	Arduino + current intensity measurement			
31.	Arduino + resistance measurement			
32.	Arduino + data acquisition (Python, + graphical representation)	Principles		
		Graphic tablet		
		Specific application 2		
33.	Arduino + data acquisition (Visual C#, + graphical representation)	Principles		
		Arduino + C#		
		Specific application 2		
34.	Arduino + data acquisition (LabView, + graphical representation)	Specific application 1		
		Specific application 2		
		Specific application 3		
35.	Arduino + data acquisition (other, + graphical representation)	Principles		
		Specific application 1		
36.	Arduino+ mini-sumo robot			
37.	Arduino + independent car	A car that drives itself	Codrut Erdei	Alex Badea
		Radio controlled car	Hunor Debreczeni	Halmai Erik
38.	Raspberry PI + sensors			
39.	Arduino + servomotors			
40.	Arduino + Peltier element for temperature control			
41.	Arduino + ethernet			

42.	Electromagnetic Stimulator			
43.	Arduino +load cell			
44.	Arduino + Ultrasonic Sensor			
45.	Arduino + low pass filter			
46.	Arduino + high pass filter			
47.	Arduino + ADC (analog to digital converter)			
48.	Arduino + band pass filter			
49.	Arduino + DAC (digital to analog converter)			
50.	Arduino + Ops Amps. (operational amplifiers)			
51.	Arduino + oscilloscope			
52.	Arduino + DDS (direct digital signal) function generator			
53.	Arduino + Wheatstone bridge (for resistance measurement)			
54.	Arduino + capacitance measurement			
55.	Arduino + inductance measurement			
56.	Electromagnetic stimulator			
57.	Processing	The program +Arduino		
		Graphics		
		Web cam image acquisition + processing		
		Internet image acquisition + processing		
58.	HTML+JavaScript+php +p5.js	+Arduino		
59.	Arduino + electric skateboard			
60.	Arduino + Bluetooth commanded car			

61.	Arduino + MORSE		Livia Mitrica	
62.	Arduino Nano + parking sensors		Osváth Tamás	
63.	A voice controlled robot			
64.	Arduino + Light Bulb Control through an Android App		Sărmășan Andrei	
65.	Line follower robot		Áron Katona	
66.	robot avoiding obstacles + RaspberryPi		Baciu Nicolae Eduard	
67.	Light Traffic Controller			
68.	Phone quiz		Stioiu Denis	Sauche Alexandra, Iuga Alexandru
69.	Dancing 3D robot		Top Alexandru Vasile	Pasc Andreea Madalina
70.	To be completed at student proposal			

Links:

<http://www.robofun.ro>

<http://www.dx.com>

<http://www.saimonelectronics.ro/>

www.banggood.com

<http://www.arduino.cc>

<https://processing.org>