

ENGINE

Teaching online electronics, microcontrollers and programming in Higher Education

**Output 2: Online Course for Microcontrollers:
syllabus, open educational resources**

Open project leaflet: Module_1-5 Keypad 4x4

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Declaration

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Table of Contents

Executive summary	4
Chapter 1: Open project 1	5
Chapter 2: Open project 2	6

Executive summary

This file contains open projects.

Chapter 1: Open project 1

Draw a circuit and write the appropriate code so that the Arduino Uno works as a countdown timer. Specifically, the user enters the number of seconds from a keypad 4x4. The "A" key starts the countdown. Time is displayed on a liquid crystal display.

Tip. Use delay() to measure time

Chapter 2: Open project 2

Draw a circuit and write the appropriate code so that the Arduino Uno works as a simple calculator. The user can enter 2 two-digit signed numbers. The operations that can be done between these 2 numbers are:

- Addition
- Subtraction
- Multiplication
- Division

A liquid crystal display is used as the output device.

***Tip.** Other components, such as switches, can be used to determine if a number will be positive or negative*

