List of materials for the *Raspberry Pi for Beginners* course

I haven't included links because:

1. As the course receives students from all over the world, stores/suppliers can be different for each country.
2. It's very easy to find all the components on big websites such as Amazon, eBay, or even in online stores specific to your own country.

So, here is what you'll need to complete this course:

Raspberry Pi board

If you're buying a new one, choose Raspberry Pi 5. You'll have the choice between 3 configurations: 2GB, 4GB, or 8GB of RAM. The more the better, but of course it becomes more expensive. I would recommend buying the 2GB or 4GB version. Unless you plan on executing high demanding programs, 8GB is something you probably don't need now.

If you're using a previous version of the board (RPi 2, 3, or 4) that's fine too and you will be able to follow all the lessons/activities/projects.

Power supply for the Pi

For Raspberry Pi 4-5 you'll need to power your board with an USB-C connector. For Raspberry Pi 2-3 you'll need a micro-USB connector.

Important: do not power on your Pi directly from your computer. This may seem to work, but the delivered current will be too low. Use a proper power supply, for example a smartphone power supply.

So:

- For Raspberry Pi 5, better to use the official power supply (5.1V - 5A).
- For Raspberry Pi 4, try using a power supply which can deliver 5V - 3.0A min.
- For Raspberry Pi 2 and 3: 5V - 2.5A min.

You could try using a phone charger with similar power, but if it doesn't work well, better to get the official Raspberry Pi power supply (especially to get the 5.1V and 5A for RPi 5).

micro SD card

2 important things here: the class and the storage capacity.

For the class, choose at least class 10. You should see a “10” inside a circle on the card. Some new cards are even more powerful, if you see a “3” inside a U shape it’s even better.

If the class of your SD card is too low then it won’t be fast enough for the Raspberry Pi OS to run properly.

For the storage capacity, go with 16GB or 32GB, so you have enough space for the operating system and some additional files.

Note: if you want you can directly buy a **Raspberry Pi kit**, which usually contains the board + power supply + micro SD card + a box to put your Pi in + some additional cables

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Hardware components

Here is a list of hardware components you will need if you want to reproduce the examples and activities using GPIOs. You can still follow the course without those components if you want to.

- 1* breadboard
- Set of wires: male-male, male-female, and female-female
- Set of resistors: 1k Ohm (if not available, 330 Ohm or 470 Ohm can do)
- 3* LEDs (any color)
- 1* push button (4 legs)

Note: for this list, usually you can find kits that include all those hardware components (search for “**breadboard kit**”).

If you want to do the section using PIR sensor, as well as the final project, you’ll also need:

- 1* PIR sensor (model: HC-SR501). Having several of them is useful especially if you buy the cheapest ones. The very cheap ones are often low quality ones, it’s better to have 2-3 available if one of them is not working properly.

Pi Camera V3

You will need the camera if you want to follow the camera section as well as do the final project.

2 options here:

- “Standard” Pi camera V3 (recommended for this course), mounted on a green board.
- “NoIR” Pi camera V3, mounted on a black board. This camera doesn’t need light to operate so you can use it in the dark. Note however that in daylight the images will not look as good as the standard camera.

If you already have a Pi Camera V1 or V2, no worries, they all work the same. No need to buy the new version. The way to control any Raspberry Pi camera is the same.

If you have a Raspberry Pi 5 (regardless of the camera version), you might also need to get a cable adaptor for the camera (15 pins/1mm to 22 pins/0.5mm).