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Specialty: Physics
Session: Practical Work N°0
Subject: Environment Setup Guide

STUDENT GUIDE: SETTING UP PYTHON

Mandatory Workspace Preparation for Physics Practical Work (TP)

Important Note: To successfully follow the programming sessions, you must prepare your environment before the next lab class. Choose **Option A** if you own a laptop computer, or **Option B** if you work using your smartphone.

OPTION A – Installation on a Laptop (Windows)

If you have a personal computer, you will need to install the official Python release and configure the system terminal path. Follow these steps carefully:

Step 1: Download the Official Installer

Open your web browser and navigate to the official website: https://python.org. Hover over the **Downloads** tab and click the yellow **Python 3.13.x** button. An executable installation file will download to your machine.

Step 2: The Installation Process (CRITICAL STEP)

Go to your *Downloads* folder and double-click the installer file.

ATTENTION: Before clicking "Install Now", you MUST check the box at the very bottom of the window: [✓] Add python.exe to PATH.

If you skip this step, your computer will fail to recognize Python commands in the Command Prompt terminal.

Click **Install Now**, wait for it to complete, and click Close.

Step 3: Verify the Setup

Open the Windows **Command Prompt** (Press the `Windows Key`, type `cmd`, and press `Enter`). In the black terminal window, type the following command and press `Enter`:

```
python --version
```

If the screen displays `Python 3.13.x`, your installation is correct!

Step 4: Install Scientific Physics Libraries

To plot wave functions, quantum trajectories, and perform matrix calculations later in the semester, type these two commands sequentially into your open black terminal window (ensure your PC is connected to the internet):

```
pip install numpy
pip install matplotlib
```

OPTION B – Setup on a Smartphone (Android)

If you do not own a laptop, or if you prefer a seamless, portable coding experience directly inside the laboratory, your smartphone can be turned into a fully functional physics workstation using **Pydroid 3**.

Step 1: Download from the Play Store

Open the **Google Play Store** on your Android device. Search for **"Pydroid 3 - IDE for Python 3"** (blue icon displaying *Py 3*) and tap **Install**.

Step 2: Initial Configuration

Launch the app. On the initial setup screens, select that you are a student and a beginner in Python. Allow the application to extract its internal library files until a clean, blank text editor screen appears.

Step 3: Install Scientific Physics Libraries (Matplotlib & Numpy)

To render vector graphs and curves directly on your phone screen, configure the internal packages:

- Tap the **Main Menu** button (the 3 horizontal lines in the top-left corner).
- Select **PIP** from the side menu, then tap the **Quick Install** tab at the top.
- Locate `matplotlib` or `numpy` and tap the **Install** button next to it.
- **Automatic Plugin Prompt:** The application will alert you that it requires the *Pydroid repository plugin*. **Accept and confirm the installation of this plugin.**

- Wait until the background terminal completely finishes and prints `Complete` at the bottom.

Step 4: Run a Quick Test

Return to the main white editor screen, type the following line of code, and click the large **yellow circular "Play" button** in the bottom-right corner:

```
print("My␣TP␣environment␣is␣fully␣ready!")
```

If a black terminal screen launches displaying your text, your mobile setup is ready!

WORKSPACE ORGANIZATION RULE FOR EVERYONE (PC & MOBILE)

To keep your work structured and avoid a messy workspace, get into the habit of creating a dedicated folder named `TP_Python` in your storage directory (Drive `D:` or `C:` on PC, *Internal Storage* on mobile). Always save your practical scripts into this directory using clean names like `tp1.py`, `tp2.py`, etc.