Introduction

- In LPHYS2102 the practical work is of the utmost importance:
  - Essential part of the objectives of this cours
  - Non-negligible part of the evaluation that depends on these activities
  - Time the students should spend in the lab and analyzing the data.

- Activities
  - 1st Semester:
    - Basic safety rules when working with radiation detectors
    - Use the various equipments available in the lab
    - Log the experimental activities in a (electronic) logbook
    - Measure the main characteristics of particle detector
  - 2nd Semester:
    - use the detectors they have characterized to make a physics measurement.

- Bragg curve measurement at the cyclotron (if possible)

Safety First

- We are going to use with radioactive sources:
  - Remember the ALARA principle!
  - Wear ALWAYS a dosimeter
- There are several electronic equipment at the lab
  - Study how to switched them ON and OFF
  - Connect different modules correctly
  - If you are not sure... ASK the assistants
- Leave the workplace ranged and secured
  - Sources in the safebox
  - Equipment switched off
  - ...unless you are performing a measurement. Place a panel!
- DO NOT eat or drink in the lab

Laboratory: Practical infos

- Laboratories are "freely" accessible. You only come when you wish/can.
  - LLN: Bat. Marc de Hemptinne room B.030
  - After few weeks you should be "independent"
  - This room is also used for other courses.

- Assistants will be available "on demand"
  - Sem.1: Wednesdays 10h45-12h45 (from Oct 20, 2025)
  - Sem.2: Thursdays 13h00-16h00

- Dosimeter is compulsory.
  - Online training+exam on Moodle.
  - `RPRO - Basic Training in Radioprotection`

- Electronic logbook:
  - `https://elab-students.irmp.ucl.ac.be/`

Evaluation

- Written exam : (9 points)
  - 3rd of December 2025 (4.5 points)
    - 5-6 questions over the topics treated during the theory lectures and the exercices sessions.
  - 9th of June 2026 (2.5 points + 2.0 points)
    - One question about nuclear electronics
    - One question about Artificial Radioactivity and one about Accelerators

- Laboratory project: (11 points)
  - Two presentations in 2nd semester
    - eLog. Work in lab (1.5 point)
    - 19/02/26, 26/02/26
      Presentation about exp. measurements in Sem 1. (1.5 points)
    - 30/04/26, 07/05/26
      Final presentation of the project (3.0 points)
    - Report. (5 points)

- At least 7/20 in each of the above activities. Overall mark >10/20