

TRAVAUX PRATIQUES CHIMIE-PHYSIQUE, PHOTONIQUE

LAB SESSIONS PCM

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| Lecturers : 0.0 | TC : 0.0 | PW : 24.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

These practicals allow through lab experiments a better understanding of fundamental concepts taught in physics and chemistry lectures and tutorials, giving concrete applications of these concepts. Finally, important notions for an engineer, such as measurements validity and protocol set-up, are provided.

Keywords : Nanotechnology, Imaging, Laser, Spectroscopy, Chromatography, Chemical kinetics, Electrochemistry, Intermolecular bonds

Programme

- Students will follow 3 practical works (TP) in physics: Fourier optics. Infrared thermography / solar cell. Spectrophotometry.
- The students will follow 3 practical works (TP) in chemistry: Electrochemical study of galvanic corrosion of metals. Study of redox reactions by UV-Visible spectrophotometry - Chemical kinetics. Gas chromatography.

Learning outcomes

- C2N1: Defines a system and its boundaries, identifies the phenomena involved and proposes a simple model. Formulate the hypotheses.
- C2N3: Characterizes the complexity of a system, identifies interactions and sources of uncertainty.
- C3N3 : Communicates in a synthetic way in writing and orally to report and enhance the results.

Independent study

Objectifs : Prepare for practical work.

Méthodes : Reading documents on intranet.
Questionnaire to be completed and included in the report (chemistry) / Oral evaluation of the preparation at the start of the session (physics).

Core texts

Assessment

Score = 20% knowledge + 80% know-how. Knowledge score = preliminary test. Know-how score = report + handling and participation.