

PHYS-328

Physics of novel electronic materials

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Cursus	Sem.	Type
Ing.-phys	MA2, MA4	Opt.
Physicien	MA2, MA4	Opt.

Language of teaching	English
Credits	4
Session	Summer
Semester	Spring
Exam	Oral
Workload	120h
Weeks	14
Hours	4 weekly
Courses	2 weekly
Exercises	2 weekly
Number of positions	

Summary

This course provides an overview of material discoveries, through the major chapters of modern solid state physics. The aim is to discuss the synthesis, characterization and applications of new compounds with an emphasis on their electrical transport properties.

Learning Prerequisites**Required courses**

Introduction to solid state physics

Recommended courses

Solid state physics II

Important concepts to start the course

structure cristalline, structure de bande, magnétisme de base, transport électronique

Learning Outcomes

- Expound
- Critique
- Interpret
- Optimize
- Predict
- Describe

Teaching methods

ex cathedra
laboratory visit
exercise sessions with student presentations

Expected student activities

3 hours per week

Assessment methods

Oral exam based on approx. 40% of the scientific papers treated during the exercise sessions in the semester

Supervision

Office hours	Yes
Assistants	Yes
Forum	No

Resources

Bibliography

The necessary material is proposed during the lectures and the exercise sessions

Notes/Handbook

No textbook, just handouts of the lectures

Moodle Link

- <http://moodle.epfl.ch/course/view.php?id=9991>