Summary
Principles and practice of modern nuclear magnetic resonance spectroscopy. NMR is today the most powerful spectroscopic method to determine the structure of molecules and materials, in physics, chemistry, biology or medicine.

Content

Keywords
Spectroscopy; Magnetic Resonance; NMR; Structure; Chemical Analysis;

Learning Prerequisites
Required courses
None

Recommended courses
Basic undergraduate chemistry courses

Important concepts to start the course
Spectroscopy, chemical analysis, chemical structure

Learning Outcomes
By the end of the course, the student must be able to:
• Explain the fundamental principles of Magnetic Resonance
• Interpret an NMR spectrum in terms of the interactions involved
• Describe the elements of a pulsed Fourier transform NMR experiment
• Design a strategy for analysis of molecular structure or dynamics by NMR

Transversal skills
• Access and evaluate appropriate sources of information.
• Set objectives and design an action plan to reach those objectives.

**Teaching methods**
Lectures, homework and problem classes

**Assessment methods**
Written examination

**Supervision**
 Assistants  Yes

**Resources**

**Bibliography**
"Nuclear Magnetic Resonance," P.J. Hore, Oxford, 2003 : substitute the most recent edition!

**Ressources en bibliothèque**
- Nuclear magnetic resonance / Hore
- Spin dynamics / Levitt
- NMR the toolkit / Hore
- Understanding NMR spectroscopy / Keeler

**Notes/Handbook**
On moodle

**Prerequisite for**
Advanced NMR and Imaging