


3.00 credits

22.5 h + 7.5 h

Q1

Teacher(s)	Singleton Michael ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	<ol style="list-style-type: none"> <li>1. Principles and calculations of NMR spectra;</li> <li>2. 1D NMR pulse sequences (SEFT, APT, INEPT, DEPT);</li> <li>3. 2D NMR : <ol style="list-style-type: none"> <li>a) through bond homonuclear (COSY) and heteronuclear correlations;</li> <li>b) through space correlations (NOE, NOESY, ROESY);</li> </ol> </li> <li>4. <sup>1</sup>H &amp; <sup>13</sup>C NMR spectroscopy;</li> <li>5. NMR spectroscopy of other nuclei (<sup>19</sup>F, <sup>15</sup>N, <sup>31</sup>P);</li> <li>6. Solid state NMR spectroscopy.</li> </ol>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <ol style="list-style-type: none"> <li>1 This course aims at enlarging and deepening the basic notions in NMR so that students should be able to collect and interpret spectra of various complexities.</li> </ol>
Content	<ol style="list-style-type: none"> <li>1. Introduction and generalities;</li> <li>2. NMR spectroscopy practical aspects;</li> <li>3. 1D NMR experiments;</li> <li>4. 2D NMR experiments: through bond homonuclear and heteronuclear correlations, and through space correlations;</li> <li>5. Solid state NMR;</li> <li>6. Theoretical aspects and applications will be connected with practical questions related to the use of a NMR spectrometer and data acquisition.</li> </ol>
Other infos	<p><b>Background :</b>  Basic notions in molecular spectroscopy (CHM1251B).  Evaluation: written and oral exams.  Documents: complicated schemes (syllabus) may be given along with some textbook references;  The course could be partly or totally delivered by an invited lecturer. Other</p>
Faculty or entity in charge	CHIM

**Programmes containing this learning unit (UE)**

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Chemistry	<a href="#">CHIM2M</a>	3		
Master [60] in Chemistry	<a href="#">CHIM2M1</a>	3		