


4.00 credits

45.0 h

Q2

Teacher(s)	Verdée Peter ;
Language :	French > English-friendly
Place of the course	Louvain-la-Neuve
Main themes	<ul style="list-style-type: none"> <li>• Concepts of logical law and valid reasoning</li> <li>• Classical logic: the semantic approach (model theory), the syntactic approach (proof theory) and how the two approaches are equivalent in terms of results</li> <li>• The limits of classical logic</li> <li>• The historical roots of contemporary logic</li> </ul>
Learning outcomes	
Evaluation methods	<p>The final evaluation in June encompasses</p> <ul style="list-style-type: none"> <li>• For 10%: the result obtained by three announced tests during the quadrimester</li> <li>• For 30%: the result obtained by the written exam of the supervised exercises part of the course during the quadrimester (in May).</li> <li>• For 60% the result obtained by the written exam in the June examination period. This exam is an open book exam and mainly evaluates the understanding of the contents of the course.</li> </ul> <p>In the September examination period, the written open book exam counts for 100%.</p>
Teaching methods	<ul style="list-style-type: none"> <li>• Ex cathedra course with some exercises in small groups</li> <li>• Practical exercises with the assistant</li> </ul>
Content	<p>The following topics will be addressed:</p> <ul style="list-style-type: none"> <li>• Possible answers to the question "What is logic?"</li> <li>• The mathematical basis: function, relation, set, tree, recursive definition / recursive proof</li> <li>• Propositional logic: semantics and axioms</li> <li>• Predicate logic: semantics</li> <li>• Problems of classical logic</li> <li>• A relevant logic and its diagrammatic proof theory</li> <li>• History of logic: Aristotle, the Stoics, Frege, Russell, Tarski, Gödel</li> </ul>
Bibliography	<ul style="list-style-type: none"> <li>• Syllabus écrit par l'enseignant</li> </ul>
Faculty or entity in charge	EFIL

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

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Chemistry	<a href="#">CHIM1BA</a>	4		
Bachelor in Mathematics	<a href="#">MATH1BA</a>	4		