


4.00 credits

30.0 h

Q2

Teacher(s)	Herent Marie-France ;Muccioli Giulio (coordinator) ;
Language :	French > English-friendly
Place of the course	Bruxelles Woluwe
Prerequisites	<i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Main themes	The teacher(s) will discuss the different kinds of particle exchange that take place in solutions (acid-base reactions, precipitometry reactions, complexometry reactions, redox reactions). The aim will be to provide the basis needed to understand how these reactions are used in the different dosage methods. These dosage methods, in aqueous and non aqueous solutions) will be described.
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>At the end of the activity the student will be able to</p> <ul style="list-style-type: none"> <li>• Determine the theoretical pH or redox potential of a given aqueous solution</li> <li>• Draw titration curves (pHmetry, precipitometry, complexometry, and rédox) based on a titration problem</li> <li>• Explain how general as well as ion-selective electrodes work</li> <li>• Discuss the pro and cons of the different techniques able to determine a given ion concentration (based on what was presented to him)</li> </ul>
Evaluation methods	a written exam spanning from theoretical aspects to exercise resolution. The final mark of the exam will be the geometric mean of the mark obtained for the two teachers' questions.
Teaching methods	the teachers will explain and illustrate the main concepts during the lessons. They will also use examples and solve exercises in order to improve the understanding of the most challenging elements. The activity WFARM1244 (practical training in analytical chemistry) will allow the students to approach the theoretical notions in a more practical way. It is therefore essential to consider WFARM1243 and WFARM1244 as a whole and to integrate the learning outcomes from the two activities.
Content	<p>This activity provides the elements allowing to analyse most of the solutions. WFARM1243 is the first part of a comprehensive teaching program allowing (over the whole cursus) to master the key elements of the analytical sciences in the context of the pharmaceutical sciences.</p> <ul style="list-style-type: none"> <li>• General aspects of the solvents and ions solutions</li> <li>• General aspects of particle transfer</li> <li>• Solubility and gravimetry</li> <li>• From pH calculations to acid-base titrimetry</li> <li>• From redox reactions to redox titrations</li> <li>• Potentiometry and ion-selective electrodes</li> <li>• Conductometric titrations</li> <li>• Electrogravimetry and coulometry</li> <li>• Polarography and amperometry</li> </ul>
Inline resources	An adapted version of the material presented during the lessons is available on the "moodle" platform. The materials for the practical part of the activity is also available on the "moodle" platform.
Faculty or entity in charge	FARM

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Minor in Medication Sciences	<a href="#">MINFARM</a>	3		
Bachelor in Pharmacy	<a href="#">FARM1BA</a>	4	WMD1104 AND WMD1105 AND WMD1106 AND <a href="#">WFARM1003</a>	