

**Curriculum - Academic Year 2018-19**  
**Characteristics of the Course Units**

Name	<i>Absorption</i>
ECTS credits	<b>4</b>
Year / Semester	<i>II / 2<sup>o</sup></i>
Specific learning outcomes	<p><i>On successful completion of this module students should be able to:</i></p> <ol style="list-style-type: none"> <li><i>1. Describe the Absorption and Stripping separation process</i></li> <li><i>2. Understand the concept of operation line.</i></li> <li><i>3. Apply the McCabe-Thiele method for the design of absorption and stripping process.</i></li> <li><i>4. The use of Kremser method to solve optimal number of stages</i></li> </ol>
Contents	<ul style="list-style-type: none"> <li><i>– Equilibrium solubility of gases in liquids,</i></li> <li><i>– Design and performance equations: packed columns (liquid rate, column diameter, column height, pressure drop),</i></li> <li><i>– Design and performance equations: plate columns,</i></li> <li><i>– Stripping,</i></li> <li><i>– Absorption with chemical reaction.</i></li> </ul>
Teaching and learning methods	<i>Face to face, 45 hours</i>
Teaching techniques	<p><i>Lectures, 12 hours</i> <i>Practical classes, 33 hours</i></p>
Assessment methods	<p><i>Written.</i> <i>A written tests and a final-term written exam are foreseen.</i> <i>The written tests and a final –term written exam consists of exercise problems to be solved, which are similar to those presented during exercise sessions.</i></p>
Assessment criteria	<p><i>In the written tests, students should demonstrate their ability to familiarize with the fundamental concepts of the unit operation (absorption)</i> <i>In the final term test; students will be required to solve a problem related to a complex system.</i></p>
Assessment metrics	<i>Attribution of a final grade</i>
Criteria of attribution of the final grade	<p><i>The final grade will be determined according to the following rules:</i></p> <ul style="list-style-type: none"> <li><i>- written tests: 20%</i></li> <li><i>- Final term written test: 50%</i></li> <li><i>- Practical work assessments: 30%</i></li> </ul>
Preparatory course units	<i>N.A.</i>
Didactic material	<p><i>Treybal, R. E., Mass Transfer Operations, 1981, McGraw-Hill</i> <i>McCabe, W.L., Smith, J.C. and Harriott, P., Unit Operations of Chemical Engineering, McGraw-Hill, 6th edition, 2001. (The 7th edition (2005) will also used).</i> <i>P.Chattopadhyay, Absorption &amp; Stripping, 2007, Asian books private limited</i></p>