



Code	CBQ208	Prerequisites	CBQ207
Name	Chemistry II	Co-requisites	

Credits	Contact Hours
04	
Categorization of credits	
Math and basic science	X
Engineering topic	
Other	

Coordinator's name	Carmen Sánchez
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Text book
Other supplemental materials
<p>Brown, T., Lemay H., Burnsten, B (2009) Chemistry The Central Science (11th Edition). Pearson Education.</p> <p>Chang, R. (2010) Chemistry. (10th Edition). McGraw Hill Publisher.</p> <p>Mendoza, L. (2013) Chemistry Laboratory Manual (2nd edition). Owl Editor</p> <p>Whitten K, Davis R, Peck M, Stanley G. (2014) Chemistry (10th edition). Publisher Cengage Learning.</p> <p>Daub, Seese. Carrillo, Gonzalez. (2015) Chemistry. (8th edition). Pearson Education.</p> <p>Darrell, Ebbing. (2010) General Chemistry. (9th edition). Mexico: Editorial Mc Graw Hill.</p> <p>http://labovirtual.blogspot.com/</p> <p>pH Scales (2017). https://phet.colorado.edu/en/simulation/concentration http://sciencecases.lib.buffalo.edu/cs/collection/</p>

Description
In this course, students will establish the conditions that determine the macroscopic aspects of a system in equilibrium and will qualitatively predict the direction of displacement of the equilibrium condition. Differentiate the different concepts of acids and bases, and determine the PH. Distinguish the oxidation and reduction half-

reactions and identify in which electrode each of them takes place in both voltaic and electrolytic cells. Finally, with the IUPAC nomenclature rules, learn to name and formulate organic compounds.

The course is made up of eight units: Chemical Kinetics, Ionic balance, Chemical Families I, Thermochemistry, Electrochemistry, Chemical Families II, Metallurgy and Organic Nomenclature.

Type of course	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective
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Specific goals for the course	
Outcomes of instruction	<p>EG1. Apply the knowledge of chemistry to provide solutions to engineering problems and reflects on the risks and benefits in order to protect health and the environment.</p> <p>EG2. Assess the link between science and technology by accessing web pages related to the subject to associate chemical concepts with daily life.</p> <p>EG3. Assume a supportive, cooperative, leadership and responsible role during group activities to make the quality of the work to be developed more efficient with their skills and knowledge.</p>
Student outcomes	<p>CG1. Identify, formulate, and solve complex engineering problems by applying the principles of engineering, science, and mathematics.</p> <p>CG2. Work effectively in teams whose members collectively provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet objectives.</p>

Topics
Unit I. Kinetic Velocity Unit II. Ionic balance Unit III. Chemical Families I Unit IV. Thermochemistry Unit V. Electrochemistry Unit VI. Chemical Family II Unit VII. Metallurgy Unit VIII. Organic chemistry