

## Bachelor Clinical Pharmacy program course specifications

Name of Course	Credit Hour	Description
<b>PCE12</b> Advanced Pharmaceutical analysis Spectroscopy	<b>-Theoretical:</b> 2 hrs/week <b>-Practical:</b> 1hr/week <b>-Total:</b> 3 credit hrs	This course aims to: -Provide students with advanced knowledge in the field of spectroscopic identification of organic compounds with an overall view of its applicable principles and techniques in the field of medicinal drugs. -Globalize keys for structural identification of organic compounds from information afforded by the combination of mass (MS), infrared (IR), nuclear magnetic resonance (NMR) and ultraviolet (UV) spectroscopy. -Determine trace elements covering a wide range of analyte types and identify elements by atomic absorption technique. -Introduce the student to the current issues and progress in the field of instrumental analysis. -Employ available spectroscopic instrumental resources to the greatest benefit. -Provide a deep knowledge about the use of different spectroscopic
<b>PC407</b> Instrumental analysis	<b>-Theoretical:</b> 1hr/week <b>-Practical:</b> 1hr/week <b>-Total:</b> 2hr/week	-The main objective of the course is provide students with theoretical knowledge of the most common instrumental analytical methods (spectrophotometry, spectrofluorimetry, atomic absorption, flame photometry and chromatography). - The course includes practical part which aims to familiarize the students with practical instrumental skills and techniques required to design experiment, implement analysis using the relevant chemical literature, process and analyze the data and effectively, communicate results orally and in writing.

<p><b>MS101</b> Mathematics and Statistics</p>	<p><b>-Theoretical:</b>2 <b>-Practical:</b> <b>-Total:</b> 2</p>	<p>-This course provides the students with basic and advanced knowledge in solving some type of mathematical problems in differentiation and integration. It includes theoretical knowledge and some practical skills and personal attributes in the subject of Biostatistics. It aims to initiate and sustain in-depth research relevant to statistical methods and to put theory into practice via work-based learning.</p>
<p><b>PC 205</b> Pharmaceutical Analytical Chemistry-1</p>	<p><b>-Theoretical:</b> 2 hours per week <b>-Practical:</b> 1 hours per week <b>-Total:</b> 3</p>	<p>-This course provides the students with basic and advanced knowledge in the area of quantitative pharmaceutical analysis. It aims to equip the students with skills and experience in important aspects of pharmaceutical analysis including acid-base titrimetry, precipitation reactions and gravimetry which are basic tools in the area of quantitative analysis. The course includes practical work which aims to develop the student's critical sense so as to perform well designed titration procedures. This will impact positively on his or her career with the ultimate progress of drug industry.</p>
<p><b>PC 306</b> Pharmaceutical Analytical Chemistry (2)</p>	<p><b>-Theoretical:</b> 2 hr/week <b>-Practical:</b> 1 hr/week <b>-Total:</b> 3 hr/week</p>	<p>-The main objective of this course is to provide students with the basic knowledge in the fields of statistical analysis, electrochemistry and oxidation-reduction titrations and complexometry. These topics will acquire faculty of pharmacy graduates pharmacist good analytical skills and will impact positively on their career in pharmaceutical industry.</p> <p>The practical work in this course aims to familiarize the students with the standard laboratory skills and techniques required to perform chemical experiments. Also the course includes some interactive learning through answering questions and problems posted on piazza</p>

<p><b>PC 808</b> Pharmaceuticals analysis and quality control</p>	<p><b>-Theoretical:</b> 2 hr/week <b>-Practical:</b> 1 hr/week <b>-Total:</b> 3 hr/week</p>	<p>-This course provides the students with basic and advanced knowledge in the area of pharmaceutical analysis. It aims to provide the students with skills and experience in important aspects of pharmaceutical analysis and quality control. This includes control and quality assurance, in-process control and validation which are important aspects in drug analysis. The course includes practical work which aims to develop the student's critical sense so as to perform well designed and well validated stability-indicating analytical methods for the analysis of drugs. This course also enables the students to calibrate different instruments used in pharmaceutical analysis.</p>
<p><b>PC101</b> Physical and Inorganic Chemistry</p>	<p><b>-Theoretical:</b> 2hr/week <b>-Practical:</b> 1hr/week <b>-Total:</b> 3hr/week</p>	<p>The course objective is to promote a better understanding of chemical principles; the comprehensive laws that explain how matter behaves, the nature of chemical combinations and reactions. The other central goal of the course is to provide the student with basic knowledge necessary for all branches of chemistry in the pharmacy study program, and make him able to problem solving and scientific thinking. The laboratory work aims to familiarize the students with the standard laboratory skills and techniques required to perform chemical experiments as well as helping students to identify different inorganic salts.</p>