

### CHM1033L Chemistry for Health Sciences lab

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**Course Description:** This course emphasizes chemistry topics related to the allied health sciences. Students will learn the essentials of inorganic chemistry, organic chemistry, biochemistry, and their application to physiological functions in a laboratory setting. ( 2 hr. lab )

Prerequisite: MAT1033

Corequisite: CHM1033

Course Competency	Learning Outcomes
<b>Competency 1:</b> The student will demonstrate cognitive objectives from the laboratory experience by:	3. Critical thinking
<ol style="list-style-type: none"> <li>1. Collecting measurement data including length, mass and volume of various objects using the Metric system.</li> <li>2. Converting figures using the Metric and English systems.</li> <li>3. Determining the presence of common cations and anions by using precipitation, complexation, and gas evolution reactions.</li> <li>4. Preparing various aqueous solutions and analyzing the phenomena of dialysis and osmosis.</li> <li>5. Identifying different types of electrolytes by analyzing their electrical conductivity.</li> <li>6. Determining the pH values of various solutions of acids, bases and buffers.</li> <li>7. Examining the structure, properties and reactions of several organic compounds such as alkanes, alkenes, alkyl halides, alcohols, esters, aldehydes, ketones, carboxylic acids, carbohydrates, lipids and proteins.</li> <li>8. Illustrating carbohydrate chemistry by outlining the properties and chemical reactions of representative carbohydrates.</li> <li>9. Examining lipid chemistry by outlining its properties and chemical reactions.</li> <li>10. Examining protein chemistry by outlining the properties and chemical reactions of representative proteins.</li> <li>11. Examining enzyme chemistry by outlining its properties and chemical reactions.</li> <li>12. Illustrating the process of digestion by simulating simple digestive processes using enzymes and food substances in the laboratory.</li> </ol>	
<b>Competency 2:</b> The student will demonstrate the following affective objectives concerning safety in the laboratory by:	4. Information Literacy
<ol style="list-style-type: none"> <li>1. Demonstrating a commitment to safety by following all safety rules and procedures.</li> <li>2. Demonstrating a professional attitude and respect for laboratory responsibilities by maintaining the laboratory areas in a clean and neat manner.</li> <li>3. Demonstrating a willingness to respond to the material of the course by attending class regularly.</li> <li>4. Demonstrating responsibility for the successful completion of laboratory work by coming to the laboratory prepared to perform all procedures scheduled for the laboratory session.</li> </ol>	
<b>Competency 3:</b> The student will demonstrate proficiency in the following psychomotor objectives by:	1. Communication 3. Critical thinking
<ol style="list-style-type: none"> <li>1. Using laboratory glassware for measuring and transferring liquids such as graduated cylinders, pipets and beakers.</li> <li>2. Operating electronic balancing in order to obtain mass measurements.</li> <li>3. Operating and manipulating volumetric equipment in a manner that achieves both accuracy and precision.</li> <li>4. Handling laboratory equipment smoothly and without hesitation.</li> </ol>	

