

Course Outcome Guide (COG)

| Course | CHEM 116 L/L Introduction to Organic and Biochemistry | Credits: | 4 | Updated: | Feb.10, 2020 |
|--|---|--|---|--|--|
| Course Description: | Pre-requisite: Chemistry 115 or Chemistry121. Non-majors course that includes topics on functional groups, nomenclature, organic reactions, proteins, enzymatic action, carbohydrates, lipids, nucleic acids, and metabolism. Course meets the requirements for nursing and allied health majors. | | | | |
| Concepts and Issues | Process Skills | Assessment Tasks | Intended Outcomes | | |
| | | | Course | General Education or Program | Institutional |
| <ul style="list-style-type: none"> • Hydrocarbons Alkanes, Alkenes, Alkynes • Alcohols, Phenols, Ethers • Aldehydes and Ketones • Carboxylic Acids, Esters, Amines • Stereoisomers • Carbohydrates and carbohydrate metabolism • Lipids and lipid metabolism • Proteins and protein metabolism • Enzymes • Nucleic Acids | <ul style="list-style-type: none"> - Describe and define the structure, names and properties of hydrocarbon compounds - Describe and define the structure, names and properties of the organic functional groups - Describe and define the structure, names and properties of aromatic compounds - Describe the significance of stereoisomers, asymmetric carbons, and chirality - Identify basic structures, names, and properties of different carbohydrates - Identify basic structures, names, and properties of different lipids - Identify basic structures, names, and properties of proteins - Describe the metabolic pathways of carbohydrates, proteins, and lipids to produce chemical energy - Name the classifications of enzymes - Describe the theories of how enzymes work - Name the factors that affect enzyme activity - Identify basic structures, names, and properties of nucleic acids | <p>Complete examinations, quizzes, and assignments demonstrating mastery of concepts.</p> <p>Participation in class discussions.</p> <p>Demonstrate mastery of concepts in laboratory experimentation.</p> | <p>1) Name simple organic compounds using IUPAC rules.</p> <p>2) Identify functional groups and describe their physical and chemical properties</p> <p>3) Identify carbohydrates, lipids, proteins, and nucleic acids and how each functions.</p> <p>4) Describe the role of enzymes in chemical reactions.</p> | <p>Students will use reasoning skills to analyze and solve problems.</p> | <p>Students will use reasoning skills to analyze and solve problems.</p> |