



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: Chemistry
Course Number: MLT222

Required Materials

Textbook(s):

Bishop, M. L., Fody, E. P., & Schoeff, L. E. (2018). *Clinical chemistry: Principles, techniques, and correlations* (9th ed.). Wolters Kluwer.

Required Readings:

See weekly calendar below.

Additional Materials:

Personal Protective equipment: nonlatex gloves, disposable fluid resistant lab coat, black markers, scientific calculator and note taking supplies

Course Outline/Calendar

The date of coverage and order of coverage may be modified based on the faculty member and events beyond the control of faculty members that interfere with class times and teaching.

Week	Chapter Reading	Lab schedule	Assessments
1	<u>Chapter 1</u> : Laboratory Basics <u>Chapter 3</u> : Quality control and statistics	Lab session 1 Practice pipetting Intro to chemistry lab and calibrate lab pipettes	Syllabus quiz Vendor Pipette Presentation
2	<u>Chapter 4</u> : Instrumentation <u>Chapter 5</u> : Laboratory Automation	Lab Session 2 Basic Concepts	Pipette quiz Due second lab session
3	<u>Chapter 6</u> : Amino Acids and Proteins; Proteins and Protein Analysis Review for quiz #1	Lab Session 3 Creating new ranges for unassayed chemistry controls	Quiz #1: Over Week 1&2
4	<u>Chapter 8</u> : Enzymes Enzymes-Measurement and clinical correlation	Lab Session 4 ALT assay	*Med-training Chemistry: Protein Electrophoresis
5	<u>Chapter 9</u> : Carbohydrates	Lab Session 5 HgbA1C, Glucose & POCT Glucose	Quiz #2 Over week 3&4

6	<u>Chapter 10</u> : Lipids and Lipoproteins	Lab Session 6 Lipid Profile 2 different methodologies	
7	<u>Chapter 7 & 21</u> : Kidney Function & NPN	Lab Session 7 Creatinine Determination & Renal Function Panel	Quiz #3 Over week 5&6
8	<u>Chapter 19</u> : Liver Function	Lab Session 8 Osmometer and pH	
9	<u>Chapter 11</u> : Body water and electrolyte homeostasis	Lab Session 9 Electrolyte Panel and Calculate anion gap.	Quiz #4 Over week 7&8
10	<u>Chapter 12</u> : Blood gases, pH, O2, pCO2	Lab session 10 Specimen Integrity Lab	
11	<u>Chapter 14,15,16,17</u> : Endocrine System Thyroid Function and other hormones	No Lab	Quiz #5 Over week 9&10
12	<u>Chapter 11 & 18</u> : Mineral and Bone Metabolism	Lab Session 11 Quantum LAB	
13	<u>Chapter 27</u> : trace and Toxic elements <u>Chapter 27</u> : vitamins and trace elements <u>Chapter 25</u> : TDM	Lab Session 12 Quantum Day LAB	Quiz #6 Over week 11&12
14	<u>Chapter 20</u> : Cardiac Function <u>Chapter 28</u> : Tumor Markers	Review for Lab Practical	*Med-training Cardiac Markers
15	Final Exam Review and Practice Practical	Lab Practical	Quiz #7 Over week 13&14 Analyte Cards
16	SSC Final Exam		