



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: **Fundamentals of Laboratory Techniques**
 Course Number: **MLT121**

Required Materials

Textbook(s):

Turgeon, M. L. (2022). *Linné & Ringsrud's clinical laboratory science: Concepts, procedures, and clinical applications* (8th ed.). Elsevier. (7th ed.-acceptable)

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/ Date	Lecture topics	Assignments	Assessments	Laboratory
#1	Orientation to the MLT Program	MLT Handbook, Policies and Expectations	Syllabus Quiz (Handout) MLT Handbook Quiz (Open Book must get 100% - Computer) Orientation Quiz (Not Graded-Computer)	Safety in the Lab Safety Quiz (Handout)
#2	LABOR DAY NO CLASS			NO LAB
#3	Laboratory Mathematics and Solution Preparation Chapter 7	Lab Math Worksheet		Pipetting- Practice and Proficiency

#4	Systems of Measurement, Laboratory Equipment, and Reagents Chapter 6	Metric Conversions & Equipment Worksheet		Basic Lab Equipment: Balancing centrifuges Liquid Measures
#5	Phlebotomy: Collection and Processing Patient Blood Specimens Chapter 4	MedTraining: Venipuncture	Quiz #1: Chapter 7 Lab Math & Solution Preparation	*Venipuncture (using artificial arm) Specimen Integrity
#6	Phlebotomy Part 2	MedTraining: Skin Puncture		*Venipuncture (using artificial arm)
#7	Laboratory Tour Aultman Hospital (subject to change)	MedTraining: Basic Phlebotomy	Quiz #2: Chapter 6 Systems of Measurement, Laboratory Equipment	NO LAB
#8	Point of Care Testing Chapter 9			Hemacue Test for Glucose *Continue Finger Sticks and Venipuncture
#9	Introduction to Clinical Chemistry-Chapter 10 Glucose and Diabetes			*Continue Finger Sticks and Venipuncture
#10	Introduction to Clinical Laboratory Chapter 1 Medical Terminology	MedTraining Introduction to the Clinical Lab	Quiz #3: Chapters 4,9,10 Collection and Processing Blood Specimens	*Continue Finger Sticks and Venipuncture
#11	Safety: Patient and Clinical Laboratory Practices Chapter 2	MedTraining Infection Control		Disease Transmission *Continue Finger Sticks and Venipuncture
#12	Basic Contemporary Techniques in the Clinical Laboratory Chapter 8 Beer's Law Standard Curve		Quiz #4: Chapters 1&2 Fundamentals of Clinical Lab and Safety	Total Protein Determination (photometry), measuring colorimetric reactions on the spectrophotometer
#13	Quality Assurance Chapter 3			*Continue Finger Sticks and Venipuncture

	Renal Physiology Chapter 13			Urinalysis
#14	Laboratory Statistics Chapter 3	MedTraining Introduction to Analytic Quality Assurance	Quiz #5: Chapters 3,8,13 Quality Assurance & Spectrophotometry	Total Protein Determination Levy-Jennings Charts *Complete Finger Stick & Venipuncture Competency
#15	Review			
#16	Finals Week		Comprehensive Final	